

# 1998 Natural, Cultural, and Historical Resources Inventory

*of the*

## Central New Hampshire Region

*with 1999 Revisions*



## Regional Environmental Planning Program

*Produced by:*

Central New Hampshire Regional Planning Commission

*With the assistance of:*

NH Department of Environmental Services

# 1998 Natural, Cultural, and Historical Resources Inventory

*of the*

## Central New Hampshire Region *with 1999 revisions*



*Merrimack River from Old Turnpike Road in Concord*

### Regional Environmental Planning Program

December 1998  
*revised July 1999*



Produced by:  
Central NH Regional Planning Commission  
12 Cross Street  
Penacook, NH 03303

With the assistance of:  
NH Department of Environmental Services  
6 Hazen Drive  
Concord, NH 03301



Robert W. Varney, Commissioner  
G. Dana Bisbee, Assistant Commissioner  
Chris Simmers, Chief Environmental Planner

# 1999 Regional Perspective & Municipal Profile

## 1998 Natural, Cultural, and Historical Resources Inventory

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## Central New Hampshire Region



## Year-Two Regional Environmental Planning Program

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NH Department of Environmental Services

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## Acknowledgments

Through the diligent leadership and lobbying efforts of the Society for the Protection of New Hampshire Forests, Senate Bill 493 was signed by Governor Jeanne Shaheen on June 15, 1998. This Senate Bill created a 26-member commission to "...determine the feasibility of a new public-private partnership to conserve New Hampshire's priority natural, cultural, and historical resources." After utilizing the information collected through the REPP by each of the State's nine regional planning commissions, the Committee initially reported its findings to the Governor in November 1998. A copy of the legislation and the January 1999 Interim Report can be located in **Appendix A**.

Production and printing of this *Inventory* has been made possible by a two-year partnership with the NH Department of Environmental Services through funding appropriated by the NH State Legislature for fiscal years 1998 and 1999 (July 1, 1997 - June 30, 1999).

CNHRPC chose to collect this important information in a format which is not only useful for the State of New Hampshire's purposes, but also in a format that facilitates a long-awaited update to its twenty-five year old Natural Resources Inventory. Utilizing public forums, individual meetings, research, and survey methods, the CNHRPC collected data with the assistance of the UNH Co-operative Extension, local Conservation Commission Chairs and members, and the Department of Environmental Services.

The Central New Hampshire Regional Planning Commission would like to thank the following individuals for their invaluable contributions and coordination on behalf of their municipalities:

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The Central New Hampshire Regional Planning Commission is very pleased to report its findings in the *1998 Natural, Cultural, and Historical Resources Inventory of the Central New Hampshire Region*. Knowing this document will produce perhaps more questions than answers, the CNHRPC highly encourages municipalities to contact its staff to correct any inaccuracies and with additional information to add to the ***Municipal Profiles***.

In 1999, many municipalities responded to our specific request for a review of the ***Municipal Profiles***. The corrections have been incorporated. In addition, due to the comments received, the 1998 survey findings of resource priorities in each municipality have been unprioritized and throughout the document, current use acreage has been separated from protected land acreage.



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## Executive Summary

With the summer 1998 adoption of Senate Bill 493, which created the New Hampshire Land and Community Heritage Committee to study the feasibility of a new public/private land preservation partnership, an unprecedented opportunity for statewide natural, cultural, and historical resource identification became available. This Committee and the implications of its determining work have brought renewed attention to New Hampshire's struggle to balance growth with retaining its rural character. This *Inventory* is but one of the many tools which have recently become available as a result of the Committee and as a result of the tireless activities of dedicated conservationists throughout the State over the last several years.

### Regional Environmental Planning Program Introduction

The *1998 Natural, Cultural, and Historical Resources Inventory of the Central New Hampshire Region* is intended for a wide variety of uses and was thus compiled using all available sources, spanning from local citizen comments to federal documentation. This *Inventory* owes its existence to the Regional Environmental Planning Program (REPP), which is a partnership between all nine regional planning commissions (RPCs) in the State and the NH Department of Environmental Services (NH DES). While each RPC chose its own project to pursue, the Central New Hampshire RPC felt that an update to its 1974 Natural Resources Inventory was in order. It is the aim of this *Inventory* to encourage municipalities within the Central Region to 1) further investigate and record their natural, cultural, and historical resources 2) document the resource priorities in their Master Plan and 3) undertake appropriate measures for resource protection.

### Regional Perspective

A compilation of general demographic, conservation, and attitudinal trends within the Central Region allows for a broad resource analysis of the Region. *Area and Demographics* examines the growing municipal population versus the municipal land acreage. *Conservation and Preservation* presents current use and conserved land acreage on a municipal basis and illustrates theoretical per capita land availability. *Natural, Cultural, and Historical Resources* interprets the three regional maps included within this *Inventory*, a regional base map, topographic map, and an undeveloped lands map. Member municipalities who actively participated in the REPP with CNHRPC will receive a set of 1" = 2000' maps detailing the specific resources identified within their communities. Also, general resources which are best described on a regional basis are so noted. *Spring 1998 Natural, Cultural, and Historical Resources Survey*, conducted by the CNHRPC in early 1998, displays results from 60 out of almost 450 surveys mailed (15%). General resources priorities within the categories of Water, Land and Forestry, Historical/Cultural, Ecological, Geologic, Public Facilities, and Other Resources were tallied from responses received to the survey. A number of charts are included which depict general regional priorities; specific municipal priorities as determined from the survey are found within each municipality's *Municipal Profile*.

## **Municipal Profiles**

The ***Municipal Profiles*** are the main component of the *Inventory*. Within the general categories of resources named above, data was researched and compiled by CNHRPC staff with the assistance of several participating municipalities. A series of meetings was held in the spring of 1998 to gather information from the local level and to encourage further participation in the REPP. Each of the twenty-one municipalities under CNHRPC's jurisdiction has had a ***Municipal Profile*** conducted regardless of participation in the REPP. Since the *1998 Natural, Cultural, and Historical Inventory of the Central New Hampshire Region* was meant to be an ongoing record, several municipalities responded to our 1999 request to review their ***Profile*** for inaccuracies. These municipalities submitted changes, corrections, or deletions for the 1999 revision of the ***Municipal Profile*** section.

## **Future Directions in Resource Protection**

This section is meant to encourage municipalities to further their own resource protection measures and to explore other means of non-municipal resource protection. ***Sample General Resource Protection Goals and Objectives for Municipalities*** offers a basic set of goals which could be incorporated into the Master Plan and explains many different sample objectives which could be utilized to accomplish some of these goals. ***Legislatively Protecting New Hampshire's Resources*** details recent legislation which has worked to efficiently protect resources and to commission studies which will be utilized to create a better understanding of the status of New Hampshire's rural and environmental character. ***State/Regional and Public/Private Conservation and Preservation Partnerships*** are essential; each group has its own expertise and by working together, great feats can be accomplished.

## Regional Environmental Planning Program Introduction

In order to adequately balance New Hampshire's ever-increasing residential, commercial, and industrial growth with its irreplaceable resources, a program entitled the Regional Environmental Planning Program (REPP) was established through the NH Department of Environmental Services (NH DES). The REPP gives each municipality in New Hampshire the opportunity to identify its priority natural, cultural, and historical resources by working closely with its regional planning commission. Driven by the continued yearly reduction of federal funding for the Land and Water Conservation Fund (LWCF) and the USDA Forest Legacy Program, the REPP charges each regional planning commission in New Hampshire with identifying these resources within the municipalities it holds jurisdiction over.

This document, an update to the 1974 *Natural Resources Inventory of the Central NH Region*, is meant to be utilized as a working document. Numerous data sources have been researched and consulted to compile the *Inventory*, including Master Plans, Town Annual Reports, existing biological data publications of the 1960's, Geographic Information System (GIS) data layers from Complex Systems Research Center, and most importantly, the anecdotal and local information available only from the residents of the municipalities themselves.

A natural, cultural, and historical resources survey was completed by CNHRPC in conjunction with the compilation of the data for the *Inventory*. Although the results indicated many different perspectives and concerns, definite commonalities were found. These results are further explained in the *Spring 1998 Natural, Cultural, and Historical Resources Survey* section in the **Regional Perspective** and in each **Municipal Profile**.

### Why People Love Central New Hampshire

The abundant resources of the Central New Hampshire Region define the very essence of the area. Historically, the Merrimack, Soucook, and Contoocook Rivers and their fertile floodplains provided the initial sustenance and transportation networks of the Native American peoples. Encampments were situated on bluffs, at the confluence of rivers, and on flat, dry soil. Wild plants were harvested for food and medicine, and animals were hunted for meat and fur. An extensive trail network crossed the Region and served to link the Native American population across the State.

The first European settlers were also drawn to the Region for its life-supporting variety of resources. Forests were cleared of trees for agriculture, and rocks left over from the glacial deposition were painstakingly removed and hand-placed into stonewalls. Wild game such as red fox, rabbit, turkey, pheasant, and bear complemented a diet of food grown in the rich agricultural soils. Varied forest stands provided the lumber for forts, homesteads, furniture, and village centers; local quarries were mined for their stone and metals. Industry began to take shape as the local resources were increasingly harvested and distributed.

The attraction of the locality was not lost on the settlers, and they efficiently carved out their livelihood by utilizing the area's natural resources. In doing so, they created cultural resources

which served to link the population together into a common local heritage. Meetinghouses, churches, cemeteries, and even annual events or gatherings further cemented the people to each other and the people to the land. This heritage was passed down from generation to generation, and this patchwork of culturalism, regardless of whether one was born here or moved to the area, now gives Central Region residents the common connection to their past and to their neighbors.

The rural character of the Central New Hampshire Region and the quality of life it brings are fundamental to its residents. The temperate climate, proximity to the sea and mountains, abundant forests and rolling topography still play an alluring role in the decision to call Central New Hampshire home. Backyard or nearby recreational opportunities such as hiking, bicycling, fishing, skiing, hunting, or swimming abound. This good fortune is dependent on the ability to co-exist in harmony with the natural, cultural, and historical resources that invite residents to call Central New Hampshire home.

### *Resource Protection*

The importance of resource preservation has encouraged many national conservation organizations to establish a New Hampshire presence alongside committed, influential local conservation institutions. Non-profit organizations such as The Nature Conservancy, NH Audubon Society, Society for the Protection of NH Forests, NH Land Preservation Alliance, and the Trust for NH Lands, to name a few, dedicate their missions to protecting New Hampshire's resources. These and other local-chapter conservation organizations are listed in the ***Resource Agencies*** Appendix. While tremendous protection efforts are realized by these organizations, often the most important local protection and preservation opportunities and responsibilities are best discerned and acted upon by municipal residents. Thus, volunteer Conservation Commissions are charged with inventorying and protecting the resources of the community with the support of the Planning Boards and Boards of Selectmen.

Volunteerism and a willingness to work together has shaped the atmosphere which supports preserving the resources in the Region. A majority voice vote at a Town Meeting forum has the power to create resource protection measures; this feat would not be possible without a population of concerned residents cognizant of their finite resources. Central New Hampshire residents are aware that what they love most about their home, their land, and their community, will be subject to continuing population and development growth. Communities are aware that they will be able to proudly offer their children the Region's heritage and culture only if they are careful stewards of its natural and historical resources. With the population in each municipality increasing, with the building of additional housing units, and with the creation of new roads to reach the now coveted "secluded areas", local municipalities are taking preventative measures while the opportunities are available.

New Hampshire's concerned voices have been heard by the State Legislature. Recent passage of bills to create the NH Land and Community Heritage Committee, to conduct a Land Use Management and Farmland Preservation Study, to create a committee to study sprawl, and even the passage of a bill for a conservation license plate trust fund in the last legislative session all point toward a strong State government backing for preserving the State's finite resources.

### *1998 Natural, Cultural, and Historical Resources Inventory of the Central New Hampshire Region*

Like volunteerism and legislative action, this *Inventory* is designed to be a tool for resource recognition and protection. While the Regional Environmental Planning Program has made possible its production in 1998, the *Inventory* should be considered an on-going record of the resources available within the Central Region. While a single comprehensive document may not be feasible due to the sheer volume of details and information available, the *Inventory* is meant to be a brief, standardized synopsis of the resources of each municipality.

As identification is the initial key step in resource protection, this *Inventory* is intended to encourage each municipality within the Central New Hampshire Planning Region to closely examine its multitude of resources through a more comprehensive natural, cultural, and historical resources town-specific inventory. Such an inventory would serve as an element of the Master Plan and should help guide the municipality into the future in a conservation-minded direction. This concept and other resource protection ideas are discussed in the *Future Directions in Resource Protection* chapter.



## Regional Perspective

A natural, cultural, and historical resources inventory on a large-scale regional level involves collecting and examining a great amount of data, some generalized and some specific. In order to gauge a regional perspective of the varied resources, the CNHRPC has utilized a number of information sources that should fairly represent the Central New Hampshire Region; for simplicity purposes, the majority of references which were used in this section are cited not here but in the *Municipal Profiles*. Current demographic statistics complement the basic inventory of resources of the individual municipalities within the Region (detailed in the *Municipal Profiles*); combined with the attitudes and values of what is important to people within the Region, a general regional perspective is gained.

### Central New Hampshire Regional Planning Commission

The CNHRPC was created by the State Legislature in 1970 as one of nine regional planning commissions (RPCs) in New Hampshire. After a brief two-year deactivation, the CNHRPC was reinstated in 1986 by dedicated local individuals who held a strong belief in regional planning. Nineteen towns and one city were under the jurisdiction of CNHRPC until 1993, when the Town of Wilmot opted to change to the Central Region from the Upper Valley Lake Sunapee RPC.

TABLE 1

	<i>General Comparisons by Municipality</i>				
	1998 Member of CNHRPC	Conservation Commission	1998 Land Use Change \$ to Conserv Fund	Historic District	Historical Society or Commission
Allenstown	no	yes ('98)	n/a		yes
Boscawen	yes	yes	yes		yes
Bow	yes	yes	yes		yes
Bradford	yes	yes	yes	yes	yes
Canterbury	yes	yes	yes	yes	yes
Chichester	no	yes	no		yes
Concord	yes	yes	yes	yes	yes
Deering	yes	yes	yes	yes	yes
Dunbarton	yes	yes	yes		yes
Epsom	no	yes	no		
Henniker	yes	yes	proposed '99	yes	yes
Hillsborough	yes	yes	yes ('96)	yes	yes
Hopkinton	yes	yes	yes		yes
Loudon	yes	yes	no		yes
Pembroke	yes	yes	no		yes
Pittsfield	yes	yes ('98)	n/a	yes	yes
Salisbury	yes	yes	no		yes
Sutton	yes	yes	yes		
Warner	yes	yes	no		yes
Webster	no	yes	no		
Wilmot	yes	no	n/a		yes

These comparisons show that in 1998, 17 municipalities out of the 21 were members of CNHRPC. Only one municipality, Wilmot, did not have an established Conservation Commission by 1998 and two, Pittsfield and Allenstown, recently established their own Commissions. Of particular note, seven municipalities have voted not to support a land use change tax allocation to be directed to the Conservation Fund for additional land acquisition. A minority of municipalities within the Central Region have established Historic Districts, although most have private Historical Societies working to preserve the historical and cultural resources.

**Area and Demographics**

The Central Region is comprised of 20 towns and the City of Concord, totaling 498,011 acres and having a population base of 102,195. With a total number of 42,522 housing units in the Region, the average population per household is 2.4 persons.

**TABLE 2**

	<i>Area and Demographics by Municipality</i>					
	<i>Geographic</i>		<i>Demographic</i>		<i>Analysis</i>	
	<b>Total Acreage</b> <i>(1991 CNHRPC)</i>	<b>% of CNH Region</b>	<b>Population</b> <i>(1997 NH OSP)</i>	<b>Number of Housing Units</b> <i>(1996 NH OSP)</i>	<b>Population Per Housing Unit</b>	<b>Total Land Acreage Avail Per Hous Unit</b>
Allenstown	13,184	2.6	4,823	1,981	2.4	6.7
Boscawen	16,256	3.3	3,616	1,275	2.8	12.7
Bow	19,264	3.9	6,406	2,211	2.9	8.7
Bradford	22,784	4.6	1,420	781	1.8	29.2
Canterbury	28,672	5.8	1,800	788	2.3	36.4
Chichester	13,568	2.7	2,072	789	2.6	17.2
Concord	41,920	8.4	37,925	16,228	2.3	2.6
Deering	20,288	4.1	1,766	801	2.2	25.3
Dunbarton	20,416	4.1	2,007	796	2.5	25.6
Epsom	21,696	4.4	3,866	1,542	2.5	14.1
Henniker	28,352	5.7	4,122	1,633	2.5	17.4
Hillsborough	28,288	5.7	4,650	2,252	2.1	12.6
Hopkinton	28,416	5.7	5,014	2,064	2.4	13.8
Loudon	29,696	6.0	4,504	1,657	2.7	17.9
Pembroke	14,528	2.9	6,724	2,594	2.6	5.6
Pittsfield	15,488	3.1	3,930	1,617	2.4	9.6
Salisbury	35,344	7.1	1,125	456	2.5	77.5
Sutton	27,456	5.5	1,489	815	1.8	33.7
Warner	35,392	7.1	2,460	1,122	2.2	31.5
Webster	18,048	3.6	1,478	620	2.4	29.1
Wilmot	18,955	3.8	998	500	2.0	37.9
<b>TOTALS</b>	<b>498,011</b>	<b>100%</b>	<b>102,195</b>	<b>42,522</b>	<b>2.4</b>	<b>22.1</b>

Not only have populations risen dramatically since 1970, housing units have also increased to meet the new demand. **TABLE 3** illustrates the tremendous population growth of each municipality within the last twenty-seven years, and gives projections for populations in the year 2010:

**TABLE 3**

	<i>Population Growth and 2010 Projections by Municipality</i>				
	<i>Past and Present Population</i>			<i>2010 Future Projections</i>	
	<b>1970 Population</b> <i>(1970 US Census)</i>	<b>1997 Population</b> <i>(1997 NH OSP)</i>	<b>% of Growth</b>	<b>2010 Population</b> <i>(1997 NH OSP)</i>	<b>% of Growth from 1997 Population</b>
Allenstown	2,732	4,823	77%	5,378	12%
Boscawen	3,162	3,616	14%	4,033	12%
Bow	2,479	6,406	158%	6,787	6%
Bradford	679	1,420	109%	1,593	12%
Canterbury	895	1,800	101%	1,967	9%
Chichester	1,083	2,072	91%	2,302	11%
Concord	30,022	37,925	26%	42,220	11%
Deering	578	1,766	206%	2,199	25%
Dunbarton	825	2,007	143%	2,197	10%
Epsom	1,469	3,866	163%	4,312	12%
Henniker	2,348	4,122	76%	4,628	12%
Hillsborough	2,775	4,650	68%	5,541	19%
Hopkinton	3,007	5,014	67%	5,545	11%
Loudon	1,707	4,504	164%	5,082	13%
Pembroke	4,261	6,724	58%	7,450	11%
Pittsfield	2,517	3,930	56%	4,342	11%
Salisbury	589	1,125	91%	1,248	11%
Sutton	642	1,489	132%	1,667	12%
Warner	1,441	2,460	71%	2,710	10%
Webster	680	1,478	117%	1,632	10%
Wilmot	516	998	93%	1,102	10%
REGION	64,407	102,195	59%	113,935	10%

Nearly all Central New Hampshire Region municipalities experienced significant growth, the majority of which occurred in the growth booms of the 1970's and 1980's. Although the current projected trend slows from the previous amount of growth, new housing, and therefore new development, will be required to sustain the population. These additional demands on the pre-defined number of acres within each municipality should be considered when dealing with conservation and preservation issues. The *Municipal Profiles* section contains more statistical information on recent population and housing unit growth.

### Conservation and Preservation

Using known conserved land acreage data, a total of 16% of Central New Hampshire Region land is permanently protected from development. In **TABLE 4**, the known conserved land acreages shown under the **Town Permanently Protected Land Acreage** column are comprised of public and private conservation lands (fee owned), conservation easements, state parks, federal lands, and additional town-owned lands. The **Current Use Acreage** column details the amount of acres in current use as of December 31, 1998 in each municipality and the Region. The individual lands are detailed in each municipality's *Municipal Profiles* section.

**TABLE 4**

	<i>Protected Land Statistics by Municipality</i>				<b>Current Use Acreage</b>	<b>% of Town Land in Current Use</b>
	<b>Total Acreage</b>	<b>Town Permanently Protected Land Acreage</b>	<b>% of Land Permanently Protected</b>	<b>Land Acreage Not Permanently Protected</b> <i>(includes Buildable, Unbuildable and Already Built Acres)</i>		
Allenstown	13,184	6,756	51%	6,428	2,567	19%
Boscawen	16,256	3,018	19%	13,238	10,318	63%
Bow	19,264	3,127	16%	16,137	5,005	26%
Bradford	22,784	1,011	4%	21,773	15,569	68%
Canterbury	28,672	3,219	11%	25,453	19,859	69%
Chichester	13,568	491	4%	13,077	7,386	54%
Concord	41,920	8,783	21%	33,137	20,370	49%
Deering	20,288	2,252	11%	18,036	15,154	75%
Dunbarton	20,416	3,671	18%	16,745	9,957	49%
Epsom	21,696	763	4%	20,933	14,414	66%
Henniker	28,352	4,184	15%	24,168	16,391	58%
Hillsborough	28,288	3,179	11%	25,109	16,711	59%
Hopkinton	28,416	7,817	28%	20,599	15,820	56%
Loudon	29,696	3,199	11%	26,497	19,594	66%
Pembroke	14,528	373	3%	14,155	9,034	62%
Pittsfield	15,488	1,529	10%	13,959	9,704	63%
Salisbury	35,344	5,036	14%	30,308	17,097	48%
Sutton	27,456	1,986	7%	25,470	18,554	68%
Warner	35,392	8,702	25%	26,690	22,481	64%
Webster	18,048	3,715	21%	14,333	11,431	63%
Wilmot	18,955	6,020	32%	12,935	12,891	68%
<b>TOTALS</b>	<b>498,011</b>	<b>78,831</b>	<b>16%</b>	<b>419,180</b>	<b>290,307</b>	<b>58%</b>

**Current Use Acreage** represents a significant percentage of each town. Within the Central Region, current use taxation appears to play an important role in securing land from development. As noted earlier, many municipalities have designated a proportion or all of the land use change tax toward a fund designed for the purchase of conservation lands.

A per capita analysis of the total land acreage and total protected land acreage of each municipality is illustrated in **TABLE 5**. The number of theoretical acres available for a person residing in the Central New Hampshire Region vary from 1.1 acres in Concord to 31.4 acres in Salisbury. Results received when comparing the theoretical protected acres available per person show that the low is found in Pembroke at 0.1 acres and the high is found in Wilmot at 6.0 acres.

**TABLE 5**

*Per Capita Acreage Analysis by Municipality*

	<b>Total Land Acreage Per Capita</b>	<b>Total Permanently Protected Land Acreage Per Capita</b>
	(Town Acreage / 1997 Town Population)	(Town Permanently Protected Land Acreage / 1997 Town Population)
Allentown	2.7	1.4
Boscawen	4.5	0.8
Bow	3.0	0.5
Bradford	16.0	0.7
Canterbury	15.9	1.8
Chichester	6.5	0.2
Concord	1.1	0.2
Deering	11.5	1.3
Dunbarton	10.2	1.8
Epsom	5.6	0.2
Henniker	6.9	1.0
Hillsborough	6.1	0.7
Hopkinton	5.7	1.6
Loudon	6.6	0.7
Pembroke	2.2	0.1
Pittsfield	3.9	0.4
Salisbury	31.4	4.5
Sutton	18.4	1.3
Warner	14.4	3.5
Webster	12.2	2.5
Wilmot	19.0	6.0
<b>TOTALS</b>	9.7	0.8

An analysis such as this is another way to weigh the difference between the acres technically available and the acres protected. If the difference between the **Total Land Acreage Per Capita**

and the **Total Protected Land Acreage Per Capita** were divided by the **Total Land Acreage Per Capita**, the resulting percent would show the number of acres left within a municipality that are not protected. For example, Allenstown would be  $2.7 - 1.4 = 1.3$  then  $1.3 / 2.7 = 48\%$ .

### Natural, Cultural, and Historical Resources

Due to the nature of this *Inventory*, the specific details of the resources within each municipality are to be found within the *Municipal Profiles* section. However, some elements lend themselves to be best addressed in a regional context.

### ***Regional Base Map of the Central New Hampshire Region***

A base map is the starting point for any municipal or thematic map series. With the features depicted on the base map, one can quickly locate proximities to roads, streams, or to the edge of Town. The base map concisely labels the names of features for quick identification. After the creation of a base map, different, more complicated map overlays are possible. **MAP 1** is the *Regional Base Map* of the Central New Hampshire Region. Because of the large scale portrayed on the 11" x 17" page (1:240,000 or one unit on the map equals 240,000 units on the ground), many details have been omitted out of necessity. These details are available, however, on the individual 1" = 2000' base maps provided to member municipalities participating in the REPP.

### ***Topographic Map***

The *Topographic Map* (**MAP 2**) is an example of an overlay map. Twenty-foot topographic contours overlay with perennial streams, lakes, ponds, and large wetlands to give an almost three-dimensional perspective of the Region. The hilliest areas are found in the northwestern municipalities in the Region, particularly in Wilmot, Warner, Sutton, and Bradford. In contrast, the eastern edge of the Region is relatively flat, Pembroke and Chichester markedly so. Additional examination of the Topographic Map identifies floodplains and watersheds. A Topographic Map at a scale of 1" = 2000', along with mines, quarries, summits, sand and gravel pits, or other geologic resources identified by local officials, was provided to member municipalities participating in the REPP.

### ***Undeveloped Lands Map***

**MAP 3** has been derived using the exciting analytic capabilities of a GIS. Conservation lands recently digitized by the Society for the Protection of New Hampshire Forests, hydrography, and buffered road data give a sense for the areas to target for further conservation. Specifically, all known Class I, II, V, and private roadways in the Region were buffered on either side by a distance of 500', eliminating the areas where potential development may lie. This new buffered digital layer, overlaid on top of the conservation lands and hydrography layers, creates an opportunity to view where development has not yet taken place in Region and illustrates if the areas which have not been built upon have already been placed under conservation.

A quick glance at the *Undeveloped Lands Map* shows that many large open spaces appear to exist within the Region, many of which abut existing conservation lands. Of note, many significant opportunities are possible where neighboring municipalities share a large open space and could potentially enter into cooperative agreements to secure the land from future development; also, conservation lands that terminate at the political boundary of one municipality may encourage the neighboring municipality to consider placing its own abutting lands under conservation. The

possibilities are wide and varied for land preservation, and the *Undeveloped Lands Map* is simply one of many tools which can be utilized to best encourage further research into land conservation.

### ***Other Specific Resources***

Many other natural, cultural, and historical resources exist within the Central New Hampshire Region which are not detailed on the regional maps included in this *Inventories*. Each member municipality which chose to participate in the CNHRPC REPP has received a set of four 1" = 2000' maps. The first map is a paper base map and the remaining three are a series of thematic clear overlays. The **Geologic Resources Overlay Map**, explained above, consists of twenty foot topographic contours, summits, and any identified resources by local officials (mines, quarries, sand and gravel pits, kames, drumlins, eskers, etc.) The **Water Resources Overlay Map** is comprised of hydrography, watershed boundaries, National Wetlands Inventory wetlands, aquifers if available and floodplains if available. The **Land Resources Overlay Map** could be considered the most important overlay map in terms of preservation analysis. It consists of conservation lands, Natural Heritage Inventory buffered sites, and identified historical sites, cemeteries, cultural sites, ecological sites, agricultural land, recreation sites, etc. The majority of these specific resources are explained in detail in the appropriate ***Municipal Profiles*** section of each municipality.

These clear film overlay maps are intended to serve municipal officials by their ease of use. Different overlays can be used in conjunction with the paper base map to reveal where resources co-occur or where resources lie in relationship to other features. Maps such as these are intended to be informational tools to guide appropriate field study before any land use management decisions are made.

The **Natural Heritage Inventory** tracks threatened and endangered plant and non-game species in New Hampshire and compares them to the equivalent federal and global designations of threatened and endangered. Funded by the NH Department of Revenue and Economic Development, the program seeks to locate rare species and educate landowners of their existence. The hundreds of threatened and endangered species which live in the municipalities of the Central Region are listed in ***Appendix E***.

**Air quality** is one of single-most important, yet often difficult to control, resources within the Region. Because of wind and weather patterns, much of the air that travels through the area originates from other states. Pollutants such as particulate matter and carbon monoxide affect both the environment and its people, plants, and animals. This life-giving resource has received wide-spread attention on the federal and state levels. The US Environmental Protection Agency (US EPA), through the Clean Air Act Amendments of 1990, sets emissions standards; the State Legislature itself has been addressing emissions testing for several years.

Despite the fact that some of the Region's air was not generated here, local population density and transportation play crucial roles in determining air quality in any given geographic area. In late 1998, the US EPA's measure for pollution, called the Pollutant Standards Index (PSI), measured the air quality in Merrimack County as between 50 to 100. While up to 50 is considered Good (no general health effects), 50 to 100 is considered Moderate (few or no general health effects). The more serious categories are 100 to 200 (Unhealthful), 200 to 300 (Very

Unhealthful), and Over 300 (Hazardous). Other areas in New Hampshire, specifically the Seacoast Region and the Nashua Region, consistently experience PSI's far higher than those found within the Central New Hampshire Region.

Despite their limitation to development, **hydric soils** types are unique and valuable by their own right. They harbor wetland-specific plant and animal species, provide flood control, and help filter contaminants from groundwater. Often, an unusual proliferation of biological diversity can be directly attributed to wetlands. Approximately 10% of the Central Region is covered by hydric soils:

**TABLE 6**

*Hydric Soils Acreage by Municipality  
(Merrimack County Conservation District 1979)*

	<b>Poorly Drained</b>	<b>Very Poorly Drained - Mineral Base</b>	<b>Very Poorly Drained - Organic Base</b>	<b>Marsh</b>	<b>TOTAL ACRES</b>
Allenstown	982	616	145	24	1,767
Boscawen	844	460	190	17	1,511
Bow	1,386	920	66	22	2,394
Bradford	1,279	648	231	170	2,328
Canterbury	1,678	955	170	160	2,963
Chichester	1,932	154	72	63	2,221
Concord	4,030	1,286	1,383	0	6,699
Deering	0	0	0	0	0
Dunbarton	1,238	1,354	9	349	2,950
Epsom	1,749	409	315	77	2,550
Henniker	1,279	638	101	128	2,146
Hillsborough	0	0	0	0	0
Hopkinton	2,506	1,383	650	200	4,739
Loudon	3,163	725	270	224	4,382
Pembroke	1,571	200	216	0	1,987
Pittsfield	1,551	176	0	0	1,727
Salisbury	1,390	836	260	0	2,486
Sutton	1,542	1,040	324	108	3,014
Warner	1,375	594	348	82	2,399
Webster	0	383	67	0	450
Wilmot	875	332	99	110	1,416
<b>TOTALS</b>	<b>30,370</b>	<b>13,109</b>	<b>4,916</b>	<b>1,734</b>	<b>50,129</b>

The Towns of Deering and Hillsborough are the only two towns in the Region that reside within

Hillsborough County. While Merrimack County has had sufficient funding to undertake a hydric soil survey for each of its municipalities, Hillsborough County has not; since data is not available for the two towns, their numbers are blank in **TABLE 6**. Without including Deering or Hillsborough, the acreage of hydric soils in the Region is 50,129.

The Region's rivers are a defining source of natural beauty, wildlife habitat, power generation, and recreation. Numerous detailed inventories and publications are available on most of these rivers:

The **Merrimack River** flows for nearly 200 miles, beginning in the White Mountains and exiting into the Atlantic Ocean near Newburyport, Massachusetts. Uses of the river include hydroelectric power, waste assimilation, recreation, and indirectly for drinking water. In the Central New Hampshire Region, the Merrimack flows through Boscaawen, Canterbury, Concord, Pembroke, and Bow. Considered the most prominent river in the Region, the Merrimack River provides a strong sense of identity and invokes a great deal of pride. The Merrimack is one of two rivers in the Central Region which are in the Rivers Management and Protection Program.

The Upper Merrimack River Local Advisory Committee (UMRLAC) monitors actions that may harm habitat or water quality in the river and along its shores. UMRLAC's annual work plan includes the Upper Merrimack Monitoring Program, where sites along the river that are available for adoption are monitored for water quality and the macroinvertebrate species that reside there; includes educating the towns and public through newsletters, visits, and the media; and includes review and comment on state and local projects that affect the river.

The **Soucook River** is an exemplary "natural" river which has little shoreline development. Although its headwaters are in Gilmanston, the river begins to form itself in northern Loudon, then travels south to form the political boundary of Concord and Pembroke before it converges with the Merrimack in Bow. A study entitled *The Soucook River Reclamation Plan* is underway through the assistance of the NH DES and should be completed in 2000.

The **Suncook River** is responsible for the early industrial successes of Pembroke and Allenstown. Converging with the Merrimack River in Suncook Village, it bisects Pittsfield, travels south through a small portion of Chichester, and flows through the length of Epsom before it forms the political boundary of Pembroke and Allenstown.

The **Contoocook and North Branch Rivers**, collectively the second river in the Central Region within the Rivers Management and Protection Program, flows from Rindge north to Concord where it joins with the Merrimack River. A Local Advisory Committee works to produce educational training and research sessions for school children and adults alike. The Contoocook and North Branch corridor provides a wide variety of habitat for a multitude of plant and animal species.

The **Warner River** is also a primarily undisturbed “natural” river. It bisects the Town of Warner, flows through the southwestern corner of Webster, and flows for a short distance in Hopkinton until it joins the Contoocook River. The Warner River offers a peaceful, scenic tour of forests, covered bridges, and old mill sites while riding on Class I and II rapids.

The **Blackwater River** is approximately 14 miles long and joins with the Contoocook River in Hopkinton. In Webster, a dam on the Blackwater is used for flood control. An annual recreational event, kayaking races, attract a large number of visitors to the Blackwater River in early spring. As the Blackwater Reservoir is federally owned, a variety of conservation and natural areas are present. In the Central Region, the river travels the entire lengths of Salisbury and Webster before entering Hopkinton and entering the Contoocook.

### Spring 1998 Natural, Cultural, and Historical Resources Survey

In order to assess the priorities of the communities in the Central New Hampshire Region, and to focus on issues of conservation concern, the Natural, Cultural, and Historical Resources Survey was developed. A total of 444 surveys were mailed with self-addressed stamped envelopes to the current Conservation Commission members and Chairs, Planning and Zoning Board Chairs, Boards of Selectmen Members, City Councilors, Administrators and Planners, Historic District Commission Chairs, Representatives to the Legislature, Executive Councilors, CNHRPC Commissioners, local environmental and historical non-profit organizations, and local river advisory committee (LAC) members of the Central Region. A return rate of about 15% (60 surveys) was acquired. **Appendix B** contains a copy of the survey which was distributed to the above parties. Respondents were given the opportunity to remain anonymous if they so chose; CNHRPC considers all results strictly confidential regardless of anonymity status. The results of this survey gave valuable insights to the concerns of conservationists within the Central Region.

It is important to note that the results of the survey, regardless of which section has been ranked, are not statistically significant. The majority of the respondents were Conservation Commission members. This fact combined with the low return rate and with the overall bias of surveys (those who care about the issues will respond and those who do not care typically will not respond) means that although the results are informative and helpful, they may or may not accurately represent the concerns and priorities of the Central Region or its municipalities.

On the regional level these potential inaccuracies are not as great as those which will inevitably occur on the town level. At least one survey from each of the twenty-one municipalities of the Central Region was returned with the exception of one community. A total of 54 responses were received from municipalities by the specified deadline for tallying; the remaining 6 responses of the 60 surveys received were either late or were received from non-municipal representatives. However, late responses provided additional specific comments and resource priorities which were incorporated into the narrative of each **Municipal Profile**.

**It should be stated that each Town’s resource priorities listed within its *Municipal Profile* is a result of the small number of responses received for that individual Town.** Those municipalities with a higher response rate will have a more accurate idea of what their resource priorities are.

### Resource Priorities

Seven generalized resource categories were used to divide the resource types into logical groupings. Although it was realized that specific resources may be able to fall into more than one resource category, a method of standardization was necessary in order to measure the general importance of one resource over another within the same category:

	Water Resources		Geologic Resources
	Land and Forestry Resources		Public Facilities Resources
	Historic/Cultural Resources		Other Resources
	Ecological Resources		

Respondents had the opportunity to suggest and rank additional resources within each category which were not pre-listed on the survey. The following table shows the average regional priorities based upon the survey results:

	<i>General Regional Resource Priorities</i>				
	1st	2nd	3rd	4th	5th
Water Resources	Rivers and streams	Aquifers	Lakes and ponds	Designated prime wetlands	Watersheds
Land and Forestry Resources	Open spaces	Agricultural lands	Conservation easements	Town parks and forests	Deeded conservation lands
Historical and Cultural Resources	Cemeteries	Cultural interest sites	Covered bridges	National Register of Historic Places sites	Archaeological sites
Ecological Resources	Scenic vistas	Plant and tree communities & Greenway corridors (tie)		Riparian corridors	Biodiversity
Geologic Resources	Mountains and hills	Soils identification	Sand and gravel deposits	Bluffs	Gorges
Public Facilities Resources	Recreational trails	Canoe and boat access	Outdoor sporting fields	Picnic areas and playgrounds	Beach access
Other Resources	Hunting and sporting clubs	Citizen education	Air	Seasonal Tourism	Climate

Approximately ten (10) surveys were received after the above tally was completed. These late surveys were not included in the Regional Resource Priorities average, but because of their importance on the local level, specific comments were recorded within the appropriate *Municipal Profile*.

**Measure of Resource Protection**

Respondents were asked if they felt their local ordinances and regulations adequately protected each resource category:

**TABLE 8**

	<i>Opinions on Adequacy of Local Protection</i>		
	<b>Yes</b>	<b>No</b>	<b>No Answer</b>
Water Resources	27	30	3
Land and Forestry Resources	26	32	2
Historical and Cultural Resources	22	27	11
Ecological Resources	17	29	14
Geologic Resources	19	36	17
Public Facilities Resources (availability of resources also inferred)	29	15	16
Other Resources (availability of resources also inferred)	16	22	22

In order to keep the questions measured and standardized, the categories of Public Facilities Resources and Other Resources were also asked the question about protection adequacy. From the written comments of the respondents, it has been inferred that the availability of such resources to the public, as well as their protection where possible under local regulation, were considered when responding. For the *Municipal Profiles* section, Public Facilities Resources has been condensed into the more specific category of Recreational Resources.

### ***Recent Conservation Activities***

Respondents were asked to list which activities they or their group have been involved in within the last three years. This question was asked to ascertain the activities which are the most important conservation undertakings within the Central Region. Following is a brief but complete composite listing of these different types of projects:

- 👍 roadside and riverside trash pick-ups
- 👍 neighborhood beautification (tree plantings)
- 👍 membership in local and national conservation organizations
- 👍 overlay mapping of resources
- 👍 communication with other town boards
- 👍 master plan updating
- 👍 conservation easement acquisition
- 👍 conservation fee-owned land purchase
- 👍 duck box erection and monitoring
- 👍 wetlands applications review
- 👍 trail development, maintenance, and mapping
- 👍 conservation studies with assistance from student interns
- 👍 local watershed natural resources inventory
- 👍 public education and awareness workshops/tours/field trips/events
- 👍 hosting intermunicipal activities
- 👍 legislation lobbying
- 👍 water quality and invertebrate sampling
- 👍 recycling opportunities research
- 👍 renovations and creations of town beaches and boat access areas
- 👍 grant acquisition for trails, viewing platforms, protection of unique areas
- 👍 local regulation and ordinance proposals and changes
- 👍 creation of a boardwalk
- 👍 town-wide natural resources inventory

### ***Upcoming Conservation Activities***

Respondents were also asked to list which activities they or their group plan to be involved in within the next three years. These anticipated activities are quite similar to the accomplishments of the previous projects. Again, following is a brief but complete composite listing of these different types of activities:

- ☒ public, conservation commission, voter, and town board education
- ☒ acquiring conservation easements
- ☒ conservation land fee-owned purchases
- ☒ recreational trail development, maintenance, and accessibility
- ☒ ordinance and regulation changes (cemetery easements, aquifer protection)
- ☒ master plan update
- ☒ creation of a capital reserve fund for the conservation commission
- ☒ identification and inventory of important ecological lands
- ☒ acquiring funding for personnel to support volunteer conservation efforts
- ☒ open space inventory
- ☒ create canoe access areas
- ☒ town natural resources inventory
- ☒ relandscaping of public lands
- ☒ public activities/road races/tours
- ☒ study, delineation, and mapping of prime wetlands
- ☒ repair pond dams
- ☒ implement existing management plans

### ***Regional Conservation Committee***

Throughout the survey process, education and communication were continually stressed as critical to the protection of any resource. Knowing that natural resources do not recognize municipal boundaries, regional participation to recognize and protect these and other resources are essential to the successfulness of their protection. Not just individuals affiliated with municipalities were surveyed for this very reason; cooperation is necessary from all interested parties and all should be given the opportunity to be heard. To that end, when asked if a respondent would be willing to join a Regional Conservation Committee, the results were as follows:

*If a Regional Conservation Committee were created to address conservation issues on a regional level (includes non-profits, LACs, historical societies, town boards, etc), would you be interested in becoming a member?*

(28) Yes      (11) Maybe      (14) No      (7) No answer

## Municipal Profiles

Each municipality in the Central New Hampshire Region has a *Municipal Profile*. These profiles, which are derived from book research, recent statistical information, new inventories, and local conservationists and historians, inventory the natural, cultural, and historical resources of each community. In order to achieve an information base that can be easily understood and utilized, the *Profiles* are also standardized. They each contain identical categories and sub-categories to facilitate data gathering and reporting.

However, the similarities end there. Each municipality has its own history, assets, priorities, and stories to tell through its *Profile*. A series of meetings was held during the late spring and early summer to collect the most important information available: local knowledge. Hosted by the Deering, Boscawen, Concord, Pittsfield, and Dunbarton Conservation Commissions, all local officials in the Central New Hampshire Region were invited to participate through post card invitations and newsletters. Other municipal representatives met on an individual basis with CNHRPC.

After the *Profiles* were drafted in the summer of 1998, Boards of Selectmen, Planning Boards, Conservation Commissions, and Historical Societies were invited, by post card and newsletter mailings, to preview and improve their own *Profile*. Several Conservation Commission and Historical Society volunteers took up the challenge and have provided many dedicated hours to reviewing, adding, and correcting the *Profile* which was created by CNHRPC.

Again, this *Inventory* is to be considered an on-going document subject to review and revision. Comments, additions, or corrections are encouraged and will be incorporated into the next version of this *Inventory*. References are cited on the very last page of each individual *Municipal Profile* to aid in this capacity.

After the *Inventory* was issued, CNHRPC solicited requests for *Municipal Profile* updates, which many municipalities graciously provided. In this revision of the *Inventory*, the predominant difference is that the resource priorities in each of the seven categories have been unprioritized as a result of feedback on the low number of surveys returned to CNHRPC from each respective municipality. Instead, the responses are listed after the regional resource priorities, which remain ranked according to Region-wide responses on the survey. Municipal corrections have been made and supplemental information has been added; they are noted in the **References** as “1999 *Municipal Profile Update*.”

**ALLENSTOWN**

About Allenstown.....	
Member of CNHRPC	X
Surveys Mailed	18
Surveys Received for Tallying	1
REPP Meeting Participation	✓
Profile Review & Comment by Town	X
1999 Update	X

**Historical Profile**

Allenstown owes its name to Samuel Allen, a Massachusetts man who served as governor during the late 1600's. In 1722, a tract of four square miles was granted to his children in the area we now call Allenstown. The area was not incorporated as a New Hampshire town until 1831, more than one hundred years after the original land grant. The earliest settlements grew along the Suncook River and in the eastern part of the Town where an abundance of useful timber and brooks helped facilitate the building process. In 1759, part of Allenstown's territory was annexed by Pembroke, and in 1798 disputes erupted over which town could care best for the Suncook River. It appeared that Pembroke's citizens had neglected the waterway and its facilities, and Allenstown was willing to take on the task of caring for it. Today the two towns share the river, Allenstown looking after the east bank and Pembroke looking after the west. The two towns also share the Suncook Village area, and citizens from both towns use it as a shopping and social center. <sup>1</sup>

**Present-Day Profile**

The area of Allenstown is 13,184 acres, or 20.6 square miles. The Town comprises 2.6% of the CNHRPC area. <sup>2</sup>

Over the last twenty seven years, Allenstown's population has grown by 77% while the number of housing units has increased by 133%: <sup>3, 4, 5</sup>

GROWTH	Population	Net Change		Housing Units	Net Change	
		#	%		#	%
1970 (US Census)	2732	na	na	852	na	na
1980 (US Census)	4398	+1666	+ 61.0	1592	+740	+ 86.9
1990 (US Census)	4649	+251	+ 5.7	1868	+276	+ 17.3
1997 Population & 1996 Housing (NHOSP)	4823	+174	+ 3.7	1981	+113	+ 6.0
<b>TOTAL CHANGE FROM 1970 - 1997</b>		+ 2091	<b>+ 76.5%</b>		+ 1129	<b>+ 132.5%</b>

In an effort to control its growth, while protecting its resources in an economically viable manner, the Town has adopted a number of land use controls to facilitate the conservation process: <sup>6</sup>

<b>Town Zoning Districts</b>	<b>Town-Adopted Resource &amp; Conservation Ordinances</b>
Open Space and Farming	Floodplain Development Ordinance (1993)
Residential 2 (outside the region supplied by town water)	Shoreland Protection Ordinance
Business	Hazardous Materials Cleanup Ordinance
Industrial	Solid Waste Management Ordinance
Commercial/Light Industrial	Mobile Home Ordinance

Non-regulatory measures for protecting Allenstown’s resources include the following: <sup>7, 8, 9</sup>

<b>Town Master Plan Elements</b>	<b>Town Conservation Plans, Reports and Studies</b>
Community Profile Element (1997 draft)	Bear Brook State Park Management Land Plan (1994)
Strategic Statement and Development Goals Element (1997 draft)	
Transportation Element (1997 draft)	
Community Facilities Element (1997 draft)	
Land Use and Natural Resources Element (1997 draft)	
Housing Element (1997 draft)	
Conservation and Preservation: Historic and Natural Resources (1997 draft)	
Community Facilities and Services Element (1997 draft)	



## **TOWN RESOURCES**



### **Water Resources**

#### Water Supplies

Pembroke, Hooksett, and Allenstown all depend on the Pembroke Water Works for their public water supplies. Municipal water lines bring water to all of the Allenstown's urban streets lying west of Route 3. Other major lines exist along River Road, Bartlett Street, Sargent Street, Route 28 to Suncook Business Park and Granite Street to Chester Turnpike. Municipal water is tapped from wells next to the Suncook River. Other public water supplies include three at Bear Brook Villa (serving 385), two at Bear Hill 4-H Camps (serving 125), two at Holiday Acres (serving 375), and one at Bear Brook Gardens (serving 225).

Between 1983 and 1997, the NHDES issued seventy-two well permits to residents of Allenstown. Many of these private wells are located in the northeast corner of Town on roads leading north off of Deerfield Road. Other private wells serve housing units located along the Suncook River.<sup>10</sup>

#### Ponds<sup>11, 12, 13, 14</sup>

Bear Hill Pond is 33 acres in size with an average depth of 11 feet. It serves as a tributary to Boat Meadow Brook.

Catamount Pond has an area of 16 acres with an average depth of eight feet. It is also called Bear Brook Pond and it serves as a tributary to Bear Brook.

Allenstown shares Hall Mountain Pond and marsh with Hooksett and Candia. Twenty-five acres of this water area lie within Allenstown. It has an average depth of only three feet and serves as a tributary to Bear Brook.

Smiths Pond is another swampy pond with an average depth of two feet. This nine-acre pond is located in Bear Brook State Park.

#### Rivers<sup>11, 12, 13, 14</sup>

The Suncook River forms the border between Allenstown and Pembroke. The river runs the length between the two towns and makes its way into the Merrimack.

The Merrimack River, formed upstream by confluence of the Pemigewasset and Winnepesaukee Rivers in Franklin, flows for a short while in Allenstown. It flows for a few hundred yards along Allenstown's western border and separates the Town from Bow and from Hooksett.

#### Brooks<sup>11, 12, 13, 14</sup>

Catamount Brook flows out of Bear Brook and passes through wetlands.

Little Bear Brook flows across the northern part of Allenstown.

Boat Meadow Brook flows out of Bear Hill Pond.

Bear Brook flows out of Catamount Pond and runs east into Deerfield.

Pease Brook flows in the northeast corner of Allenstown, just west of the Deerfield-Allenstown town line.

Hydric Soils

Out of the total land acreage of Allenstown (13,184), 13.4% is comprised of hydric soils: <sup>32</sup>

HYDRIC SOILS	Acreage	Total Percentage of Town
Poorly Drained	982	7.4
Very Poorly Drained - organic base	616	4.7
Very Poorly Drained - mineral base	145	1.1
Marsh	24	0.2
<b>TOTALS</b>	<b>1767</b>	<b>13.4</b>

Watersheds

Allenstown lies almost entirely within the Suncook River watershed. The Merrimack River watershed encompasses a small southern section of the Town. <sup>10</sup>

Aquifers

A sand and gravel aquifer underlies a pocket of land near the convergence of Bear Brook and the Suncook River. Municipal water is tapped from this supply. <sup>16</sup>

Wetlands

Wetlands inventoried, field-checked, and mapped by the US Fish and Wildlife Service between 1986 and 1990 dot the entire Town. Large areas of mapped wetlands which do not co-occur with ponds are found along Catamount Brook and Boat Meadow Brook. <sup>17</sup>

**Identified Water Resource Priorities**

The 1980 CNHRPC Open Space and Recreation Plan and Town officials named the following water resources as being particularly important to the Town: <sup>28, 33</sup>

-  Old Company Swamp
-  Catamount Brook
-  Smith Pond
-  Little Bear Brook
-  Black Barn Swamp
-  Catamount Pond
-  Old Floyd's (Black) Brook
-  Boat Meadow Brook
-  Bear Hill Pond
-  Spruce Pond
-  Pease Brook
-  Bear Brook

- ☛ Suncook River with its associated aquifer, floodplain, and historic sites
- ☛ Floodplain/wetland on undeveloped land along Route 28

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Rivers and streams
Second Priority	Aquifers
Third Priority	Lakes and ponds
Fourth Priority	Designated prime wetlands
Fifth Priority	Watersheds

The survey returned from Allenstown indicated the following as water resource priorities:

- Aquifers,
- Floodplains,
- Public water supplies,
- Watersheds, and
- Wetlands.

Specific comments included: <sup>31</sup>

- ☛ We should compare notes with other Towns. The Suncook River with its associated aquifer, floodplain, and historic sites should be protected.
- ☛ The floodplain/wetland induced undeveloped land along Route 28 should be protected.



## ✦ Land and Forestry Resources

The total number of acres under conservation was calculated to be 51% of the entire Town. The following table breaks down the components: <sup>8, 20, 21, 22</sup>

CONSERVATION LANDS	Held by	Acres
Allenstown Elementary School Grounds	Town	7
Allenstown Park	Town	3
Allenstown Town Forest	Town	
Allenstown Upper Elementary School Grounds	Town	1
Archery Pond Dam Buckhead	NH F&G	1
Bear Brook State Park	NH DRED	6740
Buck Street Dam	NH Water Resources Council	1
Cold Spring Pond Dam Site	NH F&G	3
<b>TOTAL ACREAGE PROTECTED</b>		<b>6756</b>

In addition, 2830 acres, or 21% of the Town's total area, were in current use as of April 1, 1999.<sup>34</sup>

### *Identified Land & Forestry Resource Priorities*

Town officials and volunteers have named the following land and forestry resources as being particularly important to the Town: <sup>18</sup>

- ✦ Allenstown Town Forest
- ✦ Bear Brook State Park

### *Survey Findings*

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Open space
Second Priority	Agricultural land
Third Priority	Conservation easements
Fourth Priority	Town parks and forests
Fifth Priority	Deeded conservation lands

The survey returned from Allenstown indicated the following as land and forestry resource priorities:

- Agricultural land,
- Deeded conservation lands,
- Open space,
- State forests and parks, and
- Town parks and forests.

*Specific comments* <sup>31</sup>

✦ A review of current ordinances is needed; Bear Brook State Park should be protected.



**Historical and Cultural Resources**

*National Register of Historic Places*

Allenstown has two exemplary sites located on the National Register. No additional regulative restrictions are placed upon those properties which are listed on the National Register, but instead a listing in the Register recognizes the significance of and encourages the stewardship of the property: <sup>1, 24</sup>

NATIONAL REGISTER OF HISTORIC PLACES	Date Listed	Location	Significance/Description
Pembroke Mill	1985	100 Main Street	
Bear Brook Civilian Conservation Corps (CCC)	1992	Bear Brook State Park	oldest remaining CCC camp in existence

*New Hampshire Historical Markers*

These markers stand at places of great historical significance to the State of New Hampshire. Some of these places contain tangible reminders of the past, while others mark the locations of where structures once stood or a historical event took place. Allenstown currently has no sites listed with the New Hampshire Division of Historic Resources.

Local markers, or the actual remnants of the structures themselves, indicate the sites of various

other historic landmarks and events: <sup>1, 8, 18</sup>

-  A 19th century Sugar House is located on Ring Road.
-  Rock quarried from Bailey’s Quarry (located off River Road near Pickney Hill) was used to make curbing and cobblestones.
-  Native American arrowheads have been found at the site where the Suncook River joins the Merrimack.
-  The remains of a late 18th century cellar hole has been found on Pickney Hill, and the foundation of an old plumbing station is located on Bold Meadow Brook.
-  A rope ferry raft route was located on the Suncook River near the present location of Ferry Street.
-  Two of the oldest cemeteries in Allenstown are located near Bear Brook State Park. They contain gravestones dating back to the Revolutionary War.
-  The Allenstown Meeting House was constructed around 1835 on land that is now part of Bear Brook State Park. The building served as a religious, government and social center.

Covered Bridges

Covered bridges once played an integral part of the transportation network of the 19th century. Today, they are recognized for their beauty and uniqueness. Although Allenstown no longer has standing covered bridges, the Town once shared three with Pembroke: <sup>26</sup>

COVERED BRIDGE NAME/LOCATION	Date Built	Date Gone
Main Street	unknown	unknown
Osgood, Turnpike	unknown	unknown
RR	unknown	1970

Cemeteries

As do many other small Central Region towns, Allenstown has a rich heritage and a strong connection to its past. Cemeteries, both Town and small, private family plots, are an important and personal link: <sup>8, 9, 18, 33</sup>

CEMETERIES	Owner	Parcel Number / Location
------------	-------	--------------------------

Civil War Batchelder Cemetery	private	intersection of Mount Delight Road and Deerfield Road
Cemetery by Catamount Pond	private	south of Deerfield Road
Clark Burial Ground	private	Pioneer Trail in Bear Brook State Park
Evans-Batchelder Cemetery	private	before Podunk Road
Burgin Family Cemetery	private	across from Old Allenstown Meeting House
St Jean the Baptist		Granite Street

**Identified Historical Resource Priorities**

Town officials and volunteers have named the following general and specific historical and cultural resources as being particularly important to the Town: <sup>18, 33</sup>

-  Old Meeting House
-  Bailey’s Quarry
-  China Mills
-  cemeteries
-  old railroad bed
-  Buck Street Island on the Suncook

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Cemeteries
Second Priority	Cultural interest sites
Third Priority	Covered bridges
Fourth Priority	National Register of Historic Places
Fifth Priority	Archaeological sites

The survey returned from Allenstown indicated the following as historical and cultural resource priorities:

- Cemeteries,
- Cultural interest sites,
- Mill sites,
- Museums, and
- National Register of Historic Places.

Specific comments<sup>31</sup>

 Buck Street Island on the Suncook should be protected.



 **Ecological Resources**

NH Natural Heritage Inventory

Several outstanding plant and animal species have been located in Allenstown since the 1930's as well as one outstanding natural community and recorded NHI program's database.<sup>27</sup>

A dry central hardwood forest on acidic bedrock or till is a natural community that has been located at one location in Allenstown. Only 11 other such communities have been reported in the state during the last twenty years.

The Small Whorled Pogonia (*Isotria medeoloides*) is listed as an endangered species in New Hampshire and is threatened in the rest of the country. One location in Allenstown has reported harboring this plant.

Allenstown has reported two locations that harbor Sweet Golden Rod (*Solidago odora*). Only 10 other New Hampshire locations have reported this plant within the last 20 years.

Great Blue Herons (*Ardea herodias*) are large striking birds that nest by marshes and ponds. One rookery has been sited in Allenstown.

The Timber Rattlesnake (*Crotalus horridus*) is endangered in the New Hampshire, but it is not listed as such federally or globally. Only four locations have been reported in the State, two of them in Allenstown.

The vertebrate Blanding's Turtle (*Emydoidea blandingii*), not a native species to New Hampshire, has been sited in Allenstown only once within the last 20 years.

Corridors

Corridors and greenways are typically used not only by people for recreation or transportation, but also by wildlife to travel from one habitat to another. Maintaining viable and undeveloped corridors ultimately measures the biological success of the animals, particularly larger mammals, within an area. The following corridors have been identified in Allenstown:<sup>15, 18 19</sup>

A large riparian corridor is located along the Merrimack River which forms only a small part of the western boundary of the Town.

An important utility corridor runs across the northern section of Town. Another utility corridor runs for a short distance along the Merrimack River.

The Bear Brook State Park marks the western end of a large corridor spanning to its eastern end at Pawtuckaway State Park in Nottingham. An effort known as the BearPaw Regional Greenway was spearheaded by conservation professionals and the group continues to expand this exceptionally important corridor, which is perhaps the largest and richest habitat in the southern portion of the State.

#### *Exemplary Natural Communities*

Other special, undisturbed lands are essential for the biological diversity of plants and animals. The more bio-diversity found within an area, the more valuable and self-sustaining the community becomes from both ecological and economic perspectives. The following natural communities have been identified in Allenstown: <sup>18</sup>

Bear Brook State Park covers about half of Allenstown's area and provides protection for many natural resources. Deer, moose, red fox, coyote, bear, porcupine, otter, and piliated woodpecker are some of the many different animal species that have been sighted. The Park's ponds, woodlands, marshes, and fields offer Allenstown's wildlife a diverse environment.

Hall Mountain Marsh offers critical wetland habitats for a variety of sensitive plant and animal life. It is overseen by the NH Fish and Game Department, and is monitored so as to maximize the nesting and breeding of waterfowl.

Beaver colonies have been sighted at Catamount Pond.

Timber is harvested at an ecologically wise rate throughout Bear Brook's forests.

Forests and woodlands also provide important habitats for wildlife. Softwood stands offer wintering areas for deers, and scarred beech trees indicate repeated climbing by bears.

#### *Scenic Roads and Vistas*

Bear Brook State Park has many roads that pass through a variety of terrains offering pleasant views of ponds and wooded groves. Trails for walking, hiking, biking and snowmobiling also offer scenic vistas. <sup>14</sup>

#### ***Identified Ecological Resource Priorities***

The 1980 CNHRPC Open Space and Recreation Plan named the following ecological resources as being particularly important to the Town: <sup>28</sup>

- ☛ Pease Brook
- ☛ Hayes Marsh
- ☛ Archery Pond
- ☛ Hall Mountain Marsh
- ☛ Bear Brook
- ☛ Catamount Pond
- ☛ Spruce Pond
- ☛ Smith Pond
- ☛ Cold Spring Pond

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Scenic vistas
Second Priority	Plant/tree communities (tied w/3rd)
Third Priority	Greenway corridors (tied w/2nd)
Fourth Priority	Riparian corridors
Fifth Priority	Biological diversity

The survey returned from Allenstown indicated the following as ecological resource priorities:

- Animal communities,
- Biological diversity,
- Greenway corridors,
- Natural Heritage Inventory sites, and
- Plant/tree communities.

Specific comments <sup>31</sup>

☛ no additional comments were provided



☛ **Geologic Resources**

Surficial Geology

Glacial erratics dominate the eastern section of Allenstown’s Bear Brook State Park. Gloucester sandy loam and the Chatfield-Hollis-Canton complex are the two most frequently mapped soil series within Town. <sup>14</sup>

Additional and perhaps more recognizable geologic formations are mountains and hills: <sup>14, 28</sup>

MOUNTAINS AND HILLS	Elevation
Hall Mountain	925'
Bear Hill	800'
Catamount Hill	700'
Pinkney Hill	700'

***Bedrock Geology***

Granite is still collected from Bailey’s Granite Quarry on New Quarry Road. Gravel pits are located along gravel River Road.<sup>14, 18</sup>

***Identified Geological Resource Priorities***

The 1980 CNHRPC Open Space and Recreation Plan and Town officials named the following geologic resources as being particularly important to the Town:<sup>28, 33</sup>

- ✘ Bailey’s Granite Quarry and its associated high ground
- ✘ Kettle rock
- ✘ White Cape Ledge and Wing Road Ledges

***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Mountains and hills
Second Priority	Soils identification
Third Priority	Sand and gravel deposits
Fourth Priority	Bluffs
Fifth Priority	Gorges

The survey returned from Allenstown indicated the following as geologic resource priorities:

- Eskers, kames, and drumlins,
- Mining sites,
- Mountains and hills,
- Sand and gravel deposits, and
- Soils identification.

***Specific comments***<sup>31</sup>

- ✘ The high ground associated with Bailey’s Quarry should be protected.





## **Recreational Resources**

A variety of recreational opportunities and resources exist in Allenstown that are closely associated with the previous resources stated earlier in this narrative. In addition, there are several others deserving of attention: <sup>18, 29, 30</sup>

<b>PUBLIC &amp; PRIVATE RECREATION</b>	<b>Type</b>	<b>Location</b>	<b>Acreage / Miles</b>
Allenstown Elementary School Grounds	public	Suncook Village	7 acres
Allenstown Upper Elementary School	public	Suncook Village	3 acres
Allenstown Park	public	Suncook Village	1 acre
Cheer Center	private	Suncook Village	2 acres
Pine Haven Boys Center Grounds	private	off River Road	21 acres
Cold Spring Pond	public	Bear Brook State Park	3 acres
Allenstown Town Forest	public	northeast of Cold Spring Pond	
Merrimack River Boat Launch	public	west of Suncook River, on the Merrimack	3 acres
Bear Brook State Park	public	central Allenstown	6740 acres
Bear Brook State Park (hiking trails)	public	Bear Brook State Park	20 miles
Maple Grove Park Campground	private		14 acres
Bear Hills 4-H Camps (2)	private		

### ***Identified Recreational Resource Priorities***

Town officials and volunteers have named the following recreational resources as being particularly important to the Town: <sup>18</sup>



Blueberry Express Park

### ***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Recreational trails
Second Priority	Canoe/boat access
Third Priority	Outdoor sporting fields
Fourth Priority	Picnic areas and playgrounds
Fifth Priority	Beach access

The survey returned from Allenstown indicated the following as recreational resource priorities:

- Canoe/boat access,
- Kiosks, shelters, and boardwalks,
- Outdoor sporting fields,
- Picnic areas and playgrounds, and
- Recreational trails.

Specific comments<sup>31</sup>

 No additional comments were provided



**Other Identified Resource Priorities**

No additional resources or priorities have been identified by the Town.<sup>18, 33</sup>



***ACTIVE RESOURCE PRESERVATION COMMITTEES***

In order to more adequately protect these finite natural and historical resources, Allenstown has recently established a Conservation Commission, a Beautification Committee, and a Parks and Recreation Department.

Conservation Commission

In 1997, Allenstown voters created a Conservation Commission to oversee the protection of Allenstown's natural resources. The first year of operation has been largely organizational, and the committee has concentrated on creating their budget and identifying their future goals.

Beautification Committee

The Allenstown Beautification Committee was formed in an effort to beautify the Town grounds

while retaining the historic charm of the area. A handsome gazebo was recently dedicated to the Allenstown, and the Committee continues to oversee a number of summer gardens.

Parks and Recreation Department

In 1998, the Town voted to create this Department. Comprised of energetic volunteers and armed with a solid budget, the group will be focusing on creating recreational opportunities for youth and seniors in Allenstown. Their first large project will be the creation of a summer/winter skating rink.



***ADDITIONAL SURVEY FINDINGS***

The following results have been also compiled from Allenstown's response to the natural, cultural, and historical resources survey: <sup>31</sup>

Conservation Activities Planned or Anticipated Within the Following Three (3) Years

- ✧ Production of a Natural Resources Inventory

Essential Factors to Allenstown's "Quality of Life"

- ✧ small-town closeness in the western part of Town
- ✧ back-road quietness in the eastern part of Town, open spaces, and greenways

REFERENCES

- 1 - *CNHRPC: Historical Overview, 1976*
- 2 - *CNHRPC Regional Master Plan: Land Use Element, 1991*
- 3 - *US Census STF1A and STF3A, 1970, 1980, & 1990*
- 4 - *NH Office of State Planning: Current Estimates and Trends in NH's Housing Supply 1996, 1997*
- 5 - *NH Office of State Planning: Population Estimates of NH Cities and Towns (1997), 1998*
- 6 - *Bear Brook State Park Management Plan, 1994*
- 7 - *Town Officials/Employees, 1998*
- 8 - *Allenstown Town Annual Report, 1997*
- 9 - *Allenstown Master Plan Draft, 1997*
- 10 - *NH Department of Environmental Services, Water Resources Division, 1998*
- 11 - *NH Fish and Game: Biological Survey of the Lakes and Ponds in Survey Report 8c, 1970*
- 12 - *CNHRPC: Natural Resources Inventory, 1974*
- 13 - *Inventory of Merrimack County Lakes and Ponds, 1968*
- 14 - *Allenstown Master Plan, 1997*
- 15 - *NH Geographically Referenced and Information Transfer (GRANIT) System, 1998*
- 16 - *US Geological Survey (Bow, NH): Bedrock Geology Mapping, 1998*
- 17 - *US Fish and Wildlife Service: National Wetlands Inventory, 1986-1990*
- 18 - *Town Officials (anecdotal), 1998*
- 19 - *NH Office of State Planning: Comprehensive Statewide Trails Study, 1997*
- 20 - *Society for the Protection of NH Forests, 1998*
- 21 - *LCIP Final Report, 1993*
- 22 - *State of NH: Real Property Summary, 1995*
- 23 - *(reserved)*
- 24 - *NH Division of Historical Resources: Historical New Hampshire, 1990*
- 25 - *NH Division of Historical Resources: Historical Markers, 1989*
- 26 - *NH Department of Transportation: Covered Bridges of the Past, 1994*
- 27 - *NH Department of Revenue and Economic Development: NH Natural Heritage Inventory, 1998*
- 28 - *CNHRPC: Open Space Plan, 1980*
- 29 - *NH Office of State Planning: Recreation Plan, 1998*
- 30 - *Visit NH Webpage: Merrimack Valley Attractions, 1998*
- 31 - *Allenstown Survey Results, 1998*
- 32 - *Merrimack County Conservation District: Inventory of Soil Erosion and Agricultural Waste, 1979*
- 33 - *Allenstown Conservation Commission*
- 34 - *1999 Municipal Profile Update*

**BOSCAWEN**

About Boscawen.....	
Member of CNHRPC	✓
Surveys Mailed	23
Surveys Received for Tallying	4
REPP Meeting Participation	✓
Profile Review & Comment by Town	✓
1999 Update	✓

**Historical Profile**

Boscawen was first settled in 1733 and was known as Contoocook. Renamed for the 18th century war hero Lord Edward de Boscawen of England and incorporated in 1761, the Town encompassed both Boscawen and the area now known as Webster. The Town originated as a series of small settlements, such as Gerrish, Boscawen Plains, and Penacook, along the Merrimack River and the Boston and Maine Railroad. Two areas of denser settlement emerged, Penacook and Valley of Industry. Both areas reflect the importance of water power to early industry and the typical pattern of residential and commercial development. The interior of Boscawen reflects a more agricultural oriented settlement pattern with large acreage homesites and farms predominating. The division of Boscawen and Webster in 1860 formed the boundaries known to us today. <sup>1</sup>

**Present-Day Profile**

The area of Boscawen is 16,256 acres, or 25.4 square miles. The Town comprises 3.1% of the CNHRPC area. <sup>2</sup>

Over the last twenty-seven years, Boscawen's population has grown by 14% while the number of housing units has increased by 42%: <sup>3, 4, 5</sup>

GROWTH	Population	Net Change		Housing Units	Net Change	
		#	%		#	%
1970 (US Census)	3162	na	na	897	na	na
1980 (US Census)	3435	+273	+ 8.6	1114	+217	+ 24.2
1990 (US Census)	3586	+151	+ 4.4	1221	+107	+ 9.6
1997 Population & 1996 Housing (NHOSP)	3616	+43	+ 1.2	1275	+54	+ 4.4
<b>TOTAL CHANGE FROM 1970 - 1997</b>		+ 454	<b>+ 14.4%</b>		+ 378	<b>+ 42.1%</b>

In an effort to control its growth, while protecting its resources in an economically viable manner, the Town has adopted a number of land use controls to facilitate the conservation process: <sup>6</sup>

Town Zoning Districts	Town-Adopted Resource & Conservation Ordinances
Agricultural/Residential	Floodplain Development Ordinance
Residential 1 - Low Density	Cluster Development Ordinance
Residential 2 - Medium Density	Telecommunications Ordinance
Commercial	
Industrial	

Non-regulatory measures for protecting Boscawen’s resources include the following: <sup>7, 8, 9</sup>

Town Master Plan Elements	Special Conservation Plans, Reports and Studies
Goals and Objectives (1988)	Town Forest Management Plan
Capital Improvements Program (1989)	Strategic Plan of the Boscawen Conservation Commission
Transportation (1989)	
Community Facilities (1988)	
Land Use (1988)	



## **TOWN RESOURCES**

### **Water Resources**

#### Water Supplies

Until recently, Walker Pond served as the Town's water supply; private and water precinct wells currently provide water to the residents of Boscawen. Walker Pond, approximately 190 acres in size and having an average depth of 18 feet, has a motor restriction to less than six horse-power. Walker Pond is shared with Webster and it comprised the Penacook/Boscawen water precinct. This former public surface water supply, off of Chadwick Hill Road, once served a population of up to 3,500.<sup>10, 32</sup>

Between 1983 and 1997, the NHDES issued 43 private well permits to residents of Boscawen. The majority of them occur on Queen Street (20) and Corn Hill Road (10). These new well locations have been mapped by NHDES.<sup>10</sup>

#### Ponds<sup>11, 12, 13, 14</sup>

Patenaude's Pond, located on land owned by the Tamposi Company, Inc, has a size of approximately 70 acres. The average depth of the pond is 15 feet. There is no public access to this pond.

Flander's Pond is approximately 15 acres in size, with an average depth of four feet. This pond's drainage forms Tannery Brook.

Little Pond is 5.8 acres in size, although a minority of its area (1.4 acres) lies within Boscawen.

#### Rivers<sup>11, 12, 13, 14</sup>

The Merrimack River, formed upstream by confluence of the Pemigewasset and Winnepesaukee Rivers in Franklin, flows for 10.4 miles in Boscawen. Forming the boundary between Boscawen and Canterbury, the River is known for its many wild characteristics and varied public recreation opportunities.

The Contoocook River flows for only 0.9 miles through Boscawen as it joins with the Merrimack at the southeastern part of Town.

#### Brooks<sup>11, 12, 13, 14</sup>

Tannery Brook flows for 3.1 miles into the Merrimack River. Its tributary, Cold Brook, flows for two miles.

Glines Brook flows for 1.4 miles into the Merrimack River.

Beaver Dam Brook begins in Salisbury, flows through Little Pond, and drains into Walker Pond. Exiting Walker Pond, the brook flows through marshlands and eventually finds its way into Pillsbury Lake. This brook forms the majority of the Boscawen/Webster political boundary.

Hydric Soils

Out of the total land acreage of Boscawen (16,256), 9.4% is comprised of hydric soils: <sup>33</sup>

HYDRIC SOILS	Acreage	Total Percentage of Town
Poorly Drained	844	5.2%
Very Poorly Drained - organic base	460	2.8%
Very Poorly Drained - mineral base	190	1.3%
Marsh	17	0.1%
<b>TOTALS</b>	<b>1,520</b>	<b>9.4%</b>

Watersheds

The Town lies approximately 2/3 within the Upper Merrimack River watershed and 1/3 within the Lower Contoocook watershed. <sup>10</sup>

Aquifers

A small portion of an aquifer underlies the southern portion of Town, near the Concord boundary line and the Contoocook River. A larger aquifer portion is located at the boundary of Boscawen and Webster along the Beaver Dam Brook from Franklin to Beaver Dam Brook headwaters. Water precinct wells tap into these water sources at various locations. <sup>16, 32</sup>

Wetlands

Wetlands inventoried, field-checked, and mapped by the US Fish and Wildlife Service between 1986 and 1990 dot the entire Town. Large areas of mapped wetlands which do not co-occur with ponds are found along Tannery Brook, off of Corn Hill Road, within the Tamposi parcel, and off of Queen Street. <sup>17</sup>

**Identified Water Resource Priorities**

Town officials and volunteers have named the following water resources as being particularly important to the Town: <sup>18</sup>

- ☛ the unnamed beaver pond on Pierce land off of Queen Street
- ☛ Patenaude’s Pond, 70+ acres, off of Queen Street and its undeveloped woodland frontage
- ☛ Walker Pond and its frontage
- ☛ Couch Pond (a.k.a. Little Pond)
- ☛ Flander’s Pond
- ☛ Hirst Marsh
- ☛ Merrimack River, with its shorelands, tributaries, and floodplains
- ☛ Cold Brook
- ☛ Tannery Brook
- ☛ new Town water precinct wells

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Rivers and streams
Second Priority	Aquifers
Third Priority	Lakes and ponds
Fourth Priority	Designated prime wetlands
Fifth Priority	Watersheds

Surveys returned from Boscawen indicated the following as water resource priorities:

- Aquifers,
- Floodplains,
- Lakes and ponds,
- Public water supplies, and
- Rivers and streams.

The majority of the respondents felt that the Town's ordinances and regulations adequately protect their water resources. <sup>31</sup>

**Specific comments included:** <sup>31</sup>

- The Merrimack River is our greatest resource.



**✦ Land and Forestry Resources**

The total number of acres under conservation amounts to approximately 19% of the entire Town. The following table breaks down the components:<sup>8, 20, 21, 22</sup>

CONSERVATION LANDS	Held by	Acres
Boscawen Town Forest	Town	443
Cabot easement	Town	14
Cabot Memorial Forest	SPNHF	57
Cabot-Taylor Lot	Town	67
Cummings (formerly Sahlin) property (LCIP)	Town	141
Fisher Parcel	Town	6
Green space off of Sweatt Street	Town	1
Hannah Dustin Historic Site	NH DRED	1
Hannah Dustin Historic Site	Town	5
Hirst-WMA Hirst	NH F&G	115
Hirst-WMA Miller	NH F&G	25
Hirst-Brockway Marsh	NH F&G	16
Jones (formerly Emery) property (LCIP)	Town	33
Merrimack County Farm	NH DA	600
Merrimack River State Forest	NH DRED	57
Miller Lots - Town Forest	Town	5
Outdoor Education Area	Town	70
Prince Pasture (shared w/Webster)	SPNHF	92
Sanborn Agriculture Preserve (shared w/Salisbury)	NH DA	261
Schildbach easement	Town	20
State Forest Nursery	NH DRED	887
Town of Boscawen Land	Town	5
Town Forest Lot	Town	4
Woodman Forest	Town	93
<b>TOTAL ACREAGE PROTECTED</b>		<b>3018</b>

In addition, approximately 10,318 acres, or 63% of the Town’s area, were in current use as of December 31, 1998.<sup>34</sup>

In 1998, Boscawen supported a 50% land use change tax allocation, with a \$10,000 cap, to be directed to the Conservation Fund for additional land acquisition.<sup>23</sup>

**Identified Land & Forestry Resource Priorities**

Town officials and volunteers have named the following land and forestry resources as being particularly important to the Town:<sup>18</sup>

- ✦ Merrimack County Farm’s woods and fields between Routes 3 and 4
- ✦ 1000-acre undeveloped land, with an undeveloped pond, owned by the Tamposis
- ✦ all lands abutting the Town forest
- ✦ farms along King & Water Streets
- ✦ New Hampshire State Forest on DW Highway
- ✦ Boscawen Town Forest on Queen Street
- ✦ Cabot Forest on High Street
- ✦ all protected conservation lands
- ✦ open spaces in northern Boscawen
- ✦ railway corridor along the Merrimack River
- ✦ Merrimack River State Forest remnants

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Open space
Second Priority	Agricultural land
Third Priority	Conservation easements
Fourth Priority	Town parks and forests
Fifth Priority	Deeded conservation lands

Surveys returned from Boscawen indicated the following as land and forestry resource priorities:

- Agricultural land,
- Conservation easements,
- Deeded conservation lands,
- Open space, and
- Town parks.

Half of the respondents felt that the Town’s ordinances and regulations adequately protect their land and forestry resources, while half disagreed.<sup>31</sup>

Specific comments <sup>31</sup>

✦ We are in an area that may be developed quickly; therefore awareness of open space is critical.



**Historical and Cultural Resources**

National Register of Historic Places

Boscawen has five exemplary sites located on the National Register, all of which were nominated and listed in the 1980's. No additional regulative restrictions are placed upon those properties which are listed on the National Register, but instead a listing in the Register recognizes the significance of and encourages the stewardship of the property: <sup>1, 24</sup>

NATIONAL REGISTER OF HISTORIC PLACES	Date Listed	Location	Significance/Description
Boscawen Academy	12/80	King Street	Currently houses Historical Society's main museum (built in 1827, formerly the Elmwood Academy)
Much-I-Do Hose House	12/80	King Street	Currently houses Historical Society's secondary museum and Post Office
Boscawen Public Library	5/81	King Street	Currently houses Town Library
First Congregational Church	4/82	High Street	Currently Congregational Church (built in 1799, has been positioned on three different spots on the site to present day)
Morrill-Lassonde House a.k.a. First Fort	3/84	East of King Street	Currently houses NH Art Association Gallery (former Reverend Robie Morrill property, oldest wood frame house built in 1769)

Historical Markers

One of the most well-known historical sites in Boscawen is the Hannah Dustin Memorial. In 1697, Hannah Dustin (1657-1737) was taken hostage by Native Americans in Haverhill, Massachusetts and taken to a camp site on the Merrimack River in Boscawen. She was able to escape her captors by killing and scalping ten of them, while rescuing two other captives. A New Hampshire commemorative marker, set in 1967, is located at the 0.4 acre Hannah Dustin Memorial parking area on the NH Routes 3 and 4 bypass over the Merrimack River. <sup>25</sup>

Local markers, or the actual remnants of the structures themselves, indicate the sites of various other, yet not less important, historic landmarks and events: <sup>1, 8, 18</sup>

- 🏰 Contoocook Fort, 100 square feet in area, was built on the Merrimack River in 1739.
- 🏰 Queen Street Fort, 110 square feet in area, was erected on Queen Street in 1752.
- 🏰 First Meetinghouse was built in 1739, its marker residing in Plains Cemetery.
- 🏰 Woodbury Plains Meetinghouse was built in 1782, its marker residing near Maplewood Cemetery.
- 🏰 Town pound, less than one acre in size, is located on North Water Street at the intersection of Long, Water, and North Water Streets.
- 🏰 Dix Home was the birthplace of General John Adams Dix, a Civil War hero and for whom Fort Dix in New Jersey was named. The building also served as the first law office of Daniel Webster in 1805. This home is unique in that it has two historical markers identifying the site.
- 🏰 Jeremiah Burpee and John Osborne were two famous potters and brick makers around 1820. The Burpee site lies near a junction on the former Andover Road (now Corn Hill Road), and the Osborne pottery works was located in a house next to Plains Cemetery.
- 🏰 The Stratton Company Flour and Grain Mill was once the largest flour mill in New England. The wooden chutes that led from silos from the fifth floor still contained some grains in 1953, when the buildings were purchased by Allied Leather.

### Covered Bridges

Covered bridges once played an integral part of the transportation network of the 19th century. Today, they are recognized for their beauty and uniqueness. Although Boscawen no longer has standing covered bridges, seven once existed: <sup>26</sup>

COVERED BRIDGE NAME/LOCATION	Date Built	Date Gone
Twin #1	1850	1899
Twin #2	1850	1954
Near Dustin Station	unknown	unknown
RR #13, North Channel	unknown	1921
RR #12, South Channel	1867	1920's
Rainbow	1857	1907
Stirrup Iron	unknown	1875

### Cemeteries

As do many other small Central Region towns, Boscawen has a rich heritage and a strong connection to its past. Cemeteries, both town and small, private family plots, are an important and personal link: <sup>8, 18, 32</sup>

<b>CEMETERIES</b>	Owner	Parcel Number / Location
Maplewood Cemetery	Town	Map 47, Lot 38-A
Plains Cemetery	Town	Map 81-A, Lot 23-A
High Street Cemetery	Town	Map 49, Lot 24-A
Pine Grove Cemetery	Town	Map 81D, Lot 44-A
Beaverdam Cemetery	Town	
NH Veterans Cemetery	State	Daniel Webster Highway, north of Circle Drive
Gobkin Family Cemetery	private	North Water Street, north of Long Street (East)
Call Family Cemetery	private	North Water Street, north of Long Street (West)
Elliott Family Cemetery	private	North Water Street, north of Long Street (West)
Marden Family Cemetery	private	off of High Street, north of Cathole Road
Poor Farm Cemetery	private	off of High Street, near Salisbury border (unable to locate presently)
Cemetery	County	behind Merrimack County Jail

**Identified Historical Resource Priorities**

Town officials and volunteers have named the following general and specific historical and cultural resources as being particularly important to the Town: <sup>18, 32</sup>

- ☛ cemeteries on North Water Street
- ☛ cemetery behind Merrimack County jail
- ☛ small family cemeteries
- ☛ old Town Meeting House site on Water Street
- ☛ Native American arrows found on top of the hill, on a large ledge, on Queen Street
- ☛ old Boscawen elementary school building, formerly Penacook Academy
- ☛ NRHP sites (Library, Much-I-Do Hose House, Congregational Church, Boscawen Academy and Morrill-Lassonde house a.k.a. First Fort site)
- ☛ present-day NH Art Gallery Association
- ☛ old “veterans” lots behind Maplewood Cemetery on Water Street
- ☛ old farming properties
- ☛ cellar hole at old mill site on Cabot property
- ☛ historic railway corridor
- ☛ Town pound on North Water Street
- ☛ stone walls
- ☛ 1734 ox-cart way near the intersection of North Main Street and King Street
- ☛ nail mill off Stirrup Iron Road, on south branch of Stirrup Iron Brook
- ☛ the entire length of King Street and its abutting land
- ☛ Kettle & Crane Inn building and other old houses
- ☛ old bridge over Merrimack River from Boscawen to Canterbury
- ☛ “Indian Rock” at Colby farm

-  Town-meeting form of government with historical sensitivity
-  potential historical and archaeological sites on the Tamposi property

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Cemeteries
Second Priority	Cultural interest sites
Third Priority	Covered bridges
Fourth Priority	National Register of Historic Places
Fifth Priority	Archaeological sites

Surveys returned from Boscawen indicated the following as historical and cultural resource priorities:

- Cemeteries,
- Cultural interest sites, stone walls, and cellar holes,
- Mill sites,
- Museums, and
- National Register of Historic Places.

The majority of respondents felt that the Town’s ordinances and regulations did not adequately protect their historical and cultural resources. <sup>31</sup>

Specific comments <sup>31</sup>

-  Changes in zoning are needed to more adequately address historical and cultural issues.



 **Ecological Resources**

NH Natural Heritage Inventory

Several outstanding plant and animal species have been located in Boscawen since the 1930’s as well as one outstanding natural community and recorded NHI program’s database. <sup>27</sup>

The Flatstem Pondweed (*Potamogeton zosteriformis*) is threatened in New Hampshire, but not listed as such federally or globally. Only two locations in the state within the last twenty years have been reported to harbor this plant, and the last occurrence in Boscawen was in 1946.

A natural community valued as extremely high in importance is the terrestrial community Floodplain Forest along the Merrimack River. The state has only twenty-three other such communities.

The invertebrate mollusk Brook Floater (*Alasmidonta varicosa*) is listed in the state as endangered. Only one occurrence in Boscawen within the last 20 years has been recorded.

The vertebrate Blanding's Turtle (*Emydoidea blandingii*), not a native species to New Hampshire, has been sited in Boscawen only once within the last 20 years.

Fowler's Toad (*Bufo folseri*) has not been sited in Boscawen within the last 20 years. Little additional data is available on the Fowler's Toad at this time.

The elusive Pied-Billed Grebe (*Podilymbus podiceps*) is listed as endangered in the state and has only been reported in Boscawen once within the last 20 years.

### Corridors

Corridors and greenways are typically used not only by people for recreation or transportation, but also by wildlife to travel from one habitat to another. Maintaining viable and undeveloped corridors ultimately measures the biological success of the animals, particularly larger mammals, within an area. The following corridors have been identified in Boscawen: <sup>15, 18 19</sup>

A large riparian corridor is located along the Merrimack River which forms the entire eastern boundary of the Town, spanning 10.4 miles. The majority of the Merrimack corridor north of Jamie Welch Park is wild and undeveloped, while the southern portion within Boscawen contains commercial, agricultural, or industrial activity as well as undisturbed habitat.

The Boston and Maine Railroad corridor follows the Merrimack River from Boscawen's southern Concord boundary to its northern Franklin boundary.

### Exemplary Natural Communities

Other special, undisturbed lands are essential for the biological diversity of plants and animals. The more biodiversity found within an area, the more valuable and self-sustaining the community becomes from both ecological and economic perspectives. The following natural communities have been identified in Boscawen: <sup>18</sup>

Hirst Wildlife Marsh Area, owned by the NH Fish and Game, is critical habitat for freshwater wetlands species.

The 70 acre Patenaude's Pond, with its rare undeveloped shorefront, is situated within a 1000+ acre parcel in the southwestern part of Town. Abutting the Town Forest, the parcel itself is also undeveloped and supports a wide variety of plant and animal species.

At this time, no heron rookeries have been identified in Town although several local marshes and wetlands may accommodate them.

White cranes and mink have been spotted on the Merrimack River.

**Identified Ecological Resource Priorities**

Town officials and volunteers have named the following ecological resources as being particularly important to the Town: <sup>18</sup>

- ☛ Choate Hill scenic vistas overlooking the Merrimack River and Canterbury
- ☛ scenic vista overlooking Walker Pond and Mount Kearsarge
- ☛ scenic vista from Merrimack County Farm
- ☛ Walker Pond’s scenic views of Mount Kearsarge
- ☛ Hirst Marsh area (Boscawen Town Forest/Dagody Hill)

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Scenic vistas
Second Priority	Plant/tree communities (tied w/3rd)
Third Priority	Greenway corridors (tied w/2nd)
Fourth Priority	Riparian corridors
Fifth Priority	Biological diversity

Surveys returned from Boscawen indicated the following as ecological resource priorities:

- Animal communities,
- Deeryards,
- Greenway corridors,
- Plant communities, and
- Scenic vistas.

Half of the respondents felt that the Town’s ordinances and regulations adequately protect their ecological resources, while half disagreed. <sup>31</sup>

**Specific comments** <sup>31</sup>

- ☛ We need more information regarding the designation of scenic roads.



**✂ Geologic Resources**

Surficial Geology

One of the most significant features is a drumlin in the southern eastern part of Town, directly north of the Unnamed Pond. Various stratified gravel and gravel deposits lie in kame terraces and eskers, with corresponding outwash plains, in the Tannery Brook area. Stratified sand and silt from glacial outwash lie next to the Merrimack River just south of the Northfield town line.<sup>14</sup>

Additional and perhaps more recognizable geologic formations are Boscawen’s hills:<sup>14, 28</sup>

<b>MOUNTAINS AND HILLS</b>	<b>Elevation</b>
Choate Hill	800'
Dagody Hill	620'
Knowlton Hill	760'
Unnamed Hill (NE section of Town)	940'

Bedrock Geology

Two-thirds of Boscawen is underlain by the Littleton Formation of Undifferentiated Schists and Gneiss, which is comprised mostly of gray mica. The remaining one third of Town, in the North Western section, is underlain by an unnamed pluton composed of Granodiorite-Biotite Granodiorite-Biotite Quartz Monzonite (mostly quartz, some garnet). A long vein of garnet also winds down through Boscawen.<sup>14, 18</sup>

**Identified Geological Resource Priorities**

Town officials and volunteers have named the following geologic resources as being particularly important to the Town:<sup>18, 32</sup>

- ✂ variety of gorges and eskers
- ✂ glacial erratics between Routes 3 and 4
- ✂ garnet veins
- ✂ gravel pits at entrance to Town on Route 4 at Concord/Boscawen intersection
- ✂ clay along Cold Brook
- ✂ cave on Colby Farm
- ✂ Indian Rock at Colby Farm
- ✂ cliffs along King Street
- ✂ soapstone mine on Choate Hill on High Street
- ✂ Choate Hill
- ✂ Colby Hill

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Mountains and hills
Second Priority	Soils identification
Third Priority	Sand and gravel deposits
Fourth Priority	Bluffs
Fifth Priority	Gorges

Surveys returned from Boscawen indicated the following as geologic resource priorities:

- Bluffs,
- Caves,
- Mountains and hills,
- Sand and gravel deposits, and
- Soils.

The majority of respondents felt that the Town’s ordinances and regulations did not adequately protect their geologic resources.<sup>31</sup>

Specific comments<sup>31</sup>

☒ Most of these are resources are on private land and may one day be lost.



**Recreational Resources**

A variety of recreational opportunities and resources exist in Boscawen that are closely associated with the previous resources stated earlier in this narrative. In addition, there are several others deserving of attention:<sup>18, 29, 30</sup>

PUBLIC & PRIVATE RECREATION	Type	Location	Acreage / Miles
Elementary School Playground	public	North Main Street (East)	2 acres
Boscawen Sportsmen’s Club	private	Daniel Webster Highway (West)	60 acres
Town Forest Trail System	public	Weir Road	443 acres
Merrimack River Beach/Boat Access	public	north of Merrimack County Jail	3 acres
Merrimack River Beach/Boat Access (3)	public	accessible through Canterbury	
Jamie Welch Park	public	Depot Street	7 acres
Community Church Park	private	High Street before Routes 3 & 4 intersection	5 acres

New Elementary School Playground	public	North Main Street	
Scenic Drive		along Route 4 north to Salisbury	
Hirst / Brockway Marsh	public	Queen Street	

**Identified Recreational Resource Priorities**

Town officials and volunteers have named the following recreational resources as being particularly important to the Town: <sup>18</sup>

-  Congregational Church community park on High Street, at the junction of Routes 3 and 4
-  Jamie Welch Park
-  canoe and boat access from the Merrimack County lands
-  Merrimack River beaches
-  Old Home Day
-  railroad bed
-  Town Forest trails
-  Merrimack County lands
-  Merrimack River State Forest

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Recreational trails
Second Priority	Canoe/boat access
Third Priority	Outdoor sporting fields
Fourth Priority	Picnic areas and playgrounds
Fifth Priority	Beach access

Surveys returned from Boscawen indicated the following as recreational resource priorities:

- Beach access,
- Canoe/boat access,
- Outdoor sporting fields,
- Picnic areas and playgrounds, and
- Recreational trails.

**Specific comments** <sup>31</sup>

-  Only private efforts protect the recreational opportunities available.



### **Other Identified Resource Priorities**

Town officials and volunteers have named the following other resources, often intangible, as being particularly important to the Town: <sup>18</sup>



citizen education on zoning and planning



historic district



### ***ACTIVE RESOURCE PRESERVATION COMMITTEES***

In order to more adequately protect these finite natural and historical resources, Boscawen has established both a Conservation Commission and, more recently, an Historic District Commission.

#### ***Conservation Commission***

Recent activities of the Conservation Commission include: developing an interpretive nature trail, with marked posts and an illustrated guide; recertification of its Tree Farm; a revision is underway for the Town Forest Management Plan; participation in the Walker Pond Study Committee; oversight on the activities of the construction of the NH Veterans Cemetery; review of wetlands applications; examination of gravel pits and telecommunications issues; and encouraging the redevelopment of the Heritage Trail.

#### ***Historic District Commission***

The Historic District Commission, created in 1998, has been working diligently on the establishment of an historic district since its inception. The area of historical significance, lands abutting King Street, contains five sites on the National Register of Historic Places. In mid-summer, the concept of an Historic District was denied by the Planning Board and the majority of property owners within the proposed District.

#### ***Historical Society***

A private Historical Society also exists to help protect Boscawen's heritage. Recent activities of the Society included overseeing the building's belfry's careful restoration, accommodating the Town Post Office, and housing a collection of historical items. An inventory of the cemeteries of Boscawen was begun.

Other important, recent preservation accomplishments include the capping of the Corn Hill Road landfill and the clean-up of the old leather scraps at the Town Forest. These projects took a tremendous coordination effort, and funds from the US EPA and the NH DES were acquired to

help offset the costs to the Town.

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***ADDITIONAL SURVEY FINDINGS***

The following results have been also compiled from Boscawen's responses to the natural, cultural, and historical resources survey: <sup>31</sup>

*Conservation Activities Undertaken Within the Last Three (3) Years*

- volunteering at the Town Park
- creating trails through the Town Forest
- maintaining the Town Forest
- hosting discussions on open space
- proposing an historic district
- chairing and participating in the Upper Merrimack River Local Advisory Committee (UMRLAC)

*Conservation Activities Planned or Anticipated Within the Following Three (3) Years*

- ✧ continuation of activities at Town Forest
- ✧ monitoring of development
- ✧ compiling a list of open spaces
- ✧ chairing and participating in the Upper Merrimack River Local Advisory Committee (UMRLAC)

*Essential Factors to Boscawen's "Quality of Life"*

- ✧ not becoming overpopulated
- ✧ open spaces and greenways
- ✧ aesthetics for residents and visitors alike
- ✧ rural character
- ✧ lack of "Loudon Road" development
- ✧ limiting commercial development on King Street
- ✧ located close to the Capital City
- ✧ availability of recreational trails

REFERENCES

- 1 - *CNHRPC: Historical Overview, 1976*
- 2 - *CNHRPC Regional Master Plan: Land Use Element, 1991*
- 3 - *US Census STF1A and STF3A, 1970, 1980, & 1990*
- 4 - *NH Office of State Planning: Current Estimates and Trends in NH's Housing Supply 1996, 1997*
- 5 - *NH Office of State Planning: Population Estimates of NH Cities and Towns (1997), 1998*
- 6 - *Boscawen Zoning Ordinance, 1998*
- 7 - *Town Officials/Employees, 1998*
- 8 - *Boscawen Town Annual Report, 1997*
- 9 - *Boscawen Site Plan Review Regulations, 1998*
- 10 - *NH Department of Environmental Services, Water Resources Division, 1998*
- 11 - *NH Fish and Game: Biological Survey of the Lakes and Ponds in Survey Report 8c, 1970*
- 12 - *CNHRPC: Natural Resources Inventory, 1974*
- 13 - *Inventory of Merrimack County Lakes and Ponds, 1968*
- 14 - *Boscawen Master Plan: Land Use Element, 1988*
- 15 - *NH Geographically Referenced and Information Transfer (GRANIT) System, 1998*
- 16 - *US Geological Survey (Bow, NH): Bedrock Geology Mapping, 1998*
- 17 - *US Fish and Wildlife Service: National Wetlands Inventory, 1986-1990*
- 18 - *Town Officials (anecdotal), 1998*
- 19 - *NH Office of State Planning: Comprehensive Statewide Trails Study, 1997*
- 20 - *Society for the Protection of NH Forests, 1998*
- 21 - *LCIP Final Report, 1993*
- 22 - *State of NH: Real Property Summary, 1995*
- 23 - *NH Association of Conservation Commissions, 1998*
- 24 - *NH Division of Historical Resources: Historical New Hampshire, 1990*
- 25 - *NH Division of Historical Resources: Historical Markers, 1989*
- 26 - *NH Department of Transportation: Covered Bridges of the Past, 1994*
- 27 - *NH Department of Revenue and Economic Development: NH Natural Heritage Inventory, 1998*
- 28 - *CNHRPC: Open Space Plan, 1980*
- 29 - *NH Office of State Planning: Recreation Plan, 1998*
- 30 - *Visit NH Webpage: Merrimack Valley Attractions, 1998*
- 31 - *Boscawen Survey Results, 1998*
- 32 - *Boscawen Conservation Commission*
- 33 - *Merrimack County Conservation District: Inventory of Soil Erosion and Agricultural Waste, 1979*
- 34 - *1999 Municipal Profile Update*

**BOW**

About Bow.....	
Member of CNHRPC	✓
Surveys Mailed	18
Surveys Received for Tallying	3
REPP Meeting Participation	X
Profile Review & Comment	✓
1999 Update	✓

**Historical Profile**

Bow’s first permanent settlers arrived in 1728. The exact origin of Bow’s name is uncertain, but it is assumed that it was chosen for one of two reasons; either to name it after a small village in England, or to describe the bend that the Merrimack River makes along the Town’s eastern border. Bow’s boundaries were also “uncertain” for a long time. Overlapping land grants from the New Hampshire and Massachusetts governments caused a series of boundary disputes that were not settled until 1765. During that year, Bow’s area was determined to be the territory left over after the division of Pembroke and Concord. Despite these controversies, Bow grew to be an important part of the capital area. The Town was given better access to Concord as early as 1767, and several saw mills operated in the Town throughout the 1800’s. Its residential areas saw a development boom during the latter part of the 20th century when the Town became an economic, comfortable, and convenient alternative to living in Concord.<sup>1</sup>

**Present-Day Profile**

The area of Bow is 19,264 acres, or 30.1 square miles. The Town comprises 3.7% of the CNHRPC area.<sup>2</sup>

Over the last twenty-seven years, Bow’s population has grown by 158% while the number of housing units has increased by 212%:<sup>3, 4, 5</sup>

GROWTH	Population	Net Change		Housing Units	Net Change	
		#	%		#	%
1970 (US Census)	2479	na	na	709	na	na
1980 (US Census)	4015	+1536	+ 62.0	1247	+538	+ 75.9
1990 (US Census)	5500	+1485	+ 37.0	1860	+613	+ 49.2
1997 Population & 1996 Housing (NHOSP)	6406	+906	+ 16.5	2211	+351	+ 18.9
<b>TOTAL CHANGE FROM 1970 - 1997</b>		+3927	<b>+ 158.4%</b>		+ 1502	<b>+ 211.8%</b>

In an effort to control its growth, while protecting its resources in an economically viable manner, the Town has adopted a number of land use controls to facilitate the conservation process: <sup>6</sup>

<b>Town Zoning Districts</b>	<b>Town-Adopted Resource &amp; Conservation Ordinances</b>
Residential	Wetland Ordinance
Rural	Excavation Regulations
Commercial	Aquifer Ordinance
Limited Industrial	Growth Management Ordinance (1998)
General Industrial	
Institutional	
Civic	
Historic District	

Non-regulatory measures for protecting Bow’s resources include the following: <sup>7, 8, 9</sup>

<b>Town Master Plan Elements</b>	<b>Town Conservation Plans, Reports and Studies</b>
Goals and Objectives (1992)	Open Space and Recreation Study (1974)
Population and Economics (1992)	Wastewater Collection Study (1978)
Land Use (1992)	Water Resource Study (1982)
Housing (1992)	Aquifer Evaluation/Groundwater Protection Prog (1987)
Transportation (1992)	Water Resource Management and Protection Plan (1989)
Recreation and Open Space (1992)	Inventory and Assessment of Road Surfaces (1994)
Conservation and Preservation (1992)	
Community Facilities (1992)	



## **TOWN RESOURCES**

### **Water Resources**

#### Water Supplies

Bow depends primarily on ground water for its water supply. In its 1989 Water Resource Management and Protection Plan, the Merrimack and Turkey River aquifers, as well as the Bow Bog, Center, and White Brook aquifers, were recommended for exploration for an eventual municipal water supply.

Between 1983 and 1997, the NHDES has issued 377 well permits to residents of Bow. Many of them are found in the northwest corner of the Town (most of them off of One Stack Drive, Tonga Drive, and Birchdale Road). Other private well clusters are found off of Putney Road (26) and between White Rock Hill Road and Bow Center Road (44), and off of Bow Bog Road by Crockett, Laurel, and Sharon Drives (25). Other private wells are scattered throughout the Town. A few public water supplies are located along the Merrimack River, and a couple are found on Rocky Point Drive. These new well locations have been mapped by NHDES.<sup>10, 14</sup>

#### Ponds<sup>11, 12, 13, 14</sup>

Turee Pond is 52 acres in size and serves as a tributary to Turee Brook.

#### Rivers<sup>11, 12, 13, 14</sup>

The Merrimack River, formed upstream by the confluence of the Pemigewasset and Winnepesaukee Rivers in Franklin, flows along the eastern border of Bow.

Although most of the Turkey River is located in Concord, the last 5100 feet of the river run through Bow.

#### Brooks<sup>11, 12, 13, 14, 32, 36</sup>

Bow Bog Brook flows easterly 6.4 miles until it joins the Merrimack River. It has been relocated from its original course in order to accommodate the PSNH coal-fired power plant.

White Brook is located west of Bow Center and flows north to the Bow-Concord boundary. In Concord, it meets the Turkey River.

Bela Brook feeds into Turkey Pond. It begins in Dunbarton and flows easterly through the northwest panhandle of Bow. The land surrounding this brook is subject to periodic flooding.

Turee Brook flows out of Turee Pond and runs for 3000 feet in Bow.

Brickyard Brook begins near Ordway Cemetery in Bow and flows 3200 feet to where it meets the Merrimack River in Hooksett.

Horse Brook originates at The Meadow north of Hooksett Road and flows northward into Bow Bog Brook.

Center Brook flows north from a marsh east of Allen Road into Bow Bog Brook.

### Hydric Soils

Out of the total land acreage of Bow (19,266), 12.4% is comprised of hydric soils: <sup>35</sup>

<b>HYDRIC SOILS</b>	<b>Acreage</b>	<b>Total Percentage of Town</b>
Poorly Drained	1386	7.2
Very Poorly Drained - organic base	920	4.8
Very Poorly Drained - mineral base	66	0.3
Marsh	22	0.1
<b>TOTALS</b>	<b>2394</b>	<b>12.4</b>

### Watersheds

Bow's most important watershed is the Merrimack River watershed. Parts of the Town also drain into smaller watersheds including the Turkey River watershed and the Bow Bog watershed. <sup>10, 14</sup>

### Aquifers

A 1992 study of Bow's aquifers showed aquifers underlying approximately 1/8 of the Town. The largest one underlies the Merrimack River and is composed of a coarse-grained stratified drift aquifer overlying a fine-grain stratified drift aquifer. Other fine-grain aquifers underlie Bow Bog Brook, Turee Pond, and the wetlands in the Town's northwest panhandle. <sup>14,16</sup>

### Wetlands

Wetlands inventoried, field-checked, and mapped by the US Fish and Wildlife Service between 1986 and 1990 dot the entire Town. Areas of prime wetlands in Bow include: the land bordering Brown Hill Road and Dunbarton Center Road, the land in the White Rock Brook and Birchdale Road area, the headwaters of White Brook, and land near Center Brook and Horse Brook. Two of Bow's most important wetland areas are Great Meadow Swamp and Turee Pond. <sup>6</sup>

A number of private consultants have also completed detailed inventories and descriptions of Bow's wetlands.

### ***Identified Water Resource Priorities***

Past Town reports have named the following water resources as being particularly important to the Town: <sup>32</sup>

-  Bow Bog Brook
-  Turee Pond
-  The Putney Ponds and Meadows

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Rivers and streams
Second Priority	Aquifers
Third Priority	Lakes and ponds
Fourth Priority	Designated prime wetlands
Fifth Priority	Watersheds

Surveys returned from Bow indicate the following as water resource priorities:

- Aquifers,
- Designated prime wetlands,
- Floodplains and other wetlands,
- Public water supplies, and
- Rivers and streams.

The majority of the respondents felt that the Town’s ordinances and regulations adequately protect their water resources. <sup>31</sup>

Specific comments included: <sup>31</sup>

- ☛ The ordinances and regulations protecting wetlands are the most efficient.
- ☛ We need more scientifically based ordinances.
- ☛ Larger setbacks are needed, and we need more lands to be designated as prime wetlands. In addition, more land should be made into conservation easements in order to protect it from municipal development.



**🌲 Land and Forestry Resources**

The total number of acres under conservation was calculated to be approximately 16% of the entire Town. The following table breaks down the components: <sup>8, 14, 20, 21, 22, 36</sup>

CONSERVATION LANDS	Held by	Acres
Albin Road Conservation Lot	Town	146
Allen Road/Bow Bog Road/Hooksett town line parcel	Town	760
Birchdale Road - Town Forest	Town	96

Bow School Grounds	Town	33
Bow Memorial School	Town	49
Bow School Town Forest	Town	105
Bow Bog Brook and watershed	Town	254
Lots adjacent to the Bow Bog watershed	Town	181
Branch Londonderry Turnpike East Conservation Lot	Town	60
Branch Londonderry Turnpike West Conservation Lot	Town	190
Cilley State Forest	NH DRED	33
Community Center and Pond	Town	3
Clinton Street Conservation Land	Town	76
Hanson Park	Town	20
Knox Road/Robinson Road Conservation Land	Town	318
Mary Baker Eddy Site	First Church of Christ Scientists	1
Old Johnson Road Conservation Land	Town	10
Old School House Park	Town	1
Page Road Conservation Land, by Birchdale Road	Town	53
Pages Corner State Forest	NH DRED	85
Poor Richard's Drive/I-93 Conservation Lot	Town	40
Robinson Road Conservation Land	Town	22
Sargent Park	Town	2
St. Paul's School Land	private	
Turee Pond/White Rock Hill Road Conservation Land	Town	51
Turee Pond Easement & Boat Access	NH F&G	1
Walker Forest	Town	92
<b>TOTAL ACREAGE PROTECTED</b>		<b>3127</b>

In addition, approximately 5005 acres, or 26% of the Town's area, were in current use as of December 31, 1998.<sup>36</sup>

In 1998, Bow supported a 100% land use change tax allocation to be directed to the Conservation Fund for additional land acquisition.<sup>23</sup>

### **Identified Land & Forestry Resource Priorities**

Past Town reports have named the following land and forestry resources as being particularly important to the Town: <sup>14</sup>

- ✦ Oak trees in a 146-acre lot located on the south side of Albin Road
- ✦ 76-acre lot along Clinton Street that helps Bow maintain green space in the Town's northwest panhandle
- ✦ Cilley Tract
- ✦ Walker Forest
- ✦ Pages Corner State Forest
- ✦ all protected conservation lands

### **Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Open space
Second Priority	Agricultural land
Third Priority	Conservation easements
Fourth Priority	Town parks and forests
Fifth Priority	Deeded conservation lands

Surveys returned from Bow indicated the following as land and forestry resource priorities:

- Agricultural land,
- Conservation easements,
- Deeded conservation land,
- Open space, and
- Town parks and forests.

The majority of the respondents felt that the Town's ordinances and regulations do not adequately protect their land and forestry resources. <sup>31</sup>

### **Specific comments** <sup>31</sup>

- ✦ Recreation resources are efficiently protected.
- ✦ Active financial incentives are needed.
- ✦ We need conservation easements on open space. Recreation trails should be protected from development without taking significant rights from landowners.





## **Historical and Cultural Resources**

### *National Register of Historic Places*

Bow currently has no historic locations listed on the National Register. A large effort is required on the part of individuals to promote a place of historic importance through the application process of the National Historic Register.<sup>1, 24</sup>

### *New Hampshire Historical Markers*

These markers stand at places of great historical significance to the State of New Hampshire. Some of these places contain tangible reminders of the past, while others mark the locations of where structures once stood or a historical event took place.

The citizens of small New England towns often remember the “comings-and-goings” of important visitors. A marker celebrating the visit of Andrew Jackson is located on the boundary between Bow and Concord. Just north of this spot, on June 28, 1833, a party of excited citizens met President Jackson. They escorted him to the state’s capital, where he celebrated the conclusion of a grand New England Tour. The commemorative marker can now be seen at the intersection of Route 3-A and Interstate 89. The site is sometimes referred to as Andrew Jackson Park.<sup>25</sup>

Local markers, or the actual remnants of the structures themselves, indicate the sites of various other, yet not less important, historic landmarks and events:<sup>1, 8, 18</sup>

-  One of Bow’s most famous residents was Mary Baker Eddy, the founder of the Christian Science Faith. She spent the first 15 years of her life in Bow, and her birthplace is marked as a historic site.
-  Bow Baptist Church was one of the first churches built in Bow. It is located on Branch Londonderry Turnpike East.
-  Bow Center Town Hall is also located on Bow Center Road. It was used as the Town Hall for over one hundred years from 1847 to 1957.
-  The Nichols Saw Mill once stood at a site near the Bow-Dunbarton town line. This frame building had vertical siding and was once listed with the Historic American Buildings Survey. Unfortunately, it was destroyed in the hurricane of 1938.
-  Canals played an important part in the development of Central New Hampshire, and were vital to the transportation of goods before the railroad arrived. The “Bow Canal System” was built in 1808. The Canal Lock, visible from Garvin Falls Road, is only a remnant of the mile long canal system that operated in Bow until the 1840’s.
-  The Bow Bog Meeting House is an authentically restored Methodist church. This frame church was built in 1832, and its bell was donated later in the nineteenth century by Mary Baker Eddy. During the summer of 1997, its steeple underwent major renovations.
-  Sargent John Ordway participated in the Lewis & Clark expedition. The detailed journal

that he kept is stored at the New Hampshire Historical Society. His home was located along the Bow-Dunbarton border.

-  The first Bow Meeting House was built in 1770 at the top of White Rock. In 1801 a new building was constructed on the same site. This building was used for Town meetings until Bow Center Town Hall was built in 1847.
-  The remains of the fieldstone enclosure used to build the Town pound in 1821 can be seen from Branch Turnpike, 400-500 feet from the Bow Baptist Church. Two other Town pounds have also been constructed in Bow over the years.
-  The foundation of a Grist Mill (constructed in the early 1800's) is located on South Street. There are indications that other mills were built on this site earlier than 1749.
-  Henry Baker served as a US Congressman between 1892 and 1896. He lived in a white frame building on South Street, next to where the Baker Free Library now stands.
-  “Steven’s House” at Bow Center served as the Town’s central meeting place for many years. Built in the early 1800's, it served as a village store and as a post office.

Covered Bridges

Covered bridges once played an integral part of the transportation network of the nineteenth century. Today, they are recognized for their beauty and uniqueness. Although Bow no longer has standing covered bridges, one once existed: <sup>26</sup>

COVERED BRIDGE NAME/LOCATION	Date Built	Date Gone
RR Turkey Falls	unknown	1916

Cemeteries

As do many other small Central Region towns, Bow has a rich heritage and a strong connection to its past. Cemeteries, both Town and small, private family plots, are an important and personal link: <sup>8, 18</sup>

CEMETERIES	Owner	Parcel Number / Location
Heath Cemetery	private	off Clinton Street
Green Cemetery		Londonderry Branch Turnpike East
Evans (North) Cemetery		on White Rock Hill Road, by Turee Pond
Miss Alice Brown Cemetery (1 grave)	private	on Brown Hill Road
Brown Hill Cemetery (6 graves)	private	Hampshire Hills
Hammond Cemetery	private	off of Dunbarton Center Road
Goodhue Cemetery	private	on Dunbarton Center Road
Hadley Cemetery	private	off of Wood Hill Road

Nichols or East Dunbarton Cemetery		off of Dunbarton Center Road, at the Bow and Dunbarton political boundary
Quimby Cemetery	private	Quimby Road
Ordway Cemetery	private	off Ordway Lane
Alexander Cemetery		on River Road

**Identified Historical Resource Priorities**

Town officials and volunteers have named the following general and specific historical and cultural resources as being particularly important to the Town: <sup>18</sup>

- 🏠 Mary Baker Eddy Site
- 🏠 Andrew Jackson Park
- 🏠 Sites of Saw, Grist, Pulp, and shingle Mills
- 🏠 The Bow Bog School Site
- 🏠 Bow Mills School
- 🏠 Reservoir Dam on Bow Bog Road
- 🏠 Sites of the first and second Town Pounds, built in 1768 and 1799
- 🏠 Site of the Town Pound on the West Branch Londonderry Turnpike (built 1821)
- 🏠 Paint Mine
- 🏠 Old cellar holes
- 🏠 The Bow Bog Meeting House
- 🏠 The Old Town Hall at Bow Center
- 🏠 Museum at the Bow Center School
- 🏠 Site of the Covered Bridge on Hall Street
- 🏠 The sites of many one-room school houses
- 🏠 Ferry crossings
- 🏠 Sites of Tanyards, Blacksmith’s shops, and Shoe Shops

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Cemeteries
Second Priority	Cultural interest sites
Third Priority	Covered bridges
Fourth Priority	National Register of Historic Places
Fifth Priority	Archaeological sites

Surveys returned from Bow indicated the following as historical and cultural resource priorities:

- Archeological sites,
- Covered bridges,
- Mill sites,
- National Register of Historic Places, and
- Unique stone walls.

The majority of respondents felt that the Town's ordinances and regulations do not adequately protect their historical and cultural resources.<sup>31</sup>

Specific comments<sup>31</sup>

- Sites need to be identified, prioritized, and addressed in regulations



• **Ecological Resources**

NH Natural Heritage Inventory

Two outstanding animal species have been located in Bow since the 1930's and were recorded in the NHI database.<sup>27</sup>

The vertebrate Blanding's Turtle (*Emydoidea blandingii*), not a native species to New Hampshire, has been sighted in Bow only once within the last 20 years.

The Wood Turtle (*Clemmys insculpta*) has only been seen at four NH locations in the last twenty years, one of them in Bow.

Corridors

Corridors and greenways are typically used not only by people for recreation or transportation, but also by wildlife to travel from one habitat to another. Maintaining viable and undeveloped corridors ultimately measures the biological success of the animals, particularly larger mammals, within an area. The following corridors have been identified in Bow:<sup>15, 18 19</sup>

A large riparian corridor is located along the Merrimack River which forms the entire eastern boundary of the Town. The presence of water coupled with a cleared pathway form the basis for a significant animal travel corridor.

The Boston and Maine Railroad corridor follows the Merrimack River from Bow's southern Hooksett boundary to its northern Concord boundary. This old right-of-way provides recreational opportunity for humans and a quiet but direct travel route for animals.

Other corridors bring utilities to Bow's households and businesses. Some of Bow's major utility corridors follow the Merrimack River and then cut south-west towards Dunbarton approximately one mile from the Bow-Hooksett border.

Bow offers a wide range of walking, hiking, and biking trails which can also serve as wildlife

corridors.

Exemplary Natural Communities

Other special, undisturbed lands are essential for the biological diversity of plants and animals. The more bio-diversity found within an area, the more valuable and self-sustaining the community becomes from both ecological and economic perspectives. The following natural communities have been identified in Bow: <sup>14, 18</sup>

Turee Pond and its surrounding bog provide a valuable ecosystem for many freshwater wetlands species including waterfowl. White pine are found in the area.

The Bow Bog watershed is a critical habitat for many animal and plant species including: white tail deer, beaver, grouse, and other small game.

At this time, no heron rookeries have been identified in Bow although several local marshes and wetlands may accommodate them.

Scenic Roads and Vistas <sup>14, 32</sup>

Picked Hill is a rugged area with steep slopes and rocky soils. Scenic views of the White Mountains and the Concord area can be seen from its ridge line and above.

The Greylore Pond area is a scenic open space that combines views of water and undeveloped land.

Woodhill Hooksett Road passes through a variety of terrains, and provides a variety of pleasing scenery. When at high levels, scenic views of the valley and of mountains can be seen. When at low levels, the road passes alongside the Hornbeam Swamp area.

Allen Road, an unofficial scenic road, passes through a wet, heavily forested area.

Brown Hill provides scenic hilltop views.

The Wood Hill area provides scenic views of the White Mountains.

Putney Pond and the marshy and forested lands that surround it provide important wildlife habitats and scenic views.

Bow also has a number of designated scenic roads throughout the Town.

**Identified Ecological Resource Priorities**

Past Town records have named the following ecological resources as being particularly important to the Town: <sup>14,18, 28, 36</sup>

- ☛ Bow School Wildlife Refuge
- ☛ Conservation Commission Land

### ***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Scenic vistas
Second Priority	Plant/tree communities (tied w/3rd)
Third Priority	Greenway corridors (tied w/2nd)
Fourth Priority	Riparian corridors
Fifth Priority	Biological diversity

Surveys returned from Bow indicated the following as ecological resource priorities:

- Animal communities,
- Biological diversity,
- Deeryards,
- Greenway corridors, and
- Riparian corridors.

The majority of the respondents felt that the Town's ordinances and regulations do not adequately protect their ecological resources.<sup>31</sup>

#### Specific comments<sup>31</sup>

- ☛ We need to identify, manage, and preserve our ecological resources.
- ☛ We need regulations that consider animal habitats. Bow's current sub-regulations do not protect animal habitats (deeryards, moose) or scenic vistas from housing developments.



### **Geologic Resources**

#### Surficial Geology

Stratified sand and silt from glacial outwash and recent stream deposits lies in the land adjacent to the Merrimack River. This land is a remnant of the last glacial period, known in North America as the Wisconsin Glacial Period. A few stratified gravel and sandy gravel deposits are found throughout the Town in kame terraces, valley trains, eskers, and outwash plains.<sup>14</sup>

Additional and perhaps more recognizable geologic formations are mountains and hills:<sup>14, 28</sup>

<b>MOUNTAINS AND HILLS</b>	<b>Elevation</b>
Brown Hill	900'
Great Hill	920'
Line Hill	840'
Picked Hill	910'
Wood Hill	900'

### Bedrock Geology

Approximately 80% of Bow is underlain by the Littleton Formation of Undifferentiated Schists and Gneisses. Binary granite, sometimes called Concord Granite, underlies a small northern section of Town.<sup>12, 14, 18</sup>

### **Identified Geological Resource Priorities**

Past Town reports have named the following geologic resources as being particularly important to the Town:<sup>18</sup>

- ✗ Brown Hill
- ✗ White Sands
- ✗ Gravel pits

### **Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Mountains and hills
Second Priority	Soils identification
Third Priority	Sand and gravel deposits
Fourth Priority	Bluffs
Fifth Priority	Gorges

Surveys returned from Bow indicated the following as geological resource priorities:

- Eskers, kames, and drumlins,
- Gorges,
- Mountains and hills,
- Sand and gravel deposits, and
- Soils identification.

The majority of the respondents felt that the Town’s ordinances and regulations adequately protect their ecological resources.<sup>31</sup>

Specific comments<sup>31</sup>

☒ No response



**Recreational Resources**

A variety of recreational opportunities and resources exist in Bow that are closely associated with the previous resources stated earlier in this narrative. In addition, there are several others deserving of attention:<sup>18, 29, 32, 36</sup>

<b>PUBLIC &amp; PRIVATE RECREATION</b>	<b>Type</b>	<b>Location</b>	<b>Acreage / Miles</b>
Birchdale Road Town Forest	public	west of Turee Pond, near the Concord town line	96 acres
Boat Ramp and Picnic Area at the Public Service Plant	public	on the Merrimack, at the south end of River Road	
Bow Bog Brook	public	between Interstate 93 and Bow Bog Road	130 acres
Bow Bog Meeting House	public	at the intersection of Bow Bog Road and Allen Road	1 acre
Bow Community Center and Pond	public	at the Intersection of Knox Road and Logging Hill Road	3 acres
Bow High School	public	32 White Rock Hill Road	
Bow Memorial & Elementary School	public	Bow Center Road	49 acres
Bow School Forest Land (hiking, snowmobiling, nature walks)	public	off Bow Center Road	105 acres
Bow Pioneer Snowmobile Club and Trails	public & private	trails located throughout Bow	
Cilley State Forest	public	off Interstate 89, by the Concord town line	33 acres
Conservation Commission lands	public	easements located along Interstate 93, adjacent to the Bow School Forest, south of Route 13, near Turee Pond, and along the Branch Londonderry Turnpike	1080 acres
Hanson Recreational Park	public	borders Albin Road and Turee Pond	150 acres
Mary Baker Eddy Site	private	off Route 93	1 acre
Old School House Park	public	Bow Center	1 acre

Old Town Hall	public	Bow Center	1 acre
Pages Corner State Park	public	in the north panhandle	83 acres
Sargent's Field	private	behind the Municipal Building, on Grandview Road	2 acres
Turee Pond Boat Ramp	public	off of White Rock Road	1 acre

**Identified Recreational Resource Priorities**

Town officials and volunteers have named the following recreational resources as being particularly important to the Town: <sup>18, 36</sup>

-  River Road Boat Access
-  Turee Pond Boat Access
-  Museum at Bow Center School
-  Bow School Forest

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Recreational Trails
Second Priority	Canoe/boat access
Third Priority	Outdoor sporting fields
Fourth Priority	Picnic areas and playgrounds
Fifth Priority	Beach access

Surveys returned from Bow indicated the following as recreational resource priorities:

- Canoe/boat access,
- Outdoor sporting fields,
- Picnic areas and playgrounds, and
- Recreational trails.

Specific comments <sup>31</sup>

-  No response





### **Other Identified Resource Priorities**

Town officials and volunteers did not name any other resources of particular importance to the Town.<sup>18</sup>



### ***ACTIVE RESOURCE PRESERVATION COMMITTEES***

In order to more adequately protect these finite natural and historical resources, Bow has established both a Conservation Commission and a Historical Commission.

#### ***Conservation Commission***

In 1997, the Bow Conservation Commission created a private, non-profit land trust, Bow Open Spaces, to be overseen by Bow residents and taxpayers. The trust will let the Conservation Commission continue to manage land for forestry and recreational purposes, while letting the Town dictate the land's municipal and educational uses. The trust is expected to give Bow more control over future land easements. In 1998, the Town acquired 760 acres of land, Bow's largest tract of undeveloped space, defined roughly by Allen Road, Bow Bog Road, and the Hooksett town line.<sup>33, 34</sup>

#### ***Historical Commission***

The Bow Historical Commission oversees the research and protection of the Town's historical resources. The commission recently supervised the renovation of the Bow Center Schoolhouse. It was open to the public two times in 1997 and was visited by close to 200 people. In addition, The Historical Commission has been recording Bow's heritage in their third Town picture book.<sup>8</sup>

#### ***Bow Open Spaces***

This non-profit group was established to oversee current and future land acquisitions and easements of the Town. Their focus includes creation of recreational trail and open space networks.



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***ADDITIONAL SURVEY FINDINGS***

The following results have been also compiled from Bow’s responses to the natural, cultural, and historical resources survey: <sup>31</sup>

*Conservation Activities Undertaken Within the Last Three (3) Years*

- acquired conservation lands/easements
- formed the “Bow Open Spaces” group
- allocated 100% of Use Change Tax to Conservation Funds

*Conservation Activities Planned or Anticipated Within the Following Three (3) Years*

- ✧ continuing to encourage the protection of open space
- ✧ laying new recreational trails

*Essential Factors to Bow’s “Quality of Life”*

- ✧ open space
- ✧ low crime rate
- ✧ community volunteers
- ✧ community spirit
- ✧ good schools
- ✧ fair taxation
- ✧ the economy
- ✧ river protection
- ✧ cluster developments

REFERENCES

- 1 - *CNHRPC: Historical Overview, 1976*
- 2 - *CNHRPC Regional Master Plan: Land Use Element, 1991*
- 3 - *US Census STF1A and STF3A, 1970, 1980, & 1990*
- 4 - *NH Office of State Planning: Current Estimates and Trends in NH's Housing Supply 1996, 1997*
- 5 - *NH Office of State Planning: Population Estimates of NH Cities and Towns (1997), 1998*
- 6 - *Bow Zoning Ordinance, 1996*
- 7 - *Town Officials/Employees, 1998*
- 8 - *Bow Town Annual Report, 1997*
- 9 - *Bow Site Plan Review Regulations, 1998*
- 10 - *NH Department of Environmental Services, Water Resources Division, 1998*
- 11 - *NH Fish and Game: Biological Survey of the Lakes and Ponds in Survey Report 8c, 1970*
- 12 - *CNHRPC: Natural Resources Inventory, 1974*
- 13 - *Inventory of Merrimack County Lakes and Ponds, 1968*
- 14 - *Bow Master Plan: Conservation and Preservation Element, 1992*
- 15 - *NH Geographically Referenced and Information Transfer (GRANIT) System, 1998*
- 16 - *US Geological Survey (Bow, NH): Bedrock Geology Mapping, 1998*
- 17 - *US Fish and Wildlife Service: National Wetlands Inventory, 1986-1990*
- 18 - *Town Officials (anecdotal), 1998*
- 19 - *NH Office of State Planning: Comprehensive Statewide Trails Study, 1997*
- 20 - *Society for the Protection of NH Forests, 1998*
- 21 - *LCIP Final Report, 1993*
- 22 - *State of NH: Real Property Summary, 1995*
- 23 - *NH Association of Conservation Commissions, 1997*
- 24 - *NH Division of Historical Resources: Historical New Hampshire, 1990*
- 25 - *NH Division of Historical Resources: Historical Markers, 1989*
- 26 - *NH Department of Transportation: Covered Bridges of the Past, 1994*
- 27 - *NH Department of Revenue and Economic Development: NH Natural Heritage Inventory, 1998*
- 28 - *CNHRPC: Open Space Plan, 1980*
- 29 - *NH Office of State Planning: Recreation Plan, 1997*
- 30 - *(reserved)*
- 31 - *Bow Survey Results, 1998*
- 32 - *Bow Open Space & Recreation Study, 1974*
- 33 - *NHACC Newsletter, "Bow CC Creates Land Trust"*
- 34 - *Concord Monitor, January 28, 1998, "Town Eyes Big Conservation Catch"*
- 35 - *Merrimack County Conservation District: Inventory of Soil Erosion and Agricultural Waste, 1979*
- 36 - *1999 Municipal Profile Update*

**BRADFORD**

About Bradford.....	
Member of CNHRPC	✓
Surveys Mailed	17
Surveys Received for Tallying	2
REPP Meeting Participation	X
Profile Review & Comment by Town	X
1999 Update	✓

**Historical Profile**

Bradford was incorporated in 1787 and held its first town meeting that year with a population of 130. The earliest settlers had arrived but fifteen years earlier. The Meeting House was built in 1798 in what was the center of Bradford and was moved 65 years later to the present central business area where a first floor was built beneath it. It serves today as the Town Hall. For twenty years, Bradford was the terminus of the Concord and Claremont Railroad. This gave rise to the tourist industry and hotels, boarding houses, and boarding farms. Liveries and associated businesses to serve the visitors became abundant. Some of the large and distinguished buildings still stand as single-family homes or apartment buildings. Subsistence agriculture, dairies, and apples were important as were the forest industry, sawmills, and finished wood products.

**Present-Day Profile**

The area of Bradford is 22,784 acres, or 35.6 square miles. The Town comprises 4.4% of the CNHRPC area.<sup>2</sup>

Over the last twenty-seven years, Bradford's population has grown by 109% while the number of housing units has increased by 49%:<sup>3, 4, 5</sup>

GROWTH	Population	Net Change		Housing Units	Net Change	
		#	%		#	%
1970 (US Census)	679	na	na	523	na	na
1980 (US Census)	1115	+ 436	+ 64.2	696	+ 173	+ 33.1
1990 (US Census)	1405	+ 290	+ 26.0	753	+ 57	+ 8.2
1997 Population & 1996 Housing (NHOSP)	1420	+ 15	+ 1.1	781	+ 28	+3.7
<b>TOTAL CHANGE FROM 1970 - 1997</b>		+ 741	+ 109.1%		+ 258	+ 49.3%

In an effort to control its growth, while protecting its resources in an economically viable manner, the Town has adopted a number of land use controls to facilitate the conservation process: <sup>6</sup>

<b>Town Zoning Districts</b>	<b>Town-Adopted Resource &amp; Conservation Ordinances</b>
Residential/Business District	Floodplain Development Ordinance (1988)
Conservation District	Cluster Development Ordinance
Rural Residential District	Historic District Regulations
Village District (proposed in 1996 Master Plan)	Wetland Development Ordinance (1989)
Prime Commercial District (proposed in 1996 Master Plan)	Excavation Regulations
Lake Front District (proposed in 1996 Master Plan)	Sewage Sludge Regulations (1996)
Residential Rural District (proposed in 1996 Master Plan)	
Controlled Community Development District (proposed in 1996 Master Plan)	
Historic District (proposed in 1996 Master Plan)	

Non-regulatory measures for protecting Bradford’s resources include the following: <sup>7, 8, 9, 33</sup>

<b>Town Master Plan Elements</b>	<b>Town Conservation Plans, Reports and Studies</b>
Goals and Objectives (1996)	Governor’s Cornerstone Project participant (1992)
Land Use (1996)	Community Profiles participant
Housing, Population and Demographics (1996)	Wetlands Evaluation
Transportation (1996)	Natural Resource Inventory
Utilities and Public Services (1996)	
Community Facilities and Resources (1996)	
Recreation (1996)	
Conservation and Preservation (1996)	
Construction Materials (1996)	



## **TOWN RESOURCES**

### **Water Resources**

#### Water Supplies

Ten public water supplies exist within the Town. Most are situated along Main Street at the Bradford Town Hall and Central School, plus found at the Appleseed and Bradford Inns.

Between 1983 and 1997, the NHDES has issued 44 well permits to residents of Bradford. These new well locations have been mapped by NHDES.<sup>10, 14</sup>

#### Lakes and Ponds<sup>11, 12, 13, 14, 33</sup>

Lake Todd shares its shores with both Newbury and Bradford. This 168-acre lake has a maximum sounded depth of 22 feet and has an established protective association.

Lake Massasecum is the largest water body in the immediate area. This 403-acre lake has a maximum sounded depth of 50 feet and serves as a major tributary to the Warner River. It is served by the Lake Massasecum Improvement Association, which monitors the water quality and the presence of a non-native invasive plant species, milfoil. This lake is in particular danger because overflow from the Warner River flows back into the lake. Since the lake is topographically at the same level as the surrounding floodplain, wetlands along Route 114, which once absorbed some of this floodwater, have been filled by sediment.

Ayers Pond lies on the Washington - Bradford border. This is a small 28-acre pond with an average depth of 9 feet.

#### Rivers<sup>11, 12, 13, 14, 33</sup>

The Warner River is the only river located within the boundaries of Bradford. This river begins in the area northwest of Lake Massasecum with the confluence of the West Branch and a stream from Lake Massasecum. North of Lake Massasecum a stream from Blaisdell Lake in Sutton joins the Warner River, which then flows east and into the Town of Warner.

#### Brooks<sup>11, 12, 13, 14, 33</sup>

Hoyt Brook commences at Avery Ledge from several small streams. It becomes a sizeable stream at the corner of West Meadow Road and West Road.

“West Branch,” which flows from the side of Mount Sunapee, is the west branch of the Warner River. It is easily seen at the covered bridge on Center Road.

Melvin Brook, also known as Pond Brook, connects Lake Massasecum with the Warner River.

Bog and Beard’s Brooks are hydrologically associated with the Bradford Bog. They flow south into Hillsborough.

Several unnamed brooks flow into Hoyt Brook and West Branch.

Hydric Soils

Out of the total land acreage of Bradford (22,784), 10.2% is comprised of hydric soils: <sup>32</sup>

HYDRIC SOILS	Acreage	Total Percentage of Town
Poorly Drained	1279	5.6
Very Poorly Drained - organic base	648	2.8
Very Poorly Drained - mineral base	231	1
Marsh	170	.7
<b>TOTALS</b>	<b>2328</b>	<b>10.2</b>

Watersheds

Bradford lies in the Contoocook River sub-basin. Its principal watershed is that of the Warner River. A small portion of the Town’s south west corner also lies in the Beards Brook watershed. <sup>10, 12</sup>

Aquifers

A fairly large stratified drift aquifer exists along the Warner River from Lake Todd and underlies the most densely populated area in the northeastern corner of Bradford. This aquifer continues under Lake Massasecum and into Warner. Another large stratified drift aquifer underlies the northwest corner of the Town. Most of this aquifer is in the Town of Newbury. <sup>16, 33</sup>

Wetlands

Wetlands inventoried, field-checked, and mapped by the US Fish and Wildlife Service between 1986 and 1990 dot much of the Town. Large areas of mapped wetlands which do not co-occur with ponds are found along the Warner River, off Moon Corner Road, off Alder Plains Road, off Purington Road, and County Road. <sup>17</sup>

**Identified Water Resource Priorities**

The Bradford Master Plan named the following water resources as being particularly important to the Town: <sup>18</sup>

- ☛ the various aquifers underlying the Town is the prime source of potable water
- ☛ preservation or management of the remaining undeveloped lake areas
- ☛ retain the floodplain area between Bradford Pines, Melvin Mills, and Lake Massasecum for its invaluable use as a floodplain

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Rivers and streams
Second Priority	Aquifers
Third Priority	Lakes and ponds
Fourth Priority	Designated prime wetlands
Fifth Priority	Watersheds

Surveys returned from Bradford indicated the following as water resource priorities:

- Aquifers,
- Lakes and ponds,
- Public water supplies,
- Rivers and streams, and
- Wetlands.

Half of the respondents felt that the Town's ordinances and regulations adequately protect their water resources, while half disagreed. <sup>31</sup>

*Specific comments included:* <sup>31</sup>

- ✂ More protection is needed for these resources
- ✂ Stiffer enforcement of protective regulations



### **Land and Forestry Resources**

The total number of acres under conservation was calculated to be approximately 4% of the entire Town. The following table breaks down the components: <sup>8, 20, 21, 22, 33</sup>

CONSERVATION LANDS	Held by	Acres
Aiken Town Forest	Town	136
Bradford Bog Park	Town	66
Bradford Pines Natural Area	NH DRED	5
Bradford Springs	Town	20
Brown Shattuck Park	Town	3
Central School	Town	13
L Dodge Lot	Town	7
French's Park	Town	3
Low State Forest (portion within Bradford)	NH DRED	717

Pearl Town Forest	Town	37
Whitman Park	Town	4
<b>TOTAL ACREAGE PROTECTED</b>		<b>1011</b>

In addition, approximately 15,569 acres, or 68% of the Town’s area, were in current use as of December 31, 1998.<sup>33</sup>

In 1998, Bradford supported a 50% land use change tax allocation to be directed to the Conservation Fund for additional land acquisition.<sup>23</sup>

**Identified Land & Forestry Resource Priorities**

The 1996 Master Plan named the following land and forestry resources as being particularly important to the Town:<sup>14</sup>

- ♣ 80-90% of the Town’s land area is forested
- ♣ agricultural land

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Open space
Second Priority	Agricultural land
Third Priority	Conservation easements
Fourth Priority	Town parks and forests
Fifth Priority	Deeded conservation lands

Surveys returned from Bradford indicated the following as land and forestry resource priorities:

- Conservation easements,
- Deeded conservation lands,
- Open space, and
- Town parks and forests.

All of the respondents felt that the Town’s ordinances and regulations adequately protect their land and forestry resources.<sup>31</sup>

Specific comments <sup>31</sup>

✦ no additional comments were provided.

**Historical and Cultural Resources**National Register of Historic Places

Bradford has two exemplary sites located on the National Register, both of which were nominated and listed in the late 1970's and early 1980's. No additional regulative restrictions are placed upon those properties which are listed on the National Register, but instead a listing in the Register recognizes the significance of and encourages the stewardship of the property: <sup>1, 24</sup>

<b>NATIONAL REGISTER OF HISTORIC PLACES</b>	<b>Date Listed</b>	<b>Location</b>	<b>Significance/Description</b>
Bement Covered Bridge	11/76	1/4 mile north of junctions of NH Routes 103 and 114	One of the few remaining covered bridges located in New Hampshire. Built in the long truss style by Colonel Stephen Long in 1854.
Bradford Town Hall	11/80	On West Main Street	

Historical Markers

These markers stand at places of great historical significance to the State of New Hampshire. Some of these places contain tangible reminders of the past, while others mark the locations of where structures once stood or a historical event took place.

One of the most well-known historical sites in Bradford is the Bradford Center. The Bradford Center is a common which was designated the geographical center of Town in 1791. At one time many town buildings and other structures stood at this location. Today the Town pound, the District One School House (built in 1793) and the Congregational Society Meeting House (dedicated in 1838) can still be found standing at this location. <sup>25</sup>

Local markers, or the actual remnants of the structures themselves, indicate the sites of various other, yet not less important, historic landmarks and events: <sup>1, 8, 14, 33</sup>

- ✦ The Bradford Primeval Pines are of ecological as well as historical importance to the Town and the Region. Owned by the State, this 5 acre plot contains several very large and ancient pine trees.
- ✦ The Bradford Springs is the site of an old hotel and spa associated with a sulfur spring. This wetland is encompassed within the Bradford Bog and is managed by the Bradford Conservation Commission.
- ✦ A site known as the "Indian Tie-up" has been traditionally described as a Native American campground. Technically located in Henniker, it lies just beyond the current political boundary shared with Bradford.

Covered Bridges

Covered bridges once played an integral part of the transportation network of the 19th century. Today, they are recognized for their beauty and uniqueness. Bradford is one of the few towns in New Hampshire which has an existing covered bridge. Several more once existed in Bradford and have since been lost: <sup>26</sup>

COVERED BRIDGE NAME/LOCATION	Date Built	Date Gone
Henniker Road	1842	1949
RR # 144 Cheney	1887	1922
RR # 147 Wheeler	1887	1929
Bement	1854	still in existence

Cemeteries

As do many other small Central Region towns, Bradford has a rich heritage and a strong connection to its past. Cemeteries, both Town and small, private family plots, are an important and personal link: <sup>8, 18</sup>

CEMETERIES	Owner	Parcel Number / Location
Ames Cemetery (1834-1894)	private	
Bagley/Hadley Cemetery (1841-1909)	private	
Burial Hill (1797-1870)		
Center Burial Yard (1801-1882)		
Colby Cemetery (1848-1904)	private	
Cummings/Pierce Cemetery (1805-1893)	private	
Durrell Cemetery (1836-1877)	private	
Eaton Cemetery (1833-1914)	private	
Howlett Cemetery (1846-1899)	private	
Marshall/Collins Cemetery (1821-1911)	private	
New Pond Cemetery (1854-)		
Old Pond (1816-1854)		
Pleasant Hill Cemetery (1880-)		
Presbury Cemetery (1823-1977)		
Sunny Plain Cemetery (1922-)	town	
Union Cemetery (1848-)	town	

**Identified Historical Resource Priorities**

Town officials and volunteers have named the following general and specific historical and cultural resources as being particularly important to the Town: <sup>18</sup>

-  cemeteries

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Cemeteries
Second Priority	Cultural interest sites
Third Priority	Covered bridges
Fourth Priority	National Register of Historic Places
Fifth Priority	Archaeological sites

Surveys returned from Bradford indicated the following as historical resource priorities:

- Cemeteries,
- Covered bridges,
- Cultural interest sites,
- National Register of Historic Places, and
- Unique cellar holes.

Half of the respondents felt that the Town’s ordinances and regulations adequately protect their historical and cultural resources, while half disagreed. <sup>31</sup>

Specific comments <sup>31</sup>

-  Stricter enforcement of regulations is needed near historic sites.

 **Ecological Resources**



NH Natural Heritage Inventory

Several outstanding plant species have been located in Bradford since the 1930's as well as two

outstanding natural communities and recorded NHI program's database.<sup>27, 33</sup>

The Atlantic White Cedar (*Chamaecyparis thyoides*) is a rare tree found in only a few communities in New Hampshire. The tree is not listed in the state as threatened since there are 32 listed locations, but the unique tree is located in Bradford Bog and its surroundings.

Green Adder's-Mouth (*Malaxis unifolia*) is listed as threatened in the State of New Hampshire, but not federally. There are now 11 locations in New Hampshire and only a historical location in Bradford.

Sclerolepis (*Sclerolepis uniflora*) is listed as endangered in the State of New Hampshire, but not federally. Only one state-wide location of this rare plant is known, and it was found in Bradford.

An Atlantic White Cedar basin swamp exists in Bradford and in only twenty-six other locations around the State. This rare community creates a unique habitat for species of plants and animals that cannot survive well elsewhere.

The Inland New England Acidic Pond Shore/Lake Shore Community is found at two locations in Bradford. This community is found in only ten other locations around the State.

### Corridors

Corridors and greenways are typically used not only by people for recreation or transportation, but also by wildlife to travel from one habitat to another. Maintaining viable and undeveloped corridors ultimately measures the biological success of the animals, particularly larger mammals, within an area. The following corridors have been identified in Bradford:<sup>15, 18 19</sup>

A large riparian corridor is located along the Warner River which flows through the north eastern part of Bradford. Other corridors can be located between large wetlands, tree stands, and open fields.

### Scenic Vistas

The Bradford Master Plan identified many locations as scenic. They include Alder Plains Marsh, from either County or Alder Plains Road, which provides breathtaking views of Mount Sunapee above a red maple swamp. Open fields, particularly those at Messer's Farm, Battle's Farm and from the Lettvin Home on Rowe Mountain also provide great views. Other wetlands, including Blood Meadow, a pasture and wet meadow for over a century, provide views of Mount Kearsarge.<sup>14</sup>

### Exemplary Natural Communities

Other special, undisturbed lands are essential for the biological diversity of plants and animals. The more biodiversity found within an area, the more valuable and self-sustaining the community becomes from both ecological and economic perspectives. The following natural communities have been identified in Bradford:<sup>14, 18, 33</sup>

Low State Forest is a large 717-acre parcel of undisturbed and protected land in the southern part of Bradford. This State Forest crosses the border of Bradford and continues into Hillsborough.

A heron rookery of five to six nests is located on Brown’s Marsh on Alder Plains Road. Another heron rookery exists on Old Warner Road.

The communities listed above from the Natural Heritage Inventory register are exemplary in their ability to provide habitat for a variety of sensitive plants and animals.

**Identified Ecological Resource Priorities**

The Bradford Master Plan has named the following ecological resources as being particularly important to the Town: <sup>14</sup>

- ☛ Bradford Bog area
- ☛ Aiken Pasture

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Scenic vistas
Second Priority	Plant/tree communities (tied w/3rd)
Third Priority	Greenway corridors (tied w/2nd)
Fourth Priority	Riparian corridors
Fifth Priority	Biological diversity

Surveys returned from Bradford indicated the following as ecological resource priorities:

- Biodiversity
- Greenway corridors
- Natural Heritage Inventory
- Riparian corridors, and
- Scenic vistas.

The half of the respondents felt that the Town’s ordinances and regulations adequately protect their ecological resources, while half disagreed. <sup>31</sup>

Specific comments <sup>31</sup>

- ☛ no additional comments were provided



**⌘ Geologic Resources**

Surficial Geology

Kames and kame terraces lie beside the Warner River which runs through the north eastern region of the Town and along Lake Massasecum in east Bradford. Isolated organic deposits lie in scattered wetlands.<sup>14</sup>

Additional and perhaps more recognizable geologic formations are mountains and hills:<sup>14, 28, 33</sup>

<b>MOUNTAINS AND HILLS</b>	<b>Elevation</b>
“Moon” Mountain	2108'
Rowes Hill	1920'
Knight’s Hill	1940'
Silver Hill	1760'
Pickett Hill	1560'
Goodwin Hill	1320'
Guild Hill	1140'
Cedar Hill	1060'
Hogg Hill	1140'
Haystack Mountain	1700'
Avery Ledge	1921'

Bedrock Geology

Bradford’s bedrock is composed almost entirely of a pluton comprised of Kinsman Quartz Monzonite. The only section of Town that differs in composition is a patch of Binary or “Concord” Granite which underlies the Lake Massasecum area.<sup>14, 18</sup>

**Identified Geological Resource Priorities**

The Bradford Master Plan named the following geologic resources as being particularly important to the Town:<sup>14</sup>

- ⌘ Devil’s Cave, a small cave in Lowe State Forest, is located on ledges near the ridge on Rowe Mountain
- ⌘ Avery Ledge
- ⌘ “Tippin’ Rock” is a large glacial boulder balanced on ledge and is located near the East Washington political boundary

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Mountains and hills
Second Priority	Soils identification
Third Priority	Sand and gravel deposits
Fourth Priority	Bluffs
Fifth Priority	Gorges

Surveys returned from Bradford indicated the following as geologic resource priorities:

- Caves,
- Eskers,
- Mountains and hills,
- Sand and gravel deposits, and
- Soils identification.

Half of the respondents felt that the Town’s ordinances and regulations adequately protect their geologic resources, while half disagreed. <sup>31</sup>

Specific comments <sup>31</sup>

✂ Most of these are resources are on private land and may one day be lost.



**Recreational Resources**

A variety of recreational opportunities and resources exist in Bradford that are closely associated with the previous resources stated earlier in this narrative. In addition, there are several others deserving of attention: <sup>14, 29, 30, 33</sup>

PUBLIC & PRIVATE RECREATION	Type	Location	Acreage / Miles
Aiken Town Forest	public	Southwest Bradford off Purington Road	120 acres
Bradford Bog boardwalk	public	Southwest corner off East Washington Road.	60 acres
Bradford Springs (part of Bradford Bog): picnic area, wetland area	public	East Washington Road, near the Washington town line	20 acres

Pearl Town Forest (with 2 short trails)	public	Central Bradford off West Road	35 acres
Bradford Pines walking trail	public	along Route 103 south of Main Street	1 mile
Fitness Trail	public	Northwest Bradford off Old Sutton Road	6 miles
Brown Shattuck Park	public	Off Route 114 in North east Bradford	4 acres
Bradford Center Restoration	public/private	On Rowe Mountain Road	
Central School	public	Off Route 103 in Northeast Bradford	13 acres
Bradford Pines State Forest	public	Between Water Street and Route 114	5 acres
Athletic Fields	public	on Old Warner Road at Kearsarge Regional Elementary School	
Low State Forest	public	South central Bradford	717 acres
French's Park picnic area	public	Near Lake Massasecum off Route 114	3 acres
Town Boat Ramp	public	Lake Massasecum, located off Route 114	1 acre

**Identified Recreational Resource Priorities**

The Bradford Master Plan named the following recreational resources as being particularly important to the Town: <sup>14</sup>

- ☒ Old Town Roads are often used for recreation

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Recreational trails
Second Priority	Canoe/boat access
Third Priority	Outdoor sporting fields
Fourth Priority	Picnic areas and playgrounds
Fifth Priority	Beach access

Surveys returned from Bradford indicated the following as recreational resource priorities:

- Kiosks, shelters, and boardwalks,
- Picnic areas, and
- Recreational trails.

Specific comments <sup>33</sup>

- ☒ Trails are being built on Dunfield Road and the Lowe State Forest by the Conservation Commission.
  
- ☒ Picnic areas are located in Frendis Park, Route 103 near Bradford Pines, and at Bradford Springs.



**Other Identified Resource Priorities**

Town officials and volunteers have named the following other, often intangible, resources as being particularly important to the Town: <sup>18</sup>



- Class VI roads for recreational purposes



***ACTIVE RESOURCE PRESERVATION COMMITTEES***

In order to more adequately protect these finite natural and historical resources, Bradford has established both a Conservation Commission and a Historic Society.

Conservation Commission

Recent activities of the Conservation Commission include: maintaining public use of Class VI roads, finding parcels of land which may help connect conservation areas, improvements to the fitness trail, /3rd annual Bradford Earth Day Clean-up Extravaganza, mapping of public trails, and working on the Bradford Bog Boardwalk.

Historical Society

The Bradford Historical Society exists to help preserve, protect, and promote Bradford's heritage and history. They possess a collection of over 70 photo albums and information. A genealogy of residents and settlers to the last part of the 19th century is presently being compiled. Recent programs of the Society include: a concert by the Kearsarge Regional High School Music Department, author Jean Bennett, a dramatization of George Washington, a Band Concert and Berry Festival, the Irish immigration in NH by Ruth Ann Harris, the dedication of a plaque at the site of the Bradford Springs Hotel, and the annual reunion of the Alumnae of the Center School. There is a strong feeling that historical and conservation interests are intertwined.



***ADDITIONAL SURVEY FINDINGS***

The following results have been also compiled from Bradford’s responses to the natural, cultural, and historical resources survey: <sup>31</sup>

*Conservation Activities Undertaken Within the Last Three (3) Years*

- developed a trail system and published a map
- wetland evaluations
- a natural resources inventory
- boardwalk in bog
- land acquisition

*Conservation Activities Planned or Anticipated Within the Following Three (3) Years*

- ✧ preserve what we have
- ✧ land acquisitions

*Essential Factors to Bradford’s “Quality of Life”*

- 🌿 “neighbor knowing neighbor”
- 🌿 “neighbor helping neighbor” (volunteerism!)
- 🌿 enforcement of current regulations

REFERENCES

- 1 - *CNHRPC: Historical Overview, 1976*
- 2 - *CNHRPC Regional Master Plan: Land Use Element, 1991*
- 3 - *US Census STF1A and STF3A, 1970, 1980, & 1990*
- 4 - *NH Office of State Planning: Current Estimates and Trends in NH's Housing Supply 1996, 1997*
- 5 - *NH Office of State Planning: Population Estimates of NH Cities and Towns (1997), 1998*
- 6 - *Bradford Zoning Ordinance, 1994*
- 7 - *Town Officials/Employees, 1998*
- 8 - *Bradford Town Annual Report, 1997*
- 9 - *Bradford Site Plan Review Regulations, 1986*
- 10 - *NH Department of Environmental Services, Water Resources Division, 1998*
- 11 - *NH Fish and Game: Biological Survey of the Lakes and Ponds in Survey Report 8c, 1970*
- 12 - *CNHRPC: Natural Resources Inventory, 1974*
- 13 - *Inventory of Merrimack County Lakes and Ponds, 1968*
- 14 - *Bradford Master Plan, 1996*
- 15 - *NH Geographically Referenced and Information Transfer (GRANIT) System, 1998*
- 16 - *US Geological Survey (Bow, NH): Bedrock Geology Mapping, 1998*
- 17 - *US Fish and Wildlife Service: National Wetlands Inventory, 1986-1990*
- 18 - *Town Officials (anecdotal), 1998*
- 19 - *NH Office of State Planning: Comprehensive Statewide Trails Study, 1997*
- 20 - *Society for the Protection of NH Forests, 1998*
- 21 - *LCIP Final Report, 1993*
- 22 - *State of NH: Real Property Summary, 1995*
- 23 - *NH Association of Conservation Commissions, 1998*
- 24 - *NH Division of Historical Resources: Historical New Hampshire, 1990*
- 25 - *NH Division of Historical Resources: Historical Markers, 1989*
- 26 - *NH Department of Transportation: Covered Bridges of the Past, 1994*
- 27 - *NH Department of Revenue and Economic Development: NH Natural Heritage Inventory, 1998*
- 28 - *CNHRPC: Open Space Plan, 1980*
- 29 - *NH Office of State Planning: Recreation Plan, 1997*
- 30 - *Visit NH Webpage: Merrimack Valley Attractions, 1998*
- 31 - *Bradford Survey Results, 1998*
- 32 - *Merrimack County Conservation District: Inventory of Soil Erosion and Agricultural Waste, 1979*
- 33 - *1999 Municipal Profile Update*

**CANTERBURY**

About Canterbury.....	
Member of CNHRPC	✓
Surveys Mailed	16
Surveys Received for Tallying	3
REPP Meeting Participation	✓
Profile Review & Comment by Town	✓
1999 Update	X

**Historical Profile**

In 1727, King George II of England granted two hundred 80-acre lots in the region encompassing what we now recognize as Canterbury, Northfield, and Loudon. By 1790, Canterbury had been incorporated as a separate town. The arrival of the Shakers in 1792, a self-sufficient religious sect brought from England to America by its founder Ann Lee, distinguishes Canterbury’s establishment. The Shakers’ presence coupled with the success of other Canterbury farmers helped make the Town an agricultural center. Unfortunately, talk of better, fertile lands in the Midwest lured many away from New Hampshire, and new benefits borne by a modernizing America led to the Shakers’ decline. Even so, Canterbury’s handsome heritage lives on through the preservation efforts of its residents. The 1952 establishment of a Planning Board made Canterbury a forerunner in the regulation of New Hampshire’s land use. These efforts have paid off, and Canterbury remains one of the most historically and ecologically rich communities in Central New Hampshire.<sup>1, 14</sup>

**Present-Day Profile**

The area of Canterbury is 28,672 acres, or 44.8 square miles. The Town comprises 5.6% of the CNHRPC area.<sup>2</sup>

Over the last twenty-seven years, Canterbury’s population has grown by 101% while the number of housing units has increased by 142%:<sup>3, 4, 5</sup>

GROWTH	Population	Net Change		Housing Units	Net Change	
		#	%		#	%
1970 (US Census)	895	na	na	326	na	na
1980 (US Census)	1410	+ 515	+ 57.5	583	+ 257	+ 78.8
1990 (US Census)	1687	+ 277	+ 19.6	724	+ 14	+ 2.4
1997 Population & 1996 Housing (NHOSP)	1800	+ 113	+ 6.7	788	+ 64	+ 8.8
<b>TOTAL CHANGE FROM 1970 - 1997</b>		+ 905	<b>+ 101.1%</b>		+ 462	<b>+ 141.7%</b>

In an effort to control its growth, while protecting its resources in an economically viable manner, the Town of Canterbury has adopted a number of land use controls to facilitate the conservation process: <sup>6, 14</sup>

Town Zoning Districts	Town-Adopted Resource & Conservation Ordinances
Agriculture/Conservation	Historic District Ordinance
Rural	Wetland Ordinance
Residential	Floodplain Ordinance
Central Historic District	Shoreland Ordinance
Shaker Historic Overlay District	Aquifer Ordinance
Shaker Village Museum Preservation District	Excavation Regulations
Resource Reserve Natural	
Industrial	
Commercial	

Non-regulatory measures for protecting Canterbury’s resources include the following: <sup>7, 8, 9</sup>

Town Master Plan Elements	Town Conservation Plans, Reports and Studies
Land Use Element (1998)	
Natural, Historic, and Scenic Resources Element (1998)	
Transportation Element (1998)	
Community Services & Facilities Element (1998)	
Housing Element (1998)	
Economic Development Element (1998)	
Regional Planning Element (1998)	



## **TOWN RESOURCES**

### **Water Resources**

#### **Water Resources**

Forrest Pond and Forrest Pond Brook, the Big Meadow, human-made Shaker ponds and streams, and the Merrimack River are a few of the many waterways that comprise Canterbury's surface water resources. Canterbury's households depend on ground water tapped from private wells.<sup>14</sup>

Between 1983 and 1997, the NHDES has issued 107 well permits to residents of Canterbury. The majority of them are located along Route 132 (11), Baptist Road (11), Baptist Hill Road (8) Hackleboro Road (6), and Shaker Road (9). Other private well clusters are located around New Pond and in the region defined roughly by the convergence of Cogswell, Southwest, and Center Roads. Other private wells are scattered throughout the Town. These new well locations have been mapped by NHDES.<sup>10, 14</sup>

#### **Ponds**<sup>11, 12, 13, 14</sup>

Forrest Pond, located close to the Northfield border, has a size of approximately 23 acres. The average depth of the pond is 13 feet. It serves as a tributary to Forrest Pond Brook.

Crane Neck Pond is approximately 11 acres in size, with an average depth of five feet.

Kimball Pond is just over 10 acres in size and has an average depth of eight feet.

New Pond, sometimes called Stump Pond, is 30 acres in size. It has a shoreline of 1.3 miles and an average depth of eight feet. It serves as a tributary to Shaker Brook.

Lyford Pond is located next to New Pond. It is 26 acres in size and also has an average depth of eight feet.

Horseshoe Pond is located in the south central part of Canterbury, close to Morrill Mill Pond.

Rocky Pond serves as a tributary to Kimball Brook and the Soucook River. It has an area of 78 acres and extends into Loudon and Gilmanton.

Morrill Pond is 19 acres in size, and has an average depth of 16 feet. The pond is surrounded by conservation land on three sides.

Morrill Pond #2 is also called Morrill Mill Pond. At 30 acres in area, it is only four feet deep on average. The pond is surrounded by conservation land.

Oxbow Pond is located adjacent to the Merrimack River just above the Concord/Canterbury political boundary.

Upper Shaker Pond is an artificial pond, created by the Shakers to run their mills. It has an area of five acres, and is five feet deep on average.

Shaker Pond #2 is also an artificial pond created by the Shakers. It has an area of only three acres and has an average depth of only four feet.

Unnamed Pond #2 is also known as “The Channel.” It has an area of 14 acres and an average depth of four feet.

Rivers <sup>11, 12, 13, 14</sup>

The Merrimack River, formed upstream by confluence of the Pemigewasset and Winnepesaukee Rivers in Franklin, flows for 10.4 miles along Canterbury’s western border. The river forms the boundary between Canterbury and Boscawen, and is known for its many wild characteristics and varied public recreation opportunities.

Brooks <sup>11, 12, 13, 14</sup>

Forrest Pond Brook flows south from Forrest Pond to the Big Meadow.

Shaker Brook flows for six miles into the Soucook River.

Pickard Brook flows for five miles before entering Shaker Brook.

Gues Meadow Brook begins in Canterbury and flows for 4 ½ miles into the Soucook River.

Burnham Brook runs from Horseshoe Pond across the Canterbury border into Concord.

Hayward Brook flows from Morrill Pond.

Hazleton Brook runs through the Big Meadow.

Cold Brook runs beside the Merrimack River.

Big Meadow Brook passes through Canterbury’s Big Meadow and then converges with Bryant Brook.

Hydric Soils

Out of the total land acreage of Canterbury (28,672), 10.4% is comprised of hydric soils: <sup>32</sup>

<b>HYDRIC SOILS</b>	<b>Acreage</b>	<b>Total Percentage of Town</b>
Poorly Drained	1678	5.9
Very Poorly Drained - organic base	955	3.3
Very Poorly Drained - mineral base	170	0.6
Marsh	160	0.6
<b>TOTALS</b>	<b>2963</b>	<b>10.4</b>

### Watersheds

The Town of Canterbury drains into two major watersheds; the Town's western half lies in the Merrimack River watershed, and the Town's eastern half lies in the Soucook River watershed.<sup>12</sup>

### Aquifers

A fine-grained stratified drift aquifer underlies the Merrimack River and its surrounding flood plains. Kimball Brook runs along the northeast corner of the Town and is accompanied by a stratified drift aquifer of coarse grain. Another coarse-grained aquifer overlies a fine-grained aquifer just east of the Merrimack.<sup>16</sup>

### Wetlands

Two major wetlands in Canterbury are Peverly Meadow and the Big Meadow (located between Old Tilton Road, Randall Road, and Route 132).<sup>14,17</sup>

There are additional large and valuable wetlands within the Town. A current digitizing effort is underway to identify them. Although Canterbury has no designated prime wetlands to date, it is anticipated that the digitization process can help to identify those wetlands to further evaluate.

### ***Identified Water Resource Priorities***

Town officials, volunteers, and the 1998 Master Plan have named the following water resources as being particularly important to the Town:<sup>14, 18</sup>

- ☞ Shaker Pond
- ☞ Morrill Mill Pond
- ☞ Bryant Brook ravine and falls
- ☞ Burnham Brook watershed
- ☞ Carding Mill Pond
- ☞ Crane Neck Pond
- ☞ Forrest Pond Brook, falls, and gorge
- ☞ Horseshoe Pond
- ☞ Intervale Lands with Oxbow Ponds
- ☞ Kimball Pond
- ☞ Merrimack River shoreline banks and gravel bars
- ☞ Pickard Brook
- ☞ Soucook River Watershed
- ☞ Falls on Ben Ladd's land
- ☞ Curtis Beaver Ponds
- ☞ Gues Meadow
- ☞ Flagg Hole Marsh
- ☞ Clough Pond
- ☞ Shaker Ponds, Meadows, and Canal Area
- ☞ Spender Meadow area
- ☞ Forrest Pond
- ☞ Morrill Pond

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Rivers and streams
Second Priority	Aquifers
Third Priority	Lakes and ponds
Fourth Priority	Designated prime wetlands
Fifth Priority	Watersheds

Surveys returned from Canterbury indicated the following as water resource priorities:

- Aquifers,
- Designated prime wetlands,
- Lakes and ponds,
- Public water supplies, and
- Rivers and streams.

The majority of the respondents felt that the Town’s ordinances and regulations adequately protect their water resources. <sup>31</sup>

Specific comments included: <sup>31</sup>

- ☛ We need to identify locations of springs and watersheds.
- ☛ Greater setbacks/buffers are needed from wetlands and ponds.



**🌲 Land and Forestry Resources**

The total number of acres under conservation was calculated to be approximately 11% of the entire Town. The following table breaks down the components: <sup>8, 20, 21, 22, 29</sup>

CONSERVATION LANDS	Held by	Acres
Paul and Thelma Ambeau Memorial Forest	private	20
Ayers State Forest	NHDRED	50
Donald Booth Property #1	Town	2
Donald Booth Property #2	Town (LCIP)	24
Brill Lot	Town	61

Burroughs Easement	NHDA	264
Cambridge Drive Parcel	Town	22
Canterbury Center	Town	1
Canterbury Shaker Village	private	694
Crane Neck Pond	Town	4
Curtis Lot	Town	39
Flagg Hole Marsh	Town	18
Hildreth Agricultural Preserve	NH DA	57
Hofman Property #1	Town	29
Hofman Property #2	Town	44
Mary and Quentin Hutchins Forest	SPNHF	88
Ingalls Island	Town	1
Intervale Road Canoe Access	Town	6
Kimball Pond Conservation Area	Town	41
Maxfield Lot	Town	181
Jill McCullough Property #1	NHDA (LCIP)	452
Jill McCullough Property #2	Town (LCIP)	114
Mildred Meeh Property #1	Town (LCIP)	7
Mildred Meeh Property #2	Town (LCIP)	64
Tim Meeh Property #1	Town (LCIP)	67
Tim Meeh Property #2	NHDA (LCIP)	96
Metters Lot	Town	45
Hannah Moore Lot	Town	33
Morrill Mill Pond WMA	State	48
Peverly Meadow Conservation Area	State	10
Prescott Lot	Town	113
Redden Lot - Crane Neck Pond	Town	6
Riverland Conservation Area on the Merrimack	Town	69
Schoodac Conservation and Recreation Area	Town	167
Shaker State Forest	NHDRED	227
Thunberg Lot	Town	25
Town Forest	Town	20

Tracy Lot - Big Meadow	Town	10
<b>TOTAL ACREAGE PROTECTED</b>		<b>3219</b>

In addition, approximately 19,859 acres, or 69% of the Town’s area, were in current use as of December 31, 1998.<sup>33</sup>

In 1998, Canterbury supported a 100% land use change tax allocation to be directed to the Conservation Fund for additional land acquisition.<sup>23</sup>

**Identified Land & Forestry Resource Priorities**

Town officials, volunteers, and the Master Plan have named the following land and forestry resources as being particularly important to the Town:<sup>14, 18</sup>

- ✦ Shaker Forest
- ✦ Ayers Forest
- ✦ Mary & Quentin Hutchins Forest
- ✦ Area of Kimball Pond, Burnham Brook, beaver pond, field and forest
- ✦ Area of Merrimack River, with its beaches, banks, and buffers
- ✦ Area of Schoodac, Spender meadow, Morrill Mill Pond, and Whitney Hill
- ✦ Area of Shaker Ridge, Shaker Meadow, Shaker Ponds, and Gues Meadow Brook
- ✦ Area of Sunset Hill, Forrest Pond, and high hills
- ✦ Area of Big Meadow

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Open space
Second Priority	Agricultural land
Third Priority	Conservation easements
Fourth Priority	Town parks and forests
Fifth Priority	Deeded conservation lands

Surveys returned from Canterbury indicated the following as land and forestry resource priorities:

- Agricultural lands,
- Conservation easements,
- Deeded conservation lands,
- Open space,
- State parks and forests, and
- Town parks and forests.

The majority of the respondents felt that the Town’s ordinances and regulations adequately protect their land and forestry resources. <sup>31</sup>

Specific comments <sup>31</sup>

✦ Farmlands should be protected.

Note from the Canterbury Conservation Commission:

The Commission believes the Town should focus its efforts on improving the accessibility of existing conservation areas. This would be accomplished through developing trails and guides while expanding the contiguous land area under protection to enhance the ecological, wildlife, and recreation potential.



**Historical and Cultural Resources**

National Register of Historic Places

Canterbury has one exemplary site located on the National Register. This site was nominated and listed with the National Register in 1975. No additional regulative restrictions are placed upon those properties which are listed on the National Register, but instead a listing in the Register recognizes the significance of and encourages the stewardship of the property: <sup>1, 24</sup>

<b>NATIONAL REGISTER OF HISTORIC PLACES</b>	<b>Date Listed</b>	<b>Location</b>	<b>Significance/Description</b>
Canterbury Shaker Village	6/75	On Shaker Road in the Eastern part of Canterbury	Established in 1792, this collection of finely crafted buildings and furnishings stands as evidence of the Shakers’ simple, elegant, and fortified way of life.

New Hampshire Historical Markers

These markers stand at places of great historical significance to the State of New Hampshire. Some of these places contain tangible reminders of the past, while others mark the locations of where structures once stood or a historical event took place.

The Shakers came to Canterbury in 1792. They established themselves as a self-sufficient community, and are remembered for their high moral character, their craftsmanship, and their resourcefulness. A marker resides near their village (located in Loudon on the east side of NH 106, 3 miles north of its junction with NH 129).<sup>25</sup>

Local markers, or the actual remnants of the structures themselves, indicate the sites of various other, yet not less important, historic landmarks and events: <sup>1, 8, 18</sup>



The Osgoodites, followers of Jacob Osgood, were another religious sect that made their home in Canterbury (1820). Their cemetery, with its old broken gravestones and unusual epitaphs, is located off of Zion Hill. It is one of the few Osgoodite landmarks remaining in

Canterbury.

- 🏠 Jordan Farm is a colonial brick farmhouse that dates back to the mid to late 1700's. Ferries crossed the Merrimack River near this house.
- 🏠 A small settlement once inhabited the area near the town line between Canterbury and Loudon. The Maxfield Monument stands at this site in a small cemetery.
- 🏠 The Blanchard Tavern was built in 1747 at the present day intersection of Route 132 and Kimball Pond (at one time, a well-traveled stagecoach route). It was used as a tavern through the mid to late 1800's, and was remarkably owned by the same family until the late 1900s. It is now a house with an attached barn.
- 🏠 Old Clough Tavern dates back to 1747-1749. This three-story building had a ballroom on the second floor as well as an alleged "passage-way" that led from the building to a gorge. The tunnel was used during "Indian attacks." The house is now a private residence, located close to Canterbury Center, off of Old Tilton Road (also near a once-traveled stage coach route).
- 🏠 Canterbury still uses its original Town Hall (1753), although it has been moved five times in its history. It originally stood within the first Town cemetery, but is now located diagonally across the Town Common.
- 🏠 The old cemetery is located near the present day Town Common. It contains pre-revolutionary and revolutionary gravestones, the oldest being that of a young girl. This inscribed gravestone is located near the wooden gate of the cemetery.
- 🏠 Located off of Route 132, close to the site of the original Canterbury settlement fort (built during the 1730's), is the Captain Jeremiah Clough Cemetery. This cemetery houses the grave of Jeremy Clough, Canterbury's most famous Revolutionary War Soldier.
- 🏠 At one time an "Old Signpost" stood at the intersection at the foot of Shaker Hill. Erected during the height of stagecoach travel, it gave mileage figures to Concord, Manchester, Montreal, and Boston. The sign is now displayed at Shaker Village.
- 🏠 The Elizabeth F. Houser Museum was once a one-room brick school house. It was located near the Town Center and was the third school house to be built on that site (1864). This historical museum is open to visitors upon request.
- 🏠 The Canterbury Elementary School was built between 1956 and 1957 solely by the citizens of Canterbury. President Eisenhower commended the Town for its "community spirit" which had by that time become "typical" of Canterbury! (When the Town church burned in 1943, it too was rebuilt with town labor alone.)

### Covered Bridges

Covered bridges once played an integral part of the transportation network of the nineteenth century. Today, they are recognized for their beauty and uniqueness. Although Canterbury no

longer has standing covered bridges, the Town once shared one with Boscawen: <sup>26</sup>

COVERED BRIDGE NAME/LOCATION	Date Built	Date Gone
Rainbow	1857	1907

Cemeteries

As do many other small Central NH Region towns, Canterbury has a rich heritage and a strong connection to its past. Cemeteries, both Town and small, private family plots, are an important and personal link. Canterbury has 33 private and community cemeteries altogether. Only a few of them are listed below: <sup>8, 18</sup>

CEMETERIES	Owner	Parcel Number / Location
Captain Jeremy Clough Cemetery		Off of Route 3
Maple Grove Cemetery	Town	
Center Cemetery	Town	

A comprehensive inventory of cemeteries and their locations is currently being developed by citizens within the Town.

**Identified Historical Resource Priorities**

Town officials and volunteers have named the following general and specific historical and cultural resources as being particularly important to the Town: <sup>18</sup>

-  cemeteries (many privately owned)
-  Canterbury Center
-  Shaker Village

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Cemeteries
Second Priority	Cultural interest sites
Third Priority	Covered bridges
Fourth Priority	National Register of Historic Places
Fifth Priority	Archaeological sites

Surveys returned from Canterbury indicated the following as historical and cultural resource priorities:

- Archaeological sites,
- Cemeteries,
- Cultural interest sites,
- Museums, and
- National Register of Historic Places.

The majority of respondents felt that the Town's ordinances and regulations adequately protect their historical and cultural resources. <sup>31</sup>

Specific comments <sup>31</sup>

 We need to protect cultural interest sites like the old fort site and Native American landmarks. In addition, we should  preserve the names of important places.



 **Ecological Resources**

NH Natural Heritage Inventory

Two outstanding plant species have been located in Canterbury since the 1930's as well as one outstanding natural community. They have been recorded in the NHI program's database. <sup>27</sup>

The Burgrass (*Cenchrus longispinus*) is threatened in the State, but is not listed as such federally or globally. Canterbury is one of only four locations in New Hampshire that has reported harboring this plant within the last twenty years.

The Green Adder's Mouth (*Malaxis unifolia*) has been listed as a "very important" species in New Hampshire. This rare plant is threatened throughout the State. Four of the 11 locations that report this plant are found in Canterbury.

A natural community of very high importance is the terrestrial Inland Dune Community. Only two communities like this one exist in the State, one of them in Canterbury.

Corridors

Corridors and greenways are typically used not only by people for recreation or transportation, but also by wildlife to travel from one habitat to another. Maintaining viable and undeveloped corridors ultimately measures the biological success of the animals, particularly larger mammals, within an area. The following corridors have been identified in Canterbury: <sup>15, 18 19</sup>

A large riparian corridor is located along the Merrimack River which forms the entire western boundary of the Town, spanning 10.4 miles.

The Boston and Maine Railroad corridor follows the Merrimack River from Canterbury's

southern Concord boundary to its northern Northfield boundary. This railroad is no longer in use, but the path it makes offers Canterbury's wildlife a direct way to travel between habitats.

A utility corridor runs along the western boundary of the Town, just east of the old Boston and Maine Railroad. This corridor passes by many brooks and is relatively close to the Merrimack River, making it a well-traveled wildlife path.

Canterbury also offers a wide range of walking, hiking, and biking trails including a hiking trail through the Shaker State Forest and nature trails around Oxbow Pond. Although they were designed for humans, evidence shows that these trails are also used by animals.

### *Exemplary Natural Communities*

Other special, undisturbed lands are essential for the biological diversity of plants and animals. The more bio-diversity found within an area, the more valuable and self-sustaining the community becomes from both ecological and economic perspectives. The following natural communities have been identified in Canterbury: <sup>14, 18</sup>

A heron rookery has been sighted in the freshwater wetlands of Spender Meadow.

The Morrill Pond Wildlife Management Area is owned and overseen by the NH Fish and Game Department. The pond is surrounded by conservation land and provides a lush, protected environment for a variety of plant and animal life.

The Riverland Conservation area on the Merrimack River is a critical habitat for freshwater wetlands species.

Ayers State Forest is an important forested community, located off of Ayers Road along the northwest boundary of Canterbury.

### ***Identified Ecological Resource Priorities***

Town officials, volunteers, and the Master Plan have named the following ecological resources as being particularly important to the Town: <sup>14, 18</sup>

- ☛ The Morrill Pond Wildlife Management Area
- ☛ Area of Kimball Pond, Burnham Brook, beaver pond, field and forest
- ☛ Area of Merrimack River, with its beaches, banks, and buffers
- ☛ Area of Schoodac, Spender meadow, Morrill Mill Pond, and Whitney Hill
- ☛ Area of Shaker Ridge, Shaker Meadow, Shaker Ponds, and Gues Meadow Brook
- ☛ Area of Sunset Hill, Forrest Pond, and high hills
- ☛ Area of Big Meadow

### ***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Scenic vistas
Second Priority	Plant/tree communities (tied)
Third Priority	Greenway corridors (tied)
Fourth Priority	Riparian corridors
Fifth Priority	Biological diversity

Surveys returned from Canterbury indicated the following as ecological resource priorities:

- Animal communities,
- Biological diversity,
- Greenway corridors,
- Plant/tree communities, and
- Scenic vistas.

The majority of the respondents felt that the Town’s ordinances and regulations adequately protect their ecological resources. <sup>31</sup>

Specific comments <sup>31</sup>

☛ No response

Note from the Canterbury Conservation Commission:

The Commission believes the Town should focus its efforts on improving the accessibility of existing conservation areas through developing trails and guides while expanding the contiguous land area under protection to enhance the ecological, wildlife, and recreation potential. Several of the Areas mentioned under *Identified Ecological Resource Priorities* abut current and potential conservation areas in neighboring towns. Sharing resources and common conservation goals with Concord, Boscawen, Northfield, and Loudon provides opportunities for regional conservation action.



☛ **Geologic Resources**

Surficial Geology

The Merrimack River is underlain by Flood Plain Alluvium, discontinuous patches of stratified sand and silt. Kames and kame terraces lie in the river’s surrounding areas. Isolated Varved Clay Localities also spot this region. Organic deposits are found in various wetlands, and a few small drumlins are scattered in the Town’s western side. <sup>12, 14</sup>

Additional and perhaps more recognizable geologic formations are the Town’s mountains and hills: <sup>14, 28</sup>

<b>MOUNTAINS AND HILLS</b>	<b>Elevation</b>
Cogswell Hill	700'
Sunset Hill	
Whitney Hill	
Zion Hill	940'

***Bedrock Geology***

Almost all of Canterbury is underlain by the Littleton Formation comprised of Undifferentiated Schists and Gneisses. A few regions show concentrations of Pegmatite, and a small patch of Grey Gneiss underlies a tract of land just north of the Shaker State Forest.<sup>12</sup>

***Identified Geological Resource Priorities***

The 1980 CNHRPC Open Space Plan and the Master Plan named the following geologic resources as being particularly important to the Town:<sup>14, 28</sup>

- ☒ Ravine with alluvial deposit
- ☒ 100 feet high bluffs
- ☒ Soapstone quarry

***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Mountains and hills
Second Priority	Soils identification
Third Priority	Sand and gravel deposits
Fourth Priority	Bluffs
Fifth Priority	Gorges

Surveys returned from Canterbury indicated the following as geologic resource priorities:

- Bluffs,
- Caves,
- Gorges,
- Mountains and hills, and
- Soils identification.

The majority of the respondents felt that the Town's ordinances and regulations do not adequately protect their geological resources. <sup>31</sup>

*Specific comments* <sup>31</sup>

☒ We need to protect the soapstone quarry.



## **Recreational Resources**

A variety of recreational opportunities and resources exist in Canterbury that are closely associated with the previous resources stated earlier in this narrative. In addition, there are several others deserving of attention: <sup>18, 29, 30</sup>

<b>PUBLIC &amp; PRIVATE RECREATION</b>	<b>Type</b>	<b>Location</b>	<b>Acreage / Miles</b>
Oxbow Pond Trail	public	Riverland Conservation Area along the Merrimack River near Exit 17	
Shaker State Forest Hiking Trails	public	Shaker State Forest off of Route 106	1 mile
Shaker State Forest	public	off Route 106	226 acres
Ayers State Forest	public	off of Ayers Road, by the Northfield/Canterbury border	47 acres
Sunset Mountain Fish and Game Club	private	117 West Road	1 acre
Canterbury Elementary School Grounds	public	15 Baptist Road	7 acres
Odyssey House Grounds	private	Shaker Road	42 acres
Riverland Conservation Area	public	by Oxbow Pond	60 acres
Intervale Road Merrimack River Canoe Access	public	off of Intervale Road, on the Merrimack River	5 acres
Canterbury Tractor Pull	private	off Intervale Road, to the northwest	1 acre
Peverly Meadow Conservation Area, Trails and Canoeing	public	Peverly Meadow, on Baptist Road	12 acres
Schoodac Conservation and Recreation Area	public	By Spender Pond in south-central Canterbury, on Welch Road	150 acres
Kimball Pond Conservation Area, Trails and Canoeing		off of Kimball Pond Road	22 acres
Morrill Pond Wildlife Management Area	public	along Morrill Road in south Canterbury	77 acres
Picnic & Rest Area	public	off Interstate 93, at the Canterbury-Northfield border	

Mary & Quentin Hutchins Forest	private	North of the Old School House Road, between Southwest and Pickard Roads	88 acres
Canterbury Center	public	At the intersection of Kimball Pond, Hackleboro, and Baptist Roads	1 acre
NH Sno- Shakers Skimobile Trails	private		5 miles
Town Sump Ice Skating	public		1 acre
Echo Hollow Pony Club and Horse Trails	private		5 miles

**Identified Recreational Resource Priorities**

Town officials and volunteers have named the following recreational resources as being particularly important to the Town: <sup>18</sup>

-  Canterbury Shaker Village
-  Canterbury Center

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Recreational Trails
Second Priority	Canoe/boat access
Third Priority	Outdoor sporting fields
Fourth Priority	Picnic areas and playgrounds
Fifth Priority	Beach access

Surveys returned from Canterbury indicated the following as recreational resource priorities:

- Beach access,
- Canoe/boat access,
- Outdoor sporting fields,
- Picnic areas and playgrounds, and
- Recreational trails.

**Specific comments** <sup>31</sup>

-  We need to protect the Merrimack River.
-  We need more help protecting the existing trail network from being broken apart by development.

Note from the Canterbury Conservation Commission:

The Community Survey of the 1998 Master Plan identified the following as the five most important new recreation facilities. The Conservation Commission strongly believes this list more accurately reflects the sentiment of the Town:

1. Hiking trails
2. Bicycle paths
3. Cross country ski trails
4. Swimming pool
5. Land acquisition for recreational use



**Other Identified Resource Priorities**

Town officials, volunteers, and the Master Plan have named the following other, often intangible, resources as being particularly important to the Town: <sup>14, 18</sup>



Canterbury would benefit from more regional planning laws to help protect the peaceful, rural character of the area.

The Community Survey of the 1998 Master Plan identified the following as the five aspects of Canterbury that should remain the same:

1. Uncrowded, quiet living conditions
2. Scenic natural environment
3. Small town atmosphere
4. Canterbury Shaker Village
5. Friendly people



***ACTIVE RESOURCE PRESERVATION COMMITTEES***

In order to more adequately protect these finite natural and historical resources, Canterbury has established a Conservation Commission, a Historic District Commission, and a Historical Society.

Conservation Commission

Recent activities of the Conservation Commission include: developing Canterbury's new Oxbow Pond Trail, an interpretive nature trail with markers and an illustrated trail guide; laying out new trails in Spender Meadow, one of which will include a viewing blind near a heron rookery; and developing a plan to inventory all of Canterbury's natural and scenic resources. The Commission is currently undertaking a digitization effort of the wetlands within Town. <sup>8</sup>

Historic District Commission

The Historic District Commission has been helping the Canterbury Planning Board create a special Canterbury Center core district that would protect the historic nature of the Town center. In 1996, they were involved with a project to build a sidewalk between the Town center and the elementary school.<sup>8</sup>

*Historical Society*

The Canterbury Historical Society oversees a variety of events and projects, and it helps to educate the Town about its heritage. During the spring and fall, the Society hosts a series of very successful evening programs which feature guest speakers and performers. One of the Society's most interesting projects has involved interviewing Canterbury residents in an effort to record the Town's "Oral History." The Historical Society Museum houses many historic artifacts and documents, and is open every Saturday morning from 10 to 12.<sup>8</sup>



## ***ADDITIONAL SURVEY FINDINGS***

The following results have been compiled from Canterbury's responses to the natural, cultural, and historical resources survey: <sup>31</sup>

### *Conservation Activities Undertaken Within the Last Three (3) Years*

- watershed activities
- agricultural land protection
- Atlantic Salmon restoration project
- evaluated, passed, killed, and amended legislation
- sought easements in important areas
- the Conservation Commission (w/ the help of grant-money) protected and utilized priority areas such as unique wild areas that have trails etc, the Riverland and Intervale Land, and natural lands bordering conservation easements.
- new wetland walks and plant farms
- building a walk way and observation deck along the Merrimack River
- acquired new conservation land for town use
- developing recreation trails

### *Conservation Activities Planned or Anticipated Within the Following Three (3) Years*

- ✧ watershed and forestry resource protection programs
- ✧ more environmental and conservation education
- ✧ resource inventories
- ✧ continued utilization of town land for recreation, hunting, nature trails, snowmobiling, and hiking
- ✧ re-landscaping the Town center
- ✧ repairing pond dams

### *Essential Factors to Canterbury's "Quality of Life"*

- 🌿 the Town's rural character and New England landscape
- 🌿 community spirit
- 🌿 good zoning ordinances and an effective Planning Board and Conservation Commission
- 🌿 taking care of our natural resources so that all can enjoy them
- 🌿 Shaker history
- 🌿 volunteers who help to manage our resources and government
- 🌿 a rural "can do" attitude
- 🌿 Canterbury's 10 year Plan for Tomorrow
- 🌿 open space for recreation and wildlife

REFERENCES

- 1 - *CNHRPC: Historical Overview, 1976*
- 2 - *CNHRPC Regional Master Plan: Land Use Element, 1991*
- 3 - *US Census STF1A and STF3A, 1970, 1980, & 1990*
- 4 - *NH Office of State Planning: Current Estimates and Trends in NH's Housing Supply 1996, 1997*
- 5 - *NH Office of State Planning: Population Estimates of NH Cities and Towns (1997), 1998*
- 6 - *Canterbury Zoning Ordinance, 1995*
- 7 - *Town Officials/Employees, 1998*
- 8 - *Canterbury Town Annual Report, 1996*
- 9 - *Canterbury Site Plan Review Regulations, 1991*
- 10 - *NH Department of Environmental Services, Water Resources Division, 1998*
- 11 - *NH Fish and Game: Biological Survey of the Lakes and Ponds in Survey Report 8c, 1970*
- 12 - *CNHRPC: Natural Resources Inventory, 1974*
- 13 - *Inventory of Merrimack County Lakes and Ponds, 1968*
- 14 - *The Town of Canterbury Plan for Tomorrow: 1998*
- 15 - *NH Geographically Referenced and Information Transfer (GRANIT) System, 1998*
- 16 - *US Geological Survey (Bow, NH): Bedrock Geology Mapping, 1998*
- 17 - *US Fish and Wildlife Service: National Wetlands Inventory, 1986-1990*
- 18 - *Town Officials (anecdotal), 1998*
- 19 - *NH Office of State Planning: Comprehensive Statewide Trails Study, 1997*
- 20 - *Society for the Protection of NH Forests, 1998*
- 21 - *LCIP Final Report, 1993*
- 22 - *State of NH: Real Property Summary, 1995*
- 23 - *NH Association of Conservation Commissions, 1998*
- 24 - *NH Division of Historical Resources: Historical New Hampshire, 1990*
- 25 - *NH Division of Historical Resources: Historical Markers, 1989*
- 26 - *NH Department of Transportation: Covered Bridges of the Past, 1994*
- 27 - *NH Department of Revenue and Economic Development: NH Natural Heritage Inventory, 1998*
- 28 - *CNHRPC: Open Space Plan, 1980*
- 29 - *NH Office of State Planning: Recreation Plan, 1998*
- 30 - *Visit NH Webpage: Merrimack Valley Attractions, 1998*
- 31 - *Canterbury Survey Results, 1998*
- 32 - *Merrimack County Conservation District: Inventory of Soil Erosion and Agricultural Waste, 1979*
- 33 - *1999 Municipal Profile Update*

**CHICHESTER**

About Chichester.....	
Member of CNHRPC	X
Surveys Mailed	9
Surveys Received for Tallying	2
REPP Meeting Participation	X
Profile Review & Comment by Town	X
1999 Update	✓

**Historical Profile**

The area known as Chichester, named for the influential 18th century politician the Earl of Chichester, was granted by the Governor on May 20, 1727. When surveyors first went out to set the boundaries of the new Town they returned with the news that all of the Town of Epsom allegedly fell within the new boundaries of Chichester. Epsom had been granted a few days prior to Chichester and as a result the previous boundaries stayed the same. This kind of boundary discrepancy was common in the history of Central New Hampshire, but it was rare for the error to be so great as to encompass an abutting town. The land was re-surveyed a few years later and the official boundaries of Chichester were set. By the end of the Revolutionary War, two population centers had grown in Chichester; one in the south and one in the north. These two separate population centers began to dispute where town buildings and churches should be placed. As a result of the difficulties spurred by having two separate populations centers, in 1781 the Town voted to divide along the Suncook River, separating the two centers into two different towns: the Town of Chichester and a new town to be called Pittsfield.

**Present-Day Profile**

The area of Chichester is 13,568 acres, or 21.2 square miles. The Town comprises 2.6% of the CNHRPC area. <sup>2</sup>

Over the last twenty-seven years, Chichester's population has grown by 91% while the number of housing units has increased by 119%: <sup>3, 4, 5</sup>

GROWTH	Population	Net Change		Housing Units	Net Change	
		#	%		#	%
1970 (US Census)	1083	na	na	361	na	na
1980 (US Census)	1492	+409	+37.8	526	+165	+45.7
1990 (US Census)	1942	+450	+30.2	724	+198	+37.6
1997 Population & 1996 Housing (NHOSP)	2072	+130	+6.7	789	+65	+9.0
<b>TOTAL CHANGE FROM 1970 - 1997</b>		<b>+989</b>	<b>91.3%</b>		<b>+428</b>	<b>118.6%</b>

In an effort to control its growth, while protecting its resources in an economically viable manner, the Town has adopted a number of land use controls to facilitate the conservation process: <sup>6</sup>

<b>Town Zoning Districts</b>	<b>Town-Adopted Resource &amp; Conservation Ordinances</b>
Conservation-Open Space-Wetlands	Wetland Ordinance
Conservation-Open Space-Steeplands	Aquifer Ordinance
Rural-Agricultural	
Residential	
Commercial-Industrial/Multi-family	
Backlands	

Non-regulatory measures for protecting Chichester’s resources include the following: <sup>7, 8, 9</sup>

<b>Town Master Plan Elements</b>	<b>Town Conservation Plans, Reports and Studies</b>
Goals and Objectives Element (1997)	
Economic Conditions (1997)	
Land Use (1997)	
Population and Housing (1997)	
Conservation, Preservation, & Use of Resources (1997)	
Construction Materials (1997)	
Town Services and Facilities (1997)	



## **TOWN RESOURCES**

### **Water Resources**

#### Water Supplies<sup>33</sup>

Chichester has few public water supplies. With the exception of the public water supply at the Central School and artesian wells at the new Fire Station and Town Hall, those which do exist primarily serve the restaurants and campgrounds of Chichester.

Between 1983 and 1997, the NHDES has issued 85 well permits to residents of Chichester. The majority of them are grouped on Bailey and Burnt Hill Roads (16), Route 4 (6), and Horse Corner Road (11). These new well locations have been mapped by NHDES.<sup>10</sup>

#### Ponds<sup>11, 12, 13, 14</sup>

Lynxfield Pond is a small 14 acre-pond located north of Canterbury Road in west Chichester.

Marsh Pond is the largest pond in Town and is located just north of Route 4 in eastern Chichester.

#### Rivers<sup>11, 12, 13, 14</sup>

The Suncook River forms the northeastern border between Chichester and Pittsfield. This River marked the separating line used by the original Town of Chichester to form modern Chichester and Pittsfield. The River served as an attractant in the early days to the area in the north eastern corner and served in early agrarian industries. From the border the River travels into Pittsfield and then south eventually emptying into the Merrimack River.

The Soucook River flows very near to Chichester's southwestern corner. Although the River does not enter into the Town, it undoubtedly played a role in settlement and industry in the area throughout the Town's history.

#### Brooks<sup>11, 12, 13, 14, 33</sup>

Sanborn Brook flows into the northern portion of Town from Pittsfield. The brook travels several miles in a southerly direction before it joins Perry Brook and shortly after, the Suncook River.

Perry Brook enters the western side of Chichester from Loudon. From where it enters, the brook travels a few miles in a southeasterly direction, joins Sanborn Brook and shortly thereafter enters the Suncook River.

Sanders Brook begins northwest of a small unnamed pond near the center of Town. After the small pond, the brook continues southeasterly and enters the Suncook River.

Mason Brook travels a few miles in eastern Chichester before it enters Epsom and, eventually, the Suncook River.

Burnham Brook Begins just south of Leavitt and Garvin Hill Roads. From there, the brook

travels easterly and into Epsom.

Munsey Brook flows from Lynxfield Pond west to the Soucook River.

Hydric Soils

Out of the total land acreage of Chichester (13,568), 16.4% is comprised of hydric soils: <sup>32</sup>

<b>HYDRIC SOILS</b>	<b>Acreage</b>	<b>Total Percentage of Town</b>
Poorly Drained	1932	14.2
Very Poorly Drained - organic base	154	1.1
Very Poorly Drained - mineral base	72	0.5
Marsh	63	0.5
<b>TOTALS</b>	<b>2221</b>	<b>16.4</b>

Watersheds

The southwestern quarter of Chichester lies within the Soucook River watershed. The remaining portion of the Town falls into the lower Suncook River watershed. <sup>10</sup>

Aquifers

A fairly large stratified drift aquifer underlies the northeastern area of Chichester. The Suncook River follows this aquifer in a southerly direction through Epsom and along the Pembroke/Allenstown border before it joins the very large Merrimack River aquifer. The portion of the aquifer located beneath Chichester is coarse-grained, overlaying a fine-grained stratified drift aquifer. <sup>16</sup>

Wetlands

Wetlands inventoried, field-checked, and mapped by the US Fish and Wildlife Service between 1986 and 1990 dot the entire Town. Large areas of mapped wetlands which do not co-occur with ponds are found along Dover Road, Clifford Road, Sanborn Brook, and Suncook Valley Road. <sup>17</sup>

**Identified Water Resource Priorities**

Town officials and volunteers have named the following water resources as being particularly important to the Town: <sup>18</sup>

 no priorities were identified

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Rivers and streams
Second Priority	Aquifers
Third Priority	Lakes and ponds
Fourth Priority	Designated prime wetlands
Fifth Priority	Watersheds

Surveys returned from Chichester indicated the following as water resource priorities:

- Aquifers,
- Hydric soils,
- Lakes and ponds,
- Rivers and streams, and
- Shorelands.

Half of the respondents felt that the Town’s ordinances and regulations adequately protect their water resources, while half disagreed. <sup>31</sup>

Specific comments included: <sup>31</sup>

- ☛ Soils based zoning is very good.
- ☛ A water resources management plan is needed.



**🌲 Land and Forestry Resources**

The total number of acres under conservation was calculated to be approximately 4% of the entire Town. The following table breaks down the components: <sup>8, 20, 21, 22</sup>

CONSERVATION LANDS	Held by	Acres
Rev George and Marion Blackman (LCIP)	Town	73
Rev George and Marion Blackman (LCIP)	Town	18
Rev George Blackman (LCIP)	Town	26
Carpenter Memorial Park	Town	40
Joan and William Cray (LCIP)	Town	8
Joseph and Anne Drinon (LCIP)	Town	145
Five Hill Estates Open Space	Town	40
Madelin Sanborn (LCIP)	Town	8

Madelin Sanborn (LCIP)	Town	22
Spaulding Lot	Town	111
<b>TOTAL ACREAGE PROTECTED</b>		<b>491</b>

In addition, approximately 7386 acres, or 54% of the Town’s area, were in current use as of December 31, 1998.<sup>33</sup>

In 1998, Chichester did not support a land use change tax allocation to be directed to the Conservation Fund for additional land acquisition.<sup>23</sup>

**Identified Land & Forestry Resource Priorities**

Town officials and volunteers have named the following land and forestry resources as being particularly important to the Town:<sup>18</sup>

✦ no specific priorities were named

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Open space
Second Priority	Agricultural land
Third Priority	Conservation easements
Fourth Priority	Town parks and forests
Fifth Priority	Deeded conservation lands

Surveys returned from Chichester indicated the following as land and forestry resource priorities:

- Conservation easements,
- Deeded conservation lands,
- Open space,
- State parks and forests, and
- Town parks and forests.

All of the respondents felt that the Town’s ordinances and regulations do not adequately protect their land and forestry resources.<sup>31</sup>

Specific comments<sup>31, 33</sup>

- ✦ The municipal land use change tax should be increased from 10% to 30%.
- ✦ More respect should be given to the importance and beauty of trees.
- ✦ Deeded conservation land is subject to challenge.

**Historical and Cultural Resources**National Register of Historic Places

Chichester has no exemplary sites located on the National Register of Historic Places. Often the task of promoting a site to the National Register is grueling and very strong unrelenting support is needed to push the application through the process. No additional regulatory restrictions are placed upon those properties which are listed on the National Register, but instead a listing in the Register recognizes the significance of and encourages the stewardship of the property:<sup>1, 24</sup>

New Hampshire Historical Markers

These markers stand at places of great historical significance to the State of New Hampshire. Some of these places contain tangible reminders of the past, while others mark the locations of where structures once stood or a historical event took place. There are no New Hampshire Historical Markers located in Chichester.<sup>25</sup> There is, however, an old iron bridge over the Suncook River that is not on the National Register, but will be maintained by the town as an historic structure.<sup>33</sup>

Local markers, or the actual remnants of the structures themselves, indicate the sites of various other, yet not less important, historic landmarks and events:<sup>1, 8, 18, 33</sup>

- ✦ One of the oldest and most historic buildings in Chichester is the Town Hall. The building was originally constructed around 1791 and has since been moved four times. The building originally served as a meeting place and as a church.
- ✦ Two churches built in the early 1800's, a Baptist Church and a Congregational Church, replaced the Town Hall as the Town's churches.
- ✦ Several old, historic cemeteries exist in Chichester: Pine Ground, Leavitt, Brown, Morrells, and Knowelton.
- ✦ Three historic mills once operated in Chichester, Elijah Sander's Mill, Ordway's Mill, and Websters Mill.
- ✦ The Haine's Family Store was in operation in the 19th century. The family also operated a carriage and sleigh factory at this location.
- ✦ In the southwest corner of the Town, a Native American once lived.

-  An area know as Horse Corner played a role in local legend during the Revolutionary War Era. Legend has it that a British soldier deserted his regiment and stole a horse from a local farmer. Horse Corner is where the horse was later found, but there was no sign of the soldier.
  
-  Five historic buildings once used as schools still exist in Chichester. The Horse Corner, Pine Ground, Kelly Corner, Center Hill, and Bear Hill Schools have all been converted into private homes.
  
-  Several homes built in the late 18th and early 19th centuries are located in Chichester. Of particular note are the Shaw House, Langmaid Farm, Lamb House, and Garvin Hill. Houses built by Herbert T. Sanborn and Charles Carpenter are also from this era.

Covered Bridges

Covered bridges once played an integral part of the transportation network of the 19th century. Today, they are recognized for their beauty and uniqueness. Although there are no records of any being constructed in Chichester they played an important role in building the infrastructure in the surrounding communities.<sup>26</sup>

Cemeteries

As do many other small Central NH Region towns, Chichester has a rich heritage and a strong connection to its past. Cemeteries, both Town and small, private family plots, are an important and personal link:<sup>8, 14, 18</sup>

<b>CEMETERIES</b>	<b>Owner</b>	<b>Parcel Number / Location</b>
Ederly-Knowlton Cemetery	Town	at inter. of Horse Corner and Land Roads
Locke Cemetery	Town	on Dover Road
Morrill Cemetery	Town	off Horse Corner Road
Pineground Cemetery	Town	
Brown Cemetery	Town	on Ring Road
Kaime Cemetery	Town	on Kaime Road
Edmund’s Cemetery	Town	on Main Street
Hook Cemetery	Town	on south side of Dover Road
Leavitt Cemetery	Town	on Canterbury Road

**Identified Historical Resource Priorities**

Town officials and volunteers have named the following general and specific historical and cultural resources as being particularly important to the Town:<sup>18</sup>

-  cemeteries

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Cemeteries
Second Priority	Cultural interest sites
Third Priority	Covered bridges
Fourth Priority	National Register of Historic Places
Fifth Priority	Archaeological sites

Surveys returned from Chichester indicated the following as historical and cultural resource priorities:

- Cemeteries,
- Covered bridges,
- Museums,
- Town ponds, and
- Unique stone walls.

Half of the respondents felt that the Town’s ordinances and regulations did not adequately protect their historical and cultural resources, while half disagreed. <sup>31</sup>

Specific comments <sup>31</sup>

 Town regulations and ordinances should identify and help preserve historical resources.



 **Ecological Resources**

NH Natural Heritage Inventory

The NH Heritage Inventory is comprised of locations and listings of rare species and natural communities found in different communities around the State. For a species or habitat to be listed as located in a certain town, the creature or habitat must be located, identified and reported to the appropriate persons. Currently there are no species or habitats listed for the Town of Chichester.

Corridors

Corridors and greenways are typically used not only by people for recreation or transportation, but also by wildlife to travel from one habitat to another. Maintaining viable and undeveloped corridors ultimately measures the biological success of the animals, particularly larger mammals, within an area.

A riparian corridor is located along the Suncook River which forms the northeastern boundary of the Chichester, separating it from Pittsfield.<sup>15, 18 19</sup>

Exemplary Natural Communities

Other special, undisturbed lands are essential for the biological diversity of plants and animals. The more biodiversity found within an area, the more valuable and self-sustaining the community becomes from both ecological and economic perspectives. At this time, no natural communities have been identified in Chichester.<sup>18</sup>

Scenic Roads and Vistas

Garvin Hill Road, which winds up Garvin Hill in southern Chichester, and Towle Road, which extends from Horse Corner Road to Dover Road (Route 9) have been officially designated as scenic roads.

**Identified Ecological Resource Priorities**

Town officials and volunteers have named the following ecological resources as being particularly important to the Town:<sup>18</sup>

☛ no specific resources have been identified

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Scenic vistas
Second Priority	Plant/tree communities (tied w/3rd)
Third Priority	Greenway corridors (tied w/2nd)
Fourth Priority	Riparian corridors
Fifth Priority	Bio- diversity

Surveys returned from Chichester indicated the following as ecological resource priorities:

- Biodiversity,
- Deeryards,
- Greenway corridors,
- Plant/tree communities, and
- Scenic vistas.

All of the respondents felt that the Town’s ordinances and regulations do not adequately protect their ecological resources. <sup>31</sup>

Specific comments <sup>31</sup>

- ☛ Scenic vistas need protection.



☛ **Geologic Resources**

Surficial Geology

The northern two thirds of Town are characterized by smooth drumlin hills. In the southern central part of Town many steep slopes of a >15% grade can be found. The eastern area of Town is low lying meadows and subject to occasional flooding by the Suncook River. Rocks and boulders of all sizes dot the landscape as reminders of the last glacier’s passage. <sup>14</sup>

Additional and perhaps more recognizable geologic formations are mountains and hills: <sup>14, 28</sup>

MOUNTAINS AND HILLS	Elevation
Garvin Hill	978'

***Identified Geological Resource Priorities***

Town officials and volunteers have named the following geologic resources as being particularly important to the Town: <sup>18</sup>

- ☛ no specific resources were identified

***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Mountains and hills
Second Priority	Soils identification
Third Priority	Sand and gravel deposits
Fourth Priority	Bluffs
Fifth Priority	Gorges

Surveys returned from Chichester indicated the following as geologic resource priorities:

- Caves,
- Gorges,
- Mountains and hills, and
- Soils identification.

Half of the respondents felt that the Town’s ordinances and regulations did not adequately protect their geologic resources, while half disagreed. <sup>31</sup>

Specific comments <sup>31</sup>

☒ There are limited geologic features located within Chichester



**Recreational Resources**

A variety of recreational opportunities and resources exist in Chichester that are closely associated with the previous resources stated earlier in this narrative. In addition, there are several others deserving of attention: <sup>18, 29, 30</sup>

<b>PUBLIC &amp; PRIVATE RECREATION</b>	<b>Type</b>	<b>Location</b>	<b>Acreage / Miles</b>
Hillcrest Campground	private	off Route 4	50 acres
Central School	public	off Route 28	5 acres
Deer Meadow Pond	public	off Route 28 - very near Epsom border	1 acres
Deer Meadow Pond boat access	public		
Carpenter Memorial Park	public	off Route 28	35 acres

***Identified Recreational Resource Priorities***

Town officials and volunteers have named the following recreational resources as being particularly important to the Town: <sup>18</sup>

☒ no additional priorities have been named

***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Recreational trails
Second Priority	Canoe/boat access
Third Priority	Outdoor sporting fields
Fourth Priority	Picnic areas and playgrounds
Fifth Priority	Beach access

Surveys returned from Chichester indicated the following as recreational resource priorities:

- Beach access,
- Canoe/boat access,
- Outdoor sporting fields,
- Picnic areas, and
- Recreational trails.

*Specific comments*<sup>31</sup>

-  Public is not provided with much information regarding public facilities



**Other Identified Resource Priorities**

Town officials and volunteers have named the following other resources as being particularly important to the Town:<sup>18</sup>

-  citizen education on zoning on planning
-  historic district



## **ACTIVE RESOURCE PRESERVATION COMMITTEES**

In order to more adequately protect these finite natural and historical resources, Chichester has helped establish a Historical Society. In addition, Chichester has a Conservation Commission.

### Historical Society

Recent activities of the Society have concentrated on the new museum. This year they have had three exhibits: "Celebrating 100 years of the Automobile", "Farming in Chichester", and an exhibit on "Chichester Schools".

### Conservation Commission

No information is available from past Town Annual Reports on the activities of the Commission.

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## **ADDITIONAL SURVEY FINDINGS**

The following results have been also compiled from Chichester's responses to the natural, cultural, and historical resources survey: <sup>31, 33</sup>

### Conservation Activities Undertaken Within the Last Three (3) Years

- the development of a Chichester recycling program
- added 12 acres to the Town forest developed nature trails at Marsh (Great Meadow) Pond
- developed nature trails at Marsh (Great Meadow) Pond

### Conservation Activities Identified for Public Discussion Within the Following Three (3) Years

- ✧ wetland delineation and cataloging
- ✧ bike trail along the old Suncook Valley Railroad embankment
- ✧ develop a Town beach at Deer Meadow Pond
- ✧ develop a land donation program

### Essential Factors to Chichester's "Quality of Life"

- ✧ good schools
- ✧ low taxes
- ✧ growth management
- ✧ citizen involvement

REFERENCES

- 1 - *CNHRPC: Historical Overview, 1976*
- 2 - *CNHRPC Regional Master Plan: Land Use Element, 1991*
- 3 - *US Census STF1A and STF3A, 1970, 1980, & 1990*
- 4 - *NH Office of State Planning: Current Estimates and Trends in NH's Housing Supply 1996, 1997*
- 5 - *NH Office of State Planning: Population Estimates of NH Cities and Towns (1997), 1998*
- 6 - *Chichester Zoning Ordinance, 1994*
- 7 - *Town Officials/Employees, 1998*
- 8 - *Chichester Town Annual Report, 1997*
- 9 - *Chichester Site Plan Review Regulations, 1994*
- 10 - *NH Department of Environmental Services, Water Resources Division, 1998*
- 11 - *NH Fish and Game: Biological Survey of the Lakes and Ponds in Survey Report 8c, 1970*
- 12 - *CNHRPC: Natural Resources Inventory, 1974*
- 13 - *Inventory of Merrimack County Lakes and Ponds, 1968*
- 14 - *Chichester Master Plan: Land Use Element, 1997*
- 15 - *NH Geographically Referenced and Information Transfer (GRANIT) System, 1998*
- 16 - *US Geological Survey (Bow, NH): Bedrock Geology Mapping, 1998*
- 17 - *US Fish and Wildlife Service: National Wetlands Inventory, 1986-1990*
- 18 - *Town Officials (anecdotal), 1998*
- 19 - *NH Office of State Planning: Comprehensive Statewide Trails Study, 1997*
- 20 - *Society for the Protection of NH Forests, 1998*
- 21 - *LCIP Final Report, 1993*
- 22 - *State of NH: Real Property Summary, 1995*
- 23 - *NH Association of Conservation Commissions, 1998*
- 24 - *NH Division of Historical Resources: Historical New Hampshire, 1990*
- 25 - *NH Division of Historical Resources: Historical Markers, 1989*
- 26 - *NH Department of Transportation: Covered Bridges of the Past, 1994*
- 27 - *NH Department of Revenue and Economic Development: NH Natural Heritage Inventory, 1998*
- 28 - *CNHRPC: Open Space Plan, 1980*
- 29 - *NH Office of State Planning: Recreation Plan, 1998*
- 30 - *Visit NH Webpage: Merrimack Valley Attractions, 1998*
- 31 - *Chichester Survey Results, 1998*
- 32 - *Merrimack County Conservation District: Inventory of Soil Erosion and Agricultural Waste, 1979*
- 33 - *1999 Municipal Profile Update*

**CONCORD**

About Concord.....	
Member of CNHRPC	✓
Surveys Mailed	40
Surveys Received for Tallying	8
REPP Meeting Participation	✓
Profile Review & Comment by City	X
1999 Update	✓

**Historical Profile**

Concord’s earliest roots are traced to a small trading post established in 1659. Settlement was rapid as the location was militarily, as well as agriculturally, strategic. The settlement was incorporated by Massachusetts in 1733 under the name Rumford. On June 7, 1765 the province of New Hampshire granted a town described as “a parish of Bow...by the name of Concord”. Some controversy erupted as to who held the rightful claim to the land, be it New Hampshire or Massachusetts. It was determined to be New Hampshire, but the Town remained a parish of Bow by the name of Rumford. A short time following, the King in London favored the formation of a town by the name of Concord. Concord’s location adjacent to the Merrimack River continued to help it grow into a large agricultural and trading community. In 1801, the legislature began meeting in Concord, and in 1816, the Town was formally designated the state capitol. From the late 19th and into the 20th century, Concord became the last main stop for rail passengers heading north to the hotel resorts. The area between South Main Street and the Merrimack River and from exits 12 to 15 on Interstate 93 was a railroad center and repair yard; it was known as “Opportunity Corridor” at the height of rail use. Since then, the City has continued to grow and meet the changing needs of the future. <sup>1, 38</sup>

**Present-Day Profile**

The area of Concord is 41,920 acres, or 65.5 square miles. The Town comprises 8.1% of the CNHRPC area. <sup>2</sup>

Over the last twenty-seven years, Concord’s population has grown by 26% while the number of housing units has increased by 70%: <sup>3, 4, 5</sup>

GROWTH	Population	Net Change		Housing Units	Net Change	
		#	%		#	%
1970 (US Census)	30022	na	na	9547	na	na
1980 (US Census)	30400	+ 378	+ 1.3	12126	+ 2579	+ 27.0
1990 (US Census)	36006	+ 5606	+ 18.4	15697	+ 3571	+ 29.4
1997 Population & 1996 Housing (NHOSP)	37925	+ 1919	+ 5.3	16228	+ 531	+ 3.4

<b>TOTAL CHANGE FROM 1970 - 1997</b>		<b>+ 7903</b>	<b>+ 26.3%</b>		<b>+ 6681</b>	<b>+ 70.0%</b>
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In an effort to control its growth, while protecting its resources in an economically viable manner, the City has adopted a number of land use controls to facilitate conservation: <sup>6, 38</sup>

**1998 Conservation-Sensitive**

**City Zoning Districts**

**City-Adopted Resource & Conservation Ordinances**

Country District	Wetland Development Ordinance
Agricultural District	Cluster Development Ordinance
Conservation District	Excavation Regulations
Watershed District	Historic Preservation Ordinance
Historic District (Overlay)	Floodplain Development Ordinance
Architectural Design District (Overlay)	Conservation Protection Ordinance
Flood Plain District (Overlay)	Shoreland Protection Ordinance
Floodway District (Overlay)	
Stream Bank & Shoreline District (Overlay)	
Wetland District (Overlay)	
Civic District	

Non-regulatory measures for protecting Concord's resources include the following: <sup>7, 8, 9, 38</sup>

**2010 City Master Plan Elements**

**City Conservation Plans, Reports, and Studies**

Planning Factors (1993)	Broken Bridge Swimming Area Study (1942)
Goals, Objectives and Policies (1993)	Merrimack River at Concord (1956)
Land Use Plan (1993)	Oak Hill - An Environmental Study (1977)
Conservation and Open Space (1993)	A Legacy for Future Generations - An Open Space Plan (1978)
Transportation (1993)	Soucook River Corridor Study (1980)
Housing (1996)	The Turkey River - Basin and Watershed (1983)
Community Recreation (1993)	A Wetland Index (1982)
Public Facilities (1993)	Merrimack River Corridor (1986)
Utilities (1993)	Penacook: A Sense of Place (1986)
Economic Development (1993)	Contoocook River Corridor Study (1987)
Historic and Cultural Resources (1993)	Assessment of the Concord Segment of the Merrimack River (1987)
Downtown Master Plan	Sewalls Falls Master Plan (1989)
	Brooks - A 1990 Study (1990)

	Recreation 1990 (1971)
	Merrimack River Greenway and Trail System (1990)
	Merrimack River Charrette (1992)
	Turkey River Basin Plan (1993)
	Endowment for the 21st Century - Conservation & Open Space Plan (1993)
	Garvins Falls Urban Reserve Development Feasibility Study (1996)
	Concord Trail System (1997)



## ***CITY RESOURCES***

### **Water Resources**

The City of Concord is criss-crossed by many streams, brooks, and rivers and is dotted by several lakes and ponds of various sizes. Concord's proximity to the Merrimack River and other major water sources have played an important role since the earliest Native American settlements in the area.

#### Water Supplies

Long Pond, or Penacook Lake, serves as the main water source for the City. This 360-acre pond is the largest and most pristine in the Concord area. The lake has been raised by damming and is kept scrupulously clean by the City. Most of Concord's residents receive water from Penacook Lake through the City's water supply system. Although the depth varies somewhat with rainfall and seasonal changes, one study reported it as nearly 75 feet deep.<sup>11, 38</sup>

Between 1983 and 1997, the NHDES has issued 196 well permits to residents of Concord. The majority of them occur on the newer subdivisions: Brookwood Drive (10), Fox Run (7), Freedom Acres Drive (7), Hoit Road (17), Pinecrest Circle (16), Spillway Lane (7), and West Parish Road (8). These new well locations have been mapped by NHDES, and their patterns are indicative of new development in the northeastern section of the City.<sup>10</sup>

#### Ponds<sup>11, 12, 13, 14, 32, 33, 34, 35, 38</sup>

Long Pond, or Penacook Lake, serving as the City's water supply, is 360 acres in area.

Turkey Pond is Concord's second largest pond with an area of 339 acres. This pond, located in southwest Concord, is a natural pond raised by damming. This dam, built in 1957, increased Turkey Pond's acreage from 172 acres to its present size.

Turtle Pond is a large eutrophic pond 121 acres in size. Located off of Oak Hill Road in East Concord, a public boat access allows fishing and relaxing amidst the surrounding vegetation.

Hot Hole Pond shares its shores with both Concord and Loudon. This mesotrophic 26.9-acre pond is fairly deep, having a maximum sounded depth of 41 feet.

Snow Pond is a small eutrophic 20-acre pond located between Shaker Road and Snow Pond Road with an average depth of 12 feet.

Little Turkey Pond lies adjacent to Turkey Pond in southwest Concord. This pond is only 114.6 acres in size and has an average depth of 24 feet.

Upper Goodwin Point Pond is a 37.2-acre oxbow pond with an average depth of 10 feet; Lower Goodwin Point Pond is 25.3 acres in size.

Sugar Ball Pond is a 12-acre oxbow pond with an average depth of only seven feet.

Fort Eddy Pond, an 20-acre oxbow, is located in central Concord near the New Hampshire Technical Institute (NHTI), a remnant of the meanders of the Merrimack River.

Horseshoe Pond is a natural 44-acre oxbow mesotrophic pond on the western side of the Merrimack. In early settlement times, the pond with its nearby flat, fertile agricultural soils was an invaluable resource.

“Unnamed Oxbow #1,” a 23.2-acre oxbow pond in the “old channel” in West Concord, and another oxbow pond near Sugar Ball Pond dating from the 1960s are two more smaller ponds in Concord.

Concord owns a small portion of Little Pond that lies mostly in the Town of Webster. Concord’s portion is about 4 acres in size on Little Pond Road.

There are a few small unnamed ponds dotting Concord. School and Library Ponds near St. Paul’s School have long served the students on hot summer days.

#### Rivers <sup>11, 12, 13, 14, 32, 33, 34</sup>

The Merrimack River is the main river in central and southern New Hampshire, bisecting Concord in a northerly-southerly direction. Concord owes much of its early prosperity to the Merrimack and today it continues to add to the City’s unique character. On occasion, the Merrimack has spilled over its banks and flooded low-lying areas of Concord, reminding the residents that the river remains a powerful force in the Region.

The Soucook River forms the border between Concord and Pembroke. In dry conditions, this rivers slows to a stoney crawl as it flows from Loudon to the Merrimack River near Bow. In wet conditions, however, this river swells several feet and moves swiftly towards the Merrimack. The Soucook, primarily a wild, unused river, is habitat to a wide variety of wildlife.

The Contoocook River meanders into Concord’s northwest region where it is joined by a few more streams before it enters the Merrimack, just north of Concord in the Town of Boscawen.

The Turkey River originates near the two Turkey Ponds in southwest Concord. From there, the river is joined by many small streams and brooks in the area before it enters Bow and ultimately empties into the Merrimack River.

#### Brooks <sup>11, 12, 13, 14, 32, 33, 34</sup>

Little Pond is where Bow Brook originates and starts its five mile journey through Concord and into Bow, where the brook enters the Turkey River.

Ash Brook originates in the Town of Hopkinton. It then enters Concord at the City’s middle western edge and travels about four miles into Little Turkey Pond.

Beaver Meadow Brook begins near the Long Pond/Penacook Lake watershed and travels 3.4 miles to where it enters the Merrimack River just south of Sewall’s Falls dam.

Hayward Brook is joined by Hackett Brook near the Canterbury town line and then continues 3.2 miles, entering the Merrimack just north of Sewall's Falls Road.

Snow Pond Outlet Brook flows from the northeast of Shaker Road for 2.8 miles to join Hayward Brook under I-93.

Hackett Brook originates in the far northern corner of East Concord at Hot Hole Pond, traveling south 2.7 miles to Hayward Brook.

Rattle Snake Brook, so-named for the timber rattlesnakes which once inhabited the area, travels 2.5 miles southeast to the Merrimack from its starting point at the northern end of Long Pond/Penacook Lake.

Burnham Brook enters Concord near Mountain Road and travels 1.8 miles to the Merrimack River.

Mill Brook begins at the southern end of Turtle Pond in East Concord and travels about 1.3 miles to the Merrimack.

Hoyt Brook starts its 1.2 mile journey at the "Great Bog" in Penacook and travels to just north of Sewall's Falls Road where it flows into the Merrimack River.

Turee Brook begins at Turee Pond in Bow, entering Concord to flow just 1.1 miles into Turkey Pond.

Cemetery Brook begins in the eastern section of the City near Broken Ground and travels slightly less than one mile into the Soucook River.

Bowen Brook begins just east of Mountain Road and makes a short trip into the Merrimack.

Bela Brook travels only 1.25 miles, of its total 6.0 mile length, in the City of Concord. This brook originates in Dunbarton and travels into Concord, draining into Turkey Pond.

Woods Brook travels 0.6 miles from Little Pond through the center of Concord and into Horseshoe Pond.

Wattanummon's Brook begins at Horseshoe Pond and travels just short of a mile into the Merrimack River. The brook was so named for a Native American who resided on the island of Horseshoe Pond and refused to relocate when the settlers moved into the area.

White Brook enters Concord from Bow and travels 0.4 miles to where it joins Bela Brook.

Unnamed Brook A begins near Broken Ground, coursing 0.8 miles to the Soucook River.

Unnamed Brook B begins just above Josiah Bartlett Road and meanders 0.6 miles to the Soucook River.

Hydric Soils

Out of the total land acreage of Concord (41,920), 16% is comprised of hydric soils: <sup>14, 36</sup>

<b>HYDRIC SOILS</b>	<b>Acreage</b>	<b>Total Percentage of City</b>
Poorly Drained	4030	9.6
Very Poorly Drained - organic base	1286	3.1
Very Poorly Drained - mineral base	1383	3.3
<b>TOTALS</b>	<b>6699</b>	<b>16%</b>

Within Merrimack County, Concord occupies approximately 7% of the total land area. Of significance, the City contains more than 14% of soils that have been identified as prime agricultural soils in Merrimack County. <sup>34</sup>

Watersheds <sup>10, 34, 35</sup>

The Merrimack River watershed encompasses the majority of the City in a northerly-southerly direction; the River itself bisects the western “downtown” section from the eastern “Heights” section of Concord.

The Soucook River watershed rests upon the highest-yielding groundwater aquifer in Central New Hampshire. The watershed, spanning into Pembroke, Loudon, Canterbury, and Chichester, contains both undeveloped and industrial properties.

The Contoocook River watershed covers the northwestern portion of Concord, also spanning the towns of Hopkinton, Henniker, Hillsborough, Deering, Webster, Warner, Salisbury, Wilmot, Bradford, and Sutton in the CNHRPC Region.

Sub-watersheds <sup>33, 34</sup>

Penacook Lake Watershed in central Concord encompasses 830 acres. As the primary source of potable drinking water for the city, Penacook Lake is underlain by granite and is bounded by portions of Jerry, Pine, and Rattlesnake Hills. The largest landowner within this important sub-watershed is the City itself.

The Turkey River Watershed covers approximately 24,063 acres, 39% of which lie within southwestern Concord.

Aquifers <sup>6, 16</sup>

The highest-yielding stratified drift aquifer in Central New Hampshire is located under the Soucook River and at the confluence of the Merrimack, Soucook, and Suncook Rivers. A preliminary analysis indicates that the riparian corridors of the three rivers at this prime location are zoned industrial and commercial. The portion of the aquifer located under the Merrimack is primarily held by fine-grained stratified drift, while the portion under the Soucook is coarse-grained overlying fine-grained stratified drift.

A large independent aquifer can be found underneath the Turkey River watershed. Encompassing

Great Turkey Pond, Little Turkey Pond, Turkey River, and their surrounding areas, the aquifer consists of large fine-grained stratified drift.

A small aquifer, comprised of coarse-grained stratified drift, is located under Snow Pond.

### Wetlands <sup>17</sup>

The City of Concord is dotted by many small and a few large wetlands. One of the larger wetlands lies in the Turkey River and Turkey Ponds area, also fed by the proliferation of groundwater. The majority of its acres under conservation, this wetland stretches from the northern parts of the Turkey Ponds into Bow along Turee Brook.

Another large wetland is located in an area north of Long Pond/Penacook Lake. Bog Road travels though the middle of this large wetland. A third large wetland, portions of which are under conservation, surrounds Turtle Pond in East Concord.

Smaller wetlands can be found in the areas of Snow Pond, Hackett Pond, Washington Street in Penacook, Bowen Brook, and between East Side Drive and I-93. Many more small wetlands can be found along all the brooks, rivers, and streams and Concord.

### ***Identified Water Resource Priorities***

City officials and volunteers have named the following water resources as being particularly important to Concord: <sup>18</sup>

- ☞ Merrimack River
- ☞ Contoocook River
- ☞ Soucook River
- ☞ aquifers
- ☞ Long Pond/Penacook Lake
- ☞ Horseshoe Pond
- ☞ all the “little” streams and brooks
- ☞ Turkey River
- ☞ Turkey Ponds
- ☞ Little Pond

### ***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Rivers and streams
Second Priority	Aquifers
Third Priority	Lakes and ponds
Fourth Priority	Designated prime wetlands
Fifth Priority	Watersheds

Surveys returned from Concord indicated the following as water resource priorities:

- Aquifers,
- Designated prime wetlands,
- Floodplains,
- Public water supplies, and
- Rivers and streams.

The majority of the respondents felt that the City’s ordinances and regulations do not adequately protect their water resources. <sup>31</sup>

Specific comments included: <sup>31</sup>

- ✂ There should be no additional use in the watershed around the water supply.
- ✂ Improved shoreline protection is needed.
- ✂ The floodplain should be protected from development because it is not protected from major floods
- ✂ Upgrading protection ordinances and creating larger set-backs are necessary.
- ✂ The floodplain regulations and ordinances need state support.
- ✂ Tougher enforcement is needed.



🌲 **Land and Forestry Resources**

The total number of acres under conservation was calculated to be approximately 21% of the entire City. The following table breaks down the components: <sup>7, 8, 20, 21, 22, 33, 34, 38</sup>

CONSERVATION LANDS	Held by	Acres
Abbott State Forest	NH DRED	35
Airport Bluff and Floodplain	City	145
Allen State Forest	NH DRED	25
Barne Property	City	4
Beaver Meadow Undeveloped Area	City	35

Bela Brook - Aranosian easement	City	10
Bela Brook - Previte easement	City	4
Birchdale/Clinton Street Area	City	166
Blood Agricultural Preserve	NH DAMF	103
Blood Agricultural Preserve - SPNHF	NH DAMF	58
Blye Farm Open Space	City	20
Broad Cove Forest	City	116
Bois de Brodeur Trust easement	Concord Conservation Trust	33
Bow Brook Property	City	1
Broken Ground - Concord Lumber		
Brookwood Open Space	City	8
Capital Region Health Care easement	City	17
Carter/Keller easement	City	1
Chocorua Village Open Space	City	4
Cilley State Forest	NH DRED	165
City of Concord Land	City	18
City Pound	City	18
Claremont/Concord Railroad Bed	City	14
Claremont/Concord Railroad Bed easement	City	7
Clark Property	City	15
Clinton Street Lots	NH DOT	28
Colby easement	City	1
Compensation Funds of NH easement	City	2
Conrad Property easement	City	12
Conservation Center	SPNHF	96
Contoocook Island Park	City	43
Cranmore Ridge Open Space	City	5
Deer Park	City	3
District 5 State Forest	NH DRED	88
Estes Forest	SPNHF	43
Floodway Area - Hall Street	City	50

Governor's Woods easement	City	8
Hannah Dustin Historic Site	DRED	1
Hitchcock Clinic easement	City	8
Hoit Road Marsh WMA (misc lots)	NH F&G	219
Hooksett Turnpike Area	City	39
Hot Hole Pond Boat Access	NH F&G	3
Hyland Property	City	34
I-89 Lot	NH DOT	56
Island Shores Estates Open Space	City	14
Karner Blue Refuge Area # A	USFWS	8
Karner Blue Refuge Area # B	USFWS	21
Keating easement	City	32
Ketcham easement	City	3
Kimball easement	City	62
Kimball Lot easement - shared w/ Hopkinton (LCIP)	Concord/Hopkinton	178
Knight Park	City	15
Ladd Property	City	7
Landfill Floodplain	City	30
Lang easement	SPNHF	10
Lehtinen Park	City	170
Locke Wetland	City	41
Mack/Emerson Lot	City	66
Mast Yard State Forest	NH DRED	175
Maxfield Lot	City	181
Christa McAuliffe Planetarium	NH Cultural Affairs	1
Memorial Field (LWCF)	City	38
Merrill Park Undeveloped Area	City	11
Merrimack River Access	City	7
Anthony Merullo Jr. (LCIP)	City	25
Mitigation Wetland	City	4
Morono Park (LCIP)	City	47
Newell Property easement	City	2

NH State Prison and Quarries	NH DOC	480
NH Technical Institute Island Reserve	City	25
NH Technical Institute - Low Area	City	30
Nichols Natural Area	City	79
Oak Hill	City	219
Oak Knoll Estates easement	City	2
Oak Knoll Open Space	City	18
Pembroke Water Works	Pembroke Water Works	16
Penacook Lake Watershed	City	850
Prince easement	City	2
Quarries	City	80
Randall Property	City	23
Reforestation Lots and Woodland (misc)	NH DOC	242
Reno easement	Concord Conservation Trust	21
Richards Community Forest easement	private	114
Ridge Road Development easement	City	1
Riley Property	City	66
Rolfe Park Undeveloped Area	City	14
Ross Agricultural Preserve	NH DAMF	75
Rundlett and Conant Schools	School Dist	26
Russ Martin Park (LWCF)	City	29
Russell - Shea State Forest	NH DRED	125
Fredrick Rust III (LCIP)	NH F&G	37
Sewalls Falls Dam	NH Watr Res Council	94
Sewalls Falls easement	City	1
Sewalls Falls WMA # 1	NH F&G	99
Sewalls Falls WMA # 2	NH F&G	29
Sewalls Falls WMA easement	City	8
Silk Farm Wildlife Sanctuary	ASNH	5
Silk Farm Wildlife Sanctuary - Holden	ASNH	15
Snow Pond Conservation Area	City	47

South Concord Meadows easement	City	20
South End marsh	City/NHDOT/private	19
Spear easement	SPNHF	71
Spofford Farm easement	SPNHF	33
St. Paul's School	private	1879
Stevens Property	City	72
Taylor State Forest	NH DRED	10
Thunberg Lot easement	City	25
TPK Trust - Smith easement	City	3
Turtle Pond	City	22
Turtle Pond Boat Access	NH F&G	1
Turtle Pond East	City	192
Turtle Pond Village easement	City	2
Turtletown Pond WMA	NH F&G	16
Upton - Morgan State Forest	NH DRED	21
Verres Financial Corp easement	City	5
Dorothy Walker Property	City	35
Walker State Forest	NH DRED	51
Walmart Stores easement	City	11
Wedgewood Drive Open Space	City	3
Weir Road Lot	City	57
Well Buffer Area	City	25
West Iron Works Road State Forest	NH DRED	42
West Terrill Park	City	50
West Village Open Space	City	15
White Farm	NH DRED	113
White Farm	School Dist	30
Doris B Wilson easement	City	1
Woodman easement	SPNHF	178
<b>TOTAL ACREAGE PROTECTED</b>		<b>8783</b>

In addition, approximately 20,370 acres, or 49% of the City's area, were in current use as of December 31, 1998.

In 1988, Concord allocated 25% of the land use change tax, with no cap, to the Conservation Fund for additional land acquisition. Concord was the first Town to enact such a measure.<sup>23, 38</sup>

**Identified Land & Forestry Resource Priorities**

City officials and volunteers have named the following land and forestry resources as being particularly important to the Concord:<sup>18, 38</sup>

- ✦ City forests
- ✦ all undeveloped lands
- ✦ lands along the Merrimack River
- ✦ White Farm area
- ✦ Turkey River Basin
- ✦ Oak Hill trails & recreation areas
- ✦ Open spaces
- ✦ Carter Hill orchards
- ✦ Prime agricultural land along Merrimack River and Clinton Street/Iron Works Road
- ✦ Penacook Lake and watershed
- ✦ Broken Ground area

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Open spaces
Second Priority	Agricultural lands
Third Priority	Conservation easements
Fourth Priority	Town parks & forests
Fifth Priority	Deeded conservation lands

Surveys returned from Concord indicated the following land and forestry resource priorities:

- Agricultural lands,
- Conservation easements,
- Deeded conservation lands,
- Open spaces, and
- Orchards.

All of the respondents felt that the City’s ordinances and regulations do not adequately protect their land and forestry resources.<sup>31</sup>

Specific comments <sup>31</sup>

- ✦ Additional purchases and easements of conservation lands is needed.
- ✦ Increased protection of open spaces is needed.
- ✦ Increased protection of greenways is needed.
- ✦ City ordinances & regulations should be revised.
- ✦ Increased protection of agricultural lands is needed
- ✦ A greater acceptance of the transfer of development rights is needed from the public.
- ✦ Better control of development in residential areas is needed.



**Historical and Cultural Resources**

National Register of Historic Places

Concord has *many* exemplary sites located on the National Register, all of which were nominated and listed in the 1970's & 1980's. No additional regulative restrictions are placed upon those properties which are listed on the National Register, but instead a listing in the Register recognizes the significance of and encourages the stewardship of the property: <sup>1, 24</sup>

<b>NATIONAL REGISTER OF HISTORIC PLACES</b>	<b>Date Listed</b>	<b>Location</b>	<b>Significance/Description</b>
Old Post Office	8/73	North State Street	Now houses State Legislative Office Building
Concord Historic District	6/75	N State Street, Horseshoe Pond, B&M RR, Church Street	Contains site of 1788 Ratification of Federal Constitution
Eagle Hotel	9/78	110 North Main Street	
Franklin Pierce Manse	10/79	52 South Main Street	House owned by 14th President of US
Merrimack County Courthouse	11/79	163 North Main Street	
Merrimack County Bank	2/80	214 North Main Street	
Upham - Walker House	5/80	18 Park Street	
White Farm	5/81	144 Clinton Street	
Farrington House	3/82	30 South Main Street	
Foster - Rueben House & Cleaves - Perley House	3/82	64 & 62 North Main Street	
Leavitt Farm	3/82	103 Old Loudon Road	
Chamberlin House	8/82	44 Pleasant Street	

White Park	11/82	Bounded by Washington, Centre, High, Beacon, White Streets	One of the oldest municipal parks in NH
Concord Civic District	12/83	Government Area Downtown Concord	
Henry J. Crippen House	12/83	189-191 North Main Street	
Gov. Frank West Rollins House	3/84	135 North State Street	
Pleasant View Home	9/84	227 Pleasant Street	Christian Science home of Mary Baker Eddy
Millville School	11/85	2 Fisk Road	
Louis Jr. Downing House	9/87	33 Pleasant Street	
Endicott Hotel	5/87	1-3 South Main Street	
NH Savings Bank	6/88	97 North Main Street	
Beaver Meadow Brook Archeological Site	6/89	- Restricted -	

### Historical Markers

These markers stand at places of great historical significance to the State of New Hampshire. Some of these places contain tangible reminders of the past, while others mark the locations of where structures once stood or a historical event took place. There are nine historical markers in the City of Concord. These markers demonstrate Concord's rich history as well as the spirit of its citizens, since citizen petition is the first step to a location receiving a marker.<sup>25</sup>

The State Capitol Building was constructed in 1819 with granite cut from Concord's quarries. It is the oldest State Capitol in which a still legislature meets in its original chambers.

An elegant house built in 1836 stands back from Mountain Road near Exit 16 on Interstate 93. This is the Bridges House, which has served as the official Governors' Residence since 1969.<sup>38</sup>

Mary Baker Eddy founded the first Church of Christ, Scientist in Boston, Massachusetts. Her Pleasant View House served as a retirement home for practitioners and nurses until 1975 and is listed (above) on the National Register of Historic Places.

The 14th president of the United States, Franklin Pierce, is remembered with a marker near his burial site in the Minot enclosure.

A marker stands where the Old North Meeting House once stood. The Ratification of the Federal Constitution took place in this meeting house. Delegates from 175 NH towns met to make New Hampshire the 9th state to ratify the Constitution.

The only house Franklin Pierce, 14th President of the United States, owned in Concord is located with a marker and is also listed (above) on the National Register.

A marker stands in remembrance of the Abbot-Downing Company. This company brought the

name Concord to the far reaches of the United States and the World through its famous line of transportation, the Concord Coach.

White Park is deserving of a marker as it is one of the oldest municipal parks in the State of New Hampshire, and is also listed (above) on the National Register.

A second marker resides on the property called White Park to commemorate the oldest after-dinner baseball league in the United States, the Sunset League.

Local markers, or the actual remnants of the structures themselves, indicate the sites of various other, yet not less important, historic landmarks and events: <sup>1, 8, 18</sup>

-  The Gas House, located near the intersection of Routes 3A and 3, is a local historical building. This building served as the junction for all the original gas lines in the City of Concord and was built in the 1800s.

### Covered Bridges

Covered bridges once played an integral part of the transportation network of the 19th century. Today, they are recognized for their beauty and uniqueness. Although Concord no longer has standing covered bridges, eleven once existed: <sup>26, 38</sup>

<b>COVERED BRIDGE NAME/LOCATION</b>	<b>Date Built</b>	<b>Date Gone</b>
Sewalls Falls	1853	1915
RR #5 - Federal	unknown	1907
Federal	1850	1872
Bridge Street - River	1841	1894
Lower	1849	1915
RR #121 - Riverhill	1884	1913
RR #124 - Mast Yard	1870	unknown
Bridge Street - RR	1869	1931
Borough	1846	1952
Main Street - Penacook	1848	1874
Pembroke Road bridge	1891	1980s

### Cemeteries

As do many small Central NH Region communities, the City of Concord has a rich heritage and a strong connection to its past. Cemeteries, both City owned and small, private family plots, are an important and personal link. Listed here are the more prominent cemeteries of Concord: <sup>8, 18, 38</sup>

<b>CEMETERIES</b>	<b>Owner</b>	<b>Parcel Number / Location</b>
Blossom Hill Cemetery	City	North State Street
Beth Jacob Cemetery	City	North State Street
Cavalry Cemetery	City	North State Street
Maple Grove Cemetery	City	Fisherville Road
Woodlawn Cemetery	City	Route 3 (Penacook)
Penacook Cavalry Cemetery	City	Church Street (Penacook)
Pine Grove Cemetery	City	Cemetery Street
Old Fort Cemetery	City	Oak Hill Road
Soucook Cemetery	City	Beth Jacob Road
Old North Cemetery	City	near Walker School
Millville Cemetery	City	Pleasant Street, near St Paul's School
Horse Hill Cemetery	City	near Elm Street (Penacook)
Stickney Hill Cemetery	City	Stickney Hill Road
	City	Shawmut Street

### ***Identified Historical Resource Priorities***

City officials and volunteers have named the following general and specific historical and cultural resources as being particularly important to Concord: <sup>18, 38</sup>

-  Turkey River mill sites
-  Mill Brook dam sites
-  cemeteries
-  churches
-  quarries
-  Abbot-Downing site
-  Gas House
-  Beaver Meadow Brook dam sites
-  historic neighborhoods
-  historic sites
-  mill sites on Contoocook River
-  Sewalls Falls Dam, land area, and generator sites
-  archeological sites
-  St. Paul's School
-  White Farm
-  Garvin's Falls
-  Phoenix Hall
-  Capitol Center for the Arts
-  State House and State House Annex

-  Stone Warehouse
-  State Hospital land and buildings

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Cemeteries
Second Priority	Cultural interest sites
Third Priority	Covered bridges
Fourth Priority	National Register of Historic Places
Fifth Priority	Archaeological sites

Surveys returned from Concord indicated the following as historical and cultural resource priorities:

- Archaeological sites,
- Cemeteries,
- Cultural interest sites,
- Mill sites, and
- National Register of Historic Places.

The majority of respondents felt that the City’s ordinances and regulations did not adequately protect their historical and cultural resources. <sup>31</sup>

Specific comments <sup>31</sup>

-  Protection of stone walls is needed.
-  More protection for archeological sites is needed.
-  Identification and signage of cellar holes and other cultural sites located on City property are needed.
-  More protection of historic sites in general is needed.



## Ecological Resources

### NH Natural Heritage Inventory

Many outstanding plant, animal, and insect species have been located in Concord as well as several outstanding natural communities. These valuable ecological resources have been identified and reported to the NH Division of Resource and Economic Development so that they may be placed, if warranted, on the NH Natural Heritage Inventory.<sup>27</sup>

Some rare and very rare species of plants are located within the City of Concord. The most endangered include: Blunt-Leaved Milkweed, Burgrass, Duckweed, Golden-Heather, Houghton's Umbrella-Sedge, Large Whorled Pogonia, and Wild Lupine.

A few unique birds have found their way into Concord's borders. Two of the most threatened include the Common Nighthawk and the Purple Martin.

Two rare reptile species have been sighted in Concord within the last twenty years, the Blanding's Turtle and the Spotted Turtle.

Many rare species of insects are located within Concord. Some of the rarest include: Frosted Elfin, New Jersey Tea Span Worm, Pesius Dusky Wing, and Pine Barrens Zanclognatha Moth. Possibly the rarest invertebrate, the only one listed as endangered on both the State and Federal registers, found in Concord is the Karner Blue Butterfly. This beautiful butterfly has been sighted in Concord within the last twenty years and only one other time elsewhere within the State.

The Brook Floater is the only listed mollusk found in Concord.

Several additional species which are found in Concord and not listed in this brief summary are listed on the NH Natural Heritage Inventory. For a complete listing please refer to **Appendix E**.

### Corridors

Corridors and greenways are typically used not only by people for recreation or transportation, but also by wildlife to travel from one habitat to another. Maintaining viable and undeveloped corridors ultimately measures the biological success of the animals, particularly larger mammals, within an area. The following corridors have been identified in Concord:<sup>15, 18, 19, 38</sup>

A large railroad corridor, the former Boston and Maine, stretches the length of Concord along the Merrimack River. This is one of the few stretches of track in the Central New Hampshire Region of which portions are still used for freight travel. Although this track is privately owned and portions of it are still utilized, much of the track is rarely used and thus has the potential to be a viable wildlife and recreation corridor.

A large utility line corridor travels the length of the eastern side of the city. This corridor travels through many sparsely populated areas and travels adjacent to a Pitch Pine/Scrub Oak Barrens natural community, making it an excellent corridor for wildlife travel.

Several riparian corridors exist in along the rivers in Concord. Along the undeveloped and lesser

developed portions of the Merrimack, Contoocook, Soucook, and Turkey Rivers, these corridors (including their respective watersheds) provide unique habitats for many different mammals, birds, and plants. The majority of the Merrimack corridor north of Exit 15 on I-93 is wild and undeveloped, while the southern portion within Concord contains commercial and industrial buildings until the River reaches Bow

*Exemplary Natural Communities*

Other special, undisturbed lands are essential for the biological diversity of plants and animals. The more bio-diversity found within an area, the more valuable and self-sustaining the community becomes from both ecological and economic perspectives. The following natural communities have been identified in Concord: <sup>18, 37</sup>

The Acidic Riverside Seep Community that is found within the City is hosts the growth of a large variety of plants. Characterized by cobble and sand, these fen-like conditions are rare in New England. Mosses, round-leaved sundew, and bluets are a few of the plants which can be found.

The Dry Riverbluff Opening Community type is found along steep, sandy bluffs of the Merrimack and Soucook Rivers. The nutrient-poor soils support rare plants on the edges of primarily southern and western exposures, such as wild lupine and golden heather.

Several New England Pitch Pine/Scrub Oak Barrens exist in Concord. These habitats are home to many rare species of insects and plants. Some of these Barrens are seeing the pressures of development as they shrink in size and end up next to large developments. Fire is important in maintaining the structure, dynamics, and composition of the community. However, prescribed burns are no longer performed in Concord due to the areas' urbanized locality.

Broadly defined, Floodplain Forests are characterized by silver maples in regularly flooded alluvial terraces. The Merrimack River offers many opportunities for this community to take hold.

The soils in the Lake Sediment/ River Terrace Forest tend to be deep, loamy, and fertile. These forests develop on river terraces and on lacustrine deposits. Wild ginger and scouring rush are frequently present.

Turtle Pond Conservation Area provides a unique habitat in the central eastern portion of the City. This area is largely undeveloped and old pine growths exist around the pond. The Pond is shallow and marshy in nature providing an excellent habit for birds and certain species of fish.

Turkey River, Marsh and Ponds Conservation Area is one of the largest mostly continuous conservation areas in the City. This area is well known for its large variety of bird and plant species. It also serves as a refuge for various small and medium mammalian species including: deer, porcupine, otter, beaver and many more.

Long Pond/Penacook Lake Conservation Area resides in the central portion of Concord, west of the Merrimack River. As the prime water source for the City of Concord and thus highly protected from pollution, this purest water body in Concord provides many animal species with a unique habit in the Central New Hampshire Region.

Scenic Roads and Vistas

The many hills in Concord afford views of the City and the surrounding area. The view from Sunnycrest Orchard and West Parish Road spans the northwest, with Mount Sunapee dominating the horizon.

Views of the city itself can be seen from atop Diamond Hill on Routes 9 and 202. Views of the City’s natural features can be seen from the end of Long Pond Road (Penacook Lake), Merrill Park (Merrimack River), and from Interstate 393 (Bartlett Farm). A good view of the Contoocook River can be seen just below the York Dam.

**Identified Ecological Resource Priorities**

City officials and volunteers have named the following ecological resources as being particularly important to Concord: <sup>18</sup>

- ☛ Karner Blue Butterfly habitats

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Scenic vistas
Second Priority	Plant/tree communities (tied w/3rd)
Third Priority	Animal communities (tied w/2nd)
Fourth Priority	Riparian corridors
Fifth Priority	Biological diversity

Surveys returned from Concord indicated the following as ecological resource priorities:

- Animal communities,
- Biological diversity,
- Greenway corridors,
- Natural Heritage Inventory Sites,
- Riparian corridors, and
- Scenic vistas.

A significant majority of the respondents felt that the City’s ordinances and regulations did not adequately protect their ecological resources. <sup>31</sup>

Specific comments <sup>31</sup>

- ☛ Develop adequate ways to sustain all ecological priorities.

- ☛ Stabilize the population growth.
- ☛ Better protection of scenic vistas is needed.
- ☛ Updating of ordinances and regulations is required.



## ☛ Geologic Resources

### Surficial Geology

Steep slopes can be found throughout the City, primarily along the riverbanks of the Merrimack, Contoocook, and Soucook Rivers. These highly erodible slopes have, over time, altered the courses of these Rivers. Granite quarries and ledge also characterize a varied topography left by the recession of the last glacier. Flat alluvial floodplains, several prominent hills, and rich sand and gravel resources conclude the primary surficial features. <sup>8, 14</sup>

Additional and perhaps more recognizable geologic formations are mountains and hills: <sup>14, 28, 38</sup>

<b>MOUNTAINS AND HILLS</b>	<b>Elevation</b>
Oak Hill (peak in Loudon)	920'
Pine Hill	793'
Rattlesnake Hill	774'
Jerry Hill	728'
Horse Hill	720'
Parsonage Hill	720'
Rum Hill	520'
Silver Hill	441'

### Bedrock Geology

Areas that are shallow to bedrock are scattered throughout the City. This limitation prevents intensive development where city water and sewer lines are unavailable. <sup>8, 14, 18, 38</sup>

### ***Identified Geological Resource Priorities***

City officials and volunteers have named the following geologic resources as being particularly important to Concord: <sup>18</sup>

- ☛ Broken Ground area
- ☛ Rattlesnake Hill quarries

### ***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Mountains and hills
Second Priority	Soils identification
Third Priority	Sand and gravel deposits
Fourth Priority	Bluffs
Fifth Priority	Gorges

Surveys returned from Concord indicated the following as geologic resource priorities:

- Bluffs,
- Eskers, kames, and drumlins,
- Mining sites,
- Mountains and hills, and
- Soils identification.

The majority of respondents felt that the City’s ordinances and regulations did not adequately protect their geologic resources. <sup>31</sup>

Specific comments <sup>31</sup>

- ☒ Need to develop necessary protections for geologic resources.
- ☒ Control the development of uplands.
- ☒ Protect Rattlesnake Hill including its public access.
- ☒ Discover uses for abandoned sand & gravel pits.
- ☒ Protection of quarries is needed.



**Recreational Resources**

A variety of recreational opportunities and resources exist in Concord that are closely associated with the previous resources stated earlier in this narrative. In addition, there are several others deserving of attention: <sup>18, 29, 30, 38</sup>

<b>PUBLIC &amp; PRIVATE RECREATION</b>	<b>Type</b>	<b>Location</b>	<b>Acreage/ Miles</b>
Fletcher-Murphey Play Lot	public		2 acres
West Street Play Lot	public		1 acres
Doyen Play Lot	public		1 acres
Thompson Play Lot	public		1 acres
Hall Street Playground	public		2 acres
Heights Playground	public	south side of Loudon Road, near Dame School	10 acres
Kimball Playground	public	near junction of North Spring and Rumford Streets with Pleasant Street	5 acres
Garrison Park	public		11 acres
Merrill Park	public		13 acres
Rolfe Park	public	Penacook	36 acres
Rollins Park	public	bounded by: Stone, Bow, Broadway, and Broad Streets	23 acres
Deer Park	public		3 acres
White Park	public	Bound by: Centre, High, Pine, White, Charles, and Franklin St	20 acres
Memorial Field	public	Fruit Street	12 acres
Everett Sports Arena	public	near Loudon Road. Bridge over Merrimack River (fee)	
Beaver Meadow Golf Course	public	SW of Sewalls Falls Bridge on Beaver Meadow Road ( fee)	
Concord Country Club	private	Mountain Road	
Sewalls Falls Recreation Area	public	near Sewalls Falls Bridge	
Old Turnpike Road Rec. Area	public	Old Turnpike Road near Manchester Street	
Boat Launches	public	north of Interstate 93 bridge near Everett Arena at the Island (Contoocook) at NH Technical Institute at Sewalls Falls Recreation Area	
Skate Board Park	public	at Everett Arena on Loudon Road	
White Farm trails	public	Clinton Street	
Annichiarico Theater	CHA	Kennedy Apartments (South Main & Thompson Streets)	
Capitol Center for The Arts	private	Main Street (fee)	
Christa McAuliffe Planetarium	public	near NHTI on Fort Eddy Road (fee)	

City Auditorium	public	attached to City Hall	
Contoocook River Park	public	Route 3 in Penacook	
Contoocook River Park Trails	public	Electric Avenue in Penacook	2 miles
Contoocook River Trails	public	Runnells Road in Penacook	2 miles
O'Reilly-Fleetham Trails	public	River Road in Penacook	1 mile
Rolfe Park Trails	public	Penacook Street in Penacook	
Sunny Crest Farm Trail	public	Carter Hill Road	2 miles
Weir Road Trails	public	Weir Road	
Morono Park Trails	public	near Beaver Meadow School	2 miles
Sewalls Falls Trails	public	Sewalls Falls Road	3 miles
Curtisville-Stevens Trails	public	Batchelder Mill Road	
Society for the Protection of NH Forest Trails (SPNHF)	private	Portsmouth Street	
Hoit Marsh Trail	public	Hoit Road	1 mile
Snaptown Road Trail	public	Hoit Road on the western side	1 mile
Curtisville Road Trail	public	South Curtisville Road	1 mile
East Sugar Ball Road Trail	public	between Eastside Drive and Portsmouth Street	
Heritage Trail	public	many access points within Concord	30 miles
Turkey River & White Farm Trails	public	From Memorial Field on Fruit Street and White Farm on Clinton Street	
Upton-Morgan State Forest Trails	public	Silk Farm Road	1 mile
Oak Hill Trails	public	Oak Hill Road	
Merrill Park Trails	public	Eastman Street	1 mile

### ***Identified Recreational Resource Priorities***

City officials and volunteers have named the following recreational resources as being particularly important to the City: <sup>18</sup>

-  Beaver Meadow Golf Course

### ***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Recreational trails
Second Priority	Canoe/boat access
Third Priority	Outdoor sporting fields
Fourth Priority	Picnic areas & playgrounds
Fifth Priority	Beach access

Surveys returned from Concord indicated the following as recreation resource priorities:

- Beach access
- Canoe/boat access
- Outdoor sporting fields,
- Picnic areas and playgrounds, and
- Recreation trails.

*Specific comments*<sup>31</sup>

-  More multi-use trails and facilities are needed.
-  Better vandalism control is needed.
-  Improved public access is needed.
-  Greater public interest needs to be fostered.



**Other Identified Resource Priorities**



No other specific resources were identified.

In order to more adequately protect these finite natural, historical and recreational resources,

Concord has established two different Commissions.

### Conservation Commission

Concord's very active Conservation Commission has purchased conservation lands and arranged many conservation easements. The Commission is actively looking for more land to add to their large accumulation of valuable conservation land, many of which parcels then have recreational trails constructed upon them. The Commission's goal is to protect these lands from development while allowing public use and the management of forestry.

### Heritage Commission

Heritage Commissions differ from Historic District Commissions in that the Heritage Commissions have the advisory and authority capacity to document and uphold the basis for protection of historic or cultural resources. With their diligent work and cooperation from other non-profit groups operating within Concord, the number of Concord sites appearing on the National Register of Historic Places is within itself an impressive accomplishment.

In addition, numerous state agencies and non-profit conservation groups reside within the City. Two private, non-profit land trusts exist in Concord: the Concord Conservation Trust and the Turkey River Basin Trust.<sup>38</sup>

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## **ADDITIONAL FINDINGS**

## **SURVEY**

The following results have been also compiled from Concord's responses to the natural, cultural, and historical resources survey:<sup>31</sup>

### Conservation Activities Undertaken Within the Last Three (3) Years

- developing a conservation easement program
- reviewing wetland applications
- working on trails and trail maps
- hiring students to do conservation studies
- sponsoring conservation programs
- purchasing conservation land and easements
- trail clearing, blazing, signing, and maintenance
- forest management
- Easement management
- wetland investigations

### Conservation Activities Planned or Anticipated Within the Following Three (3) Years

- \* continuation of current projects
- \* expanding the track system and improve track accessibility
- \* study and delineation of prime wetlands

*Essential Factors to Concord's "Quality of Life"*

-  protected open space available for broad public use
-  bold city planning for the beautification of Greater Concord
-  regulated growth
-  quality schools
-  availability of recreational opportunities
-  preservation of open space and greenways
-  Concord's neighborhoods and extensive parks and recreation system
-  zoning and prudent planning
-  the diversity of leisure and recreational pursuits -- available at low cost to citizens
-  clean water and clean air
-  appropriate disposal of waste
-  water supply and pollution control
-  access to and protection of water bodies
-  arts program support
-  National Register nominations
-  flood plain zoning revisions

*REFERENCES*

- 1 - *CNHRPC: Historical Overview, 1976*
- 2 - *CNHRPC Regional Master Plan: Land Use Element, 1991*
- 3 - *US Census STF1A and STF3A, 1970, 1980, & 1990*
- 4 - *NH Office of State Planning: Current Estimates and Trends in NH's Housing Supply 1996, 1997*
- 5 - *NH Office of State Planning: Population Estimates of NH Cities and Towns (1997), 1998*
- 6 - *Concord Zoning Ordinance, 1994*
- 7 - *Concord City Officials/Employees, 1998*
- 8 - *Concord Master Plan - Year 2010 Updates, 1993*
- 9 - *Various Concord Reports in CNHRPC Offices, 1998*
- 10 - *NH Department of Environmental Services, Water Resources Division, 1998*
- 11 - *NH Fish and Game: Biological Survey of the Lakes and Ponds in Survey Report 8c, 1970*
- 12 - *CNHRPC: Natural Resources Inventory, 1974*
- 13 - *NH Fish and Game: Inventory of Merrimack County Lakes and Ponds, 1968*
- 14 - *CNHRPC: River Corridor & Open Space Study, 1972*
- 15 - *NH Geographically Referenced and Information Transfer (GRANIT) System, 1998*
- 16 - *US Geological Survey (Bow, NH): Bedrock Geology Mapping, 1998*
- 17 - *US Fish and Wildlife Service: National Wetlands Inventory, 1986-1990*
- 18 - *Town Officials (anecdotal), 1998*
- 19 - *NH Office of State Planning: Comprehensive Statewide Trails Study, 1997*
- 20 - *Society for the Protection of NH Forests, 1998*
- 21 - *LCIP Final Report, 1993*
- 22 - *State of NH: Real Property Summary, 1995*
- 23 - *NH Association of Conservation Commissions, 1998*
- 24 - *NH Division of Historical Resources: Historical New Hampshire, 1990*
- 25 - *NH Division of Historical Resources: Historical Markers, 1989*
- 26 - *NH Department of Transportation: Covered Bridges of the Past, 1994*
- 27 - *NH Department of Revenue and Economic Development: NH Natural Heritage Inventory, 1998*
- 28 - *CNHRPC: Open Space Plan, 1980*
- 29 - *NH Office of State Planning: Recreation Plan, 1998*
- 30 - *Concord Conservation Commission: Soucook River Watershed Study, 1980*
- 31 - *Concord Survey Results, 1998*
- 32 - *Concord Conservation Commission: Brooks, 1990*
- 33 - *Turkey River Trust: Turkey River Basin Plan, 1993*
- 34 - *Concord Cons Comm: Endowment for the 21st Century - Conservation & Open Space Plan, 1993*
- 35 - *Merrimack River Initiative: Map Series 1996*
- 36 - *Concord Conservation Commission: A Wetland Index, 1982*
- 37 - *NH DRED: A Classification of the Natural Communities in NH (Sperduto), 1994*
- 38 - *1999 Municipal Profile Update*

## DEERING

About Deering.....	
Member of CNHRPC	✓
Surveys Mailed	9
Surveys Received for Tallying	3
REPP Meeting Participation	✓
Profile Review & Comment by Town	✓
1999 Update	✓

**Historical Profile**

In 1765, Deering saw the arrival of its first non-native settler. At that time, the NH colonists called the area “Society Land” or “Cumberland.” The early settlement of the region was slow, and a few years later only two new homesteads had been built. In 1773, a petition was presented to Governor Wentworth to charter the region, and on January 17, 1774 the charter was granted. Once the Town was incorporated, development continued at a faster pace, and by 1820 Deering had reached a population of 1,415. That population is the highest Deering would reach until the 1980's when the entire state saw a large population explosion. Lumbering and farming served as the Town’s earliest and most prominent industries. A few saw, flour and clothing mills were built in the Town during the 1800's, but manufacturing was never a major contributor to the Town’s overall economy. Today, the majority of Deering’s residents travel to other communities to work, as Deering is still mostly a rural and agricultural town.<sup>1</sup>

**Present-Day Profile**

The area of Deering is 20,288 acres, or 31.7 square miles. The Town comprises 3.9% of the CNHRPC area.<sup>2</sup>

Over the last twenty-seven years, Deering’s population has grown by 206% while the number of housing units has increased by 116%:<sup>3, 4, 5</sup>

GROWTH	Population	Net Change		Housing Units	Net Change	
		#	%		#	%
1970 (US Census)	578	na	na	371	na	na
1980 (US Census)	1041	+463	+80.1	461	+90	+24.2
1990 (US Census)	1707	+666	+64.0	757	+296	+79.8
1997 Population & 1996 Housing (NHOSP)	1766	+59	+3.5	801	+44	+5.8
<b>TOTAL CHANGE FROM 1970 - 1997</b>		<b>+1188</b>	<b>+205.5%</b>		<b>+430</b>	<b>+115.9%</b>

In an effort to control its growth, while protecting its resources in an economically viable manner, the Town has adopted a number of land use controls to facilitate the conservation process:<sup>6</sup>

<b>Town Zoning Districts</b>	<b>Town-Adopted Resource &amp; Conservation Ordinances</b>
Residential/Agricultural	Shoreland Protection Ordinance
Historic	National Floodplain Development Ordinance
Aquifer	Aquifer Protection Ordinance
Wetland	Cluster Development Provisions (in Zoning Ordinance and Subdivision Regulations)
Shoreland (overlay)	Wetland Regulations (in Subdivision Regulations)
Flood Plain	Excavation Regulation Provisions (in Wetland Regulations and Aquifer Ordinances)
	Historic District Ordinance -draft
	Telecommunications Facility Ordinance -pending

Non-regulatory measures for protecting Deering’s resources include the following: <sup>7, 8, 9</sup>

<b>Town Master Plan Elements</b>	<b>Special Conservation Plans, Reports and Studies</b>
Goals & Objectives (1982)	Road Side Clean-ups (1980-present)
The Land (1982)	Lay Lakes Monitoring (1987)
Population (1982)	Wood Duck Restoration Program (1987-present)
Town Services (1982)	Water Resources Management and Protection Plan (1990)
Summary (1982)	Stream and Surface Water Testing (1993-present)



## **TOWN RESOURCES**

### **Water Resources**

#### Water Supplies

The Town of Deering has no piped water supply system. Instead, wells provide all the water for the Town's residents. The Deering Reservoir, located in the center of Deering, is the largest water body and is used for flood control purposes.

Between 1983 and 1997, the NHDES has issued 48 well permits to residents of Deering. The majority of them occur on Reservoir Road (6), Route 149 (6), and East Deering Road (10). Seven public water supplies are located within the Town at Long Wood's Mobile Home Park (2), His Mansion (3), Johnson City Mobile (1), and at Clifton's Country Camping (1). These new well locations have been mapped by NHDES.<sup>10</sup>

#### Lakes and Ponds<sup>11, 12, 13, 14, 30, 33</sup>

##### Lakes

The Deering Reservoir, although not the Town's water supply, is the largest water body in Deering. This lake is located in central Deering and is 315 acres in area with a maximum sounded depth of 35 feet and a mean depth of approximately 13 feet.

##### Permanent Ponds

Dudley Pond is located in northeast Deering. This pond is 30 acres in area and has a maximum sounded depth of 16 feet and a mean depth of about 5 feet.

Lily Pond is located in the southeast, and has a surface area of about 15 acres.

Clifton's Camp Pond is located in the west, and has a surface area of about 8 acres.

Mud Pond is located in the northeast, and has a surface area of about 8 acres.

Fulton Pond is located in south-central Deering, and has a surface area of about 5 acres.

Oxbow Campground Pond is located in the north, and has a surface area of about 5 acres.

Frog Pond is located in the northwest and is about 1 acre in size.

##### Beaver Ponds

Due to the dynamic nature of these water bodies, this listing represents estimated observed areas from 11/11/98 and have been given local names.

Hunter's Pond is located in the southeast, and is about 25 acres in size.

Central Rangeway Pond is located in central Deering, and is about 20 acres in size.

Black Fox Pond is located in north-central Deering, and is about 36 acres in size.

Johnson's Pond is located in the northeast, and is about 20 acres in size.

Rivers <sup>11, 12, 13, 14, 34</sup>

The Piscataquog River originates at the southern tip of the Deering Reservoir in south central Deering. From there the river travels south a short distance and then turns north-easterly and travels into Weare. The Piscataquog River Local Advisory Commission is in the final stages of presenting a management plan to the seven towns comprising the river corridor.

The Contoocook River marks Deering's western border between Deering and Antrim and is the largest River in the immediate area. The areas surrounding it are mostly rural, making it a well preserved strip of land. The Town's most productive stratified drift aquifer and many marshes accompany the River along Deering's western border. The Contoocook is also part of the NH Rivers Management and Protection Program.

Brooks <sup>11, 12, 13, 14, 34</sup>

The Smith Brook is located in the northeast corner of the Town. This pristine brook flows through the Deering Wildlife Sanctuary.

Patten Brook enters into Deering's northeast corner from Henniker near Dudley Pond. South of Dudley Pond, Patten Brook travels a short distance and joins Dudley Brook.

Dudley Brook flows about 2.5 miles from Dudley Pond in the northeast corner of Deering to the Lake Horace area in Weare. This Class "A" brook receives the waters of Patten and Smith Brooks and Empties into the Piscataquog River

Hydric Soils <sup>14, 30</sup>

Out of the total land acreage of Deering (20,288), 11% is comprised of hydric soils.

Deering is underlain primarily by four soils groups representing a wide variety of soil conditions, from poorly to well-drained, and sandy to fine-grained tills.

- Colton-Adams-Naumberg
- Marlow-Peru
- Monadnock-Lyme
- Monadnock-Lyme-Tunbridge

Watersheds

The Town of Deering resides approximately 20% within the Upper Contoocook Watershed, 20% within the Henniker Tributaries Watershed, 10% within the South Branch Piscataquog Watershed and 50% within the Upper Piscataquog Watershed. <sup>10</sup>

Aquifers

The largest stratified drift aquifer resides below the western edge of Deering along the Contoocook River. This aquifer runs the length of the Town from north to south. Other stratified drift deposits can be found in the east central part of the Town. Smaller aquifers exist in the northeast corner and in the southeast corner. <sup>16</sup>

Wetlands

Wetlands inventoried, field-checked, and mapped by the US Fish and Wildlife Service between 1986 and 1990 dot the entire Town. Large wetland areas exist in the western portion of Deering along the Contoocook River. Several more may be found near Deering Reservoir and in the northeast and southeast corners of Town.<sup>17</sup>

**Identified Water Resource Priorities**

Town officials and volunteers have named the following water resources as being particularly important to the Town:<sup>18</sup>

- ☛ Central Rangeway Ponds & Streams
- ☛ Black Fox Pond
- ☛ Smith Brook Waterways
- ☛ Piscataquog Watershed including Brooks & Ponds & Marshes
- ☛ Deering Reservoir
- ☛ Perennial Streams
- ☛ Contoocook River
- ☛ Beaver Bogs
- ☛ Aquifers

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Rivers and streams
Second Priority	Aquifers
Third Priority	Lakes and ponds
Fourth Priority	Designated prime wetlands
Fifth Priority	Watersheds

Surveys returned from Deering indicated the following as water resource priorities:

- Aquifers,
- Designated prime wetlands,
- Lakes and ponds,
- Rivers and streams,
- Shorelands, and
- Watersheds.

All of the respondents felt that the Town’s ordinances and regulations do not adequately protect their water resources.<sup>31</sup>

Specific comments included: <sup>31</sup>

- ☛ More enforcement of shoreland, aquifer & wetlands ordinances is needed
- ☛ Dudley Brook should be carefully protected
- ☛ Ordinances needed to regulate locations of particular businesses
- ☛ All water resources are very important
- ☛ Local lake association is proactive on lake monitoring



### ☛ **Land and Forestry Resources**

The total number of acres under conservation was calculated to be approximately 11% of the entire Town. The following table breaks down the components: <sup>8, 20, 21, 22, 32, 34</sup>

CONSERVATION LANDS	Held By	Acres
Audubon Society Land	ASNH	135
Cope #3 easement	SPNHF	132
Cope #2 easement	SPNHF	14
Deering Reservoir	NH Water Res Council	5
Deering Wildlife Sanctuary	ASNH	485
French Conservation Area # 2	SPNHF	246
Garland easement	Town	6
Hillsboro Branch - B&M Railroad	Town	30
Hodgden Pastures	SPNHF	143
Jarvis easement	ASNH	33
Ruth Jarvis easement	ASNH	6
John & Anna King Forest	SPNHF	311
Lake Deering	NH Water Res Council	1
Leghorn easement (Dudley Brook)	Town	40
Levesque/Kilbride easement	ASNH	12
Lindquist (LCIP) easement	Town	13
North Road Wetland	Town	2
R.B. Roy easement	Town	14
Sanctuary Island	PWA	6
Shepard's Crossing easement	Town	50
Sleeper/Gregg Lot	Town	18

Sunderland easement	PWA	3
Thompson easement	SPNHF	120
Titcomb easement	Town	90
Vincent State Forest	NH DRED	239
Yeaple	SPNHF	77
Young easement	ASNH	21
<b>TOTAL ACREAGE PROTECTED</b>		<b>2252</b>

In addition, approximately 15,154 acres, or 75% of the Town’s land, were in current use as of December 31, 1998.<sup>34</sup>

In 1997, Deering voted to allocate a 50% land use change tax allocation to be directed to the Conservation Fund primarily to assist with land protection efforts.<sup>23, 34</sup>

***Identified Land & Forestry Resource Priorities***

Town officials and volunteers have named the following land and forestry resources as being particularly important to the Town:<sup>18</sup>

- ✦ Central Rangeway Road
- ✦ Gregg Hill Road
- ✦ Lands bounded by: Tubbs Hill, Clement Hill, and Dickey Roads
- ✦ Lookout on North Road
- ✦ Dutton Farm
- ✦ Monitored tree cutting permits

***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Open space
Second Priority	Agricultural land
Third Priority	Conservation easements
Fourth Priority	Town parks and forests
Fifth Priority	Deeded conservation lands

Surveys returned from Deering indicated the following as land and forestry resource priorities:

- Agricultural lands,
- Conservation easements,
- Deeded conservation lands,
- Open spaces, and
- State parks and forests.

The majority of the respondents felt that the Town's ordinances and regulations do not adequately protect their land and forestry resources.<sup>31</sup>

Specific comments<sup>31</sup>

- ✦ Create more Current Use-friendly ordinances
- ✦ Zoning should be updated to differential zones



**Historical and Cultural Resources**

National Register of Historic Places

Deering currently has no historic locations listed on the National Register. A large effort is required on the part of individuals to promote places of historic importance through applications to the National Historic Register.<sup>1, 24</sup>

New Hampshire Historical Markers

These markers stand at places of great historical significance to the State of New Hampshire. Some of these places contain tangible reminders of the past, while others mark the locations where structures once stood or a historical event took place. Currently Deering has no historical markers listed with the New Hampshire Division of Historical Resources.<sup>25</sup>

Local markers, or the actual remnants of the structures themselves, indicate the sites of various other, yet not less important, historic landmarks and events:<sup>1, 8, 18, 34</sup>

- ✦ Built in 1788, Deering's original Town Hall has stood the test of time and is still used today. This white frame building has served as a meeting house and a school in times past.
- ✦ Reuben Loveren built the Deering Community Church in 1829, Deering's first church. This building is located opposite the Town Hall in Deering Center and was a Congregational church, but also served as a church for other religious practices.
- ✦ Reuben Loveren also built the East Deering Church in 1830. It was privately purchased in 1965 and given to the Deering Historical Society.

- Wilkin's School, believed to be the Town's first school, was built in 1806.
- Some aboriginal markings are found carved in granite on Hedgehog Hill. These markings are believed to be Native American in origin, but have not been statistically proven or dated yet.
- The Ebenezer Locke Home was built in 1780 on Driscoll Road opposite Goodale Cemetery. Local legend claims that Ebenezer fired the first shot of the Revolutionary War.
- A plaque resides on the summit of Wolf Hill, also known as Clark Summit. It was so named in memory of Clark Poling, one of four chaplains of World War II fame who gave up his life jacket to others. The four chaplains went down on the U.S.S. *Dorchester*.

### Covered Bridges

Covered bridges once played an integral part of the transportation network of the 19th century. Today, they are recognized for their beauty and uniqueness. Although Deering has not been a home to any recorded covered bridges, they still played a vital role in transportation in the area.<sup>26</sup>

### Archaeological Resources<sup>30</sup>

There has never been a systematic archaeological survey of Deering. Historic sites, in the form of churches, Federal houses, school houses, cellar holes, dams and mills are known and recorded in the Town history, but they have never been the object of systematic archaeological investigation. Of recent note, bottle hunters have been active in Deering's cellar holes; unfortunately none of these sites are recorded in the files of the Archeological Division of the NH Department of Cultural Resources.

There is every reason to believe that prehistoric sites also exist. The State has been inhabited for approximately the past 10,000 years. Prehistoric site locations through New Hampshire reflect the settlement and subsistence pattern of the native hunting and gathering population. Sites are located along major rivers or lakes, near falls and rapids, and are associated with environmental features such as ledges, erratics, springs, streams, ponds, and wetlands. These locations reflect utilization of a diverse resource base. All of these features are present in Deering. Abenaki Indians are known to have been in the area during the Contact Period.

West Deering borders the Contoocook River where, just to the south, a multi-component site on the Tenny Farm has been recorded. On Hedgehog Hill, Indian petroglyphs were once reported and are described in the State files, but there is some doubt about their authenticity. Perley Adams, who "discovered" them in 1948, reportedly told a friend that he had actually done some of the carvings himself as a boy.

The New Hampshire Archaeological Society's "Old Indian Trails" map shows a branch of the "Pisgategwok" trail roughly following Route 149 to the Old County Road, and thence past the south end of the Deering Reservoir and the wetlands along the Piscataquog River into Weare. Clearly the potential for archaeological sites is high.

Cemeteries

As do many other small Central NH Region towns, Deering has a rich heritage and a strong connection to its past. Cemeteries, both Town and small, private family plots, are an important and personal link:<sup>8, 18, 30, 34</sup>

<b>CEMETERIES</b>	<b>Owner</b>	<b>Parcel Number / Location</b>
Goodale Cemetery	Town	Map 4, Lot 797 - Driscoll Farm Road
Appleton Cemetery	Town	Map 11, Lot 815 - Deering Center Road
Gove Cemetery	Town	Map 8, Lot 379 - land of His Mansion
West Deering Cemetery	Town	Map 6, Lot 799 - Airport Road
Patten Cemetery	Town	Map 7, Lot 812 - land of Audubon Society
Wilkins Cemetery	Town	Map 5, Lot 798 - Old County Road
East Deering Cemetery	Town	Map 4, Lot 809 - East Deering Road
Butler Cemetery	private	Deering Center Road
Bartlett Family Cemetery	private	intersection East Deering Rd./Dudley Brook Rd.
Wolf Family Cemetery	private	East Deering Road
Poling Family Cemetery	private	land of His Mansion

The only cemeteries that have space available for burial are the Butler, East Deering, and Wilkins Cemeteries. The rear portion of the East Deering Cemetery has been expanded. The additional land was a gift from E.S. Yeaple. The west and south portions of Wilkins Cemetery contain almost a 30' strip that was cleared and is now available for mapping; presently mapped portions have already been sold. With lots in East Deering and Wilkins, it is estimated that space for future burials will not be a problem for at least 10 or more years. As Butler Cemetery is privately owned, it is not clear as to what will happen to the portion toward the rear that could be developed for future use.

***Identified Historical Resource Priorities***

Town officials and volunteers have named the following general and specific historical and cultural resources as being particularly important to the Town:<sup>18</sup>

-  Cellar holes
-  Barn foundation & walls on the south side of Tubbs Hill
-  East Deering Church
-  Dam sites along Dudley Brook
-  Stage Coach Hotel on 2nd New Hampshire Turnpike
-  Conference Center as Deering Reservoir
-  Town Center Area
-  His Mansion cemetery
-  Stone bridge on Piscataquog

-  Barn foundations in general
-  Town pound on Fisher Road

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Cemeteries
Second Priority	Cultural interest sites
Third Priority	Covered bridges
Fourth Priority	National Register of Historic Places
Fifth Priority	Archaeological sites

Surveys returned from Deering indicated the following as historical and cultural resource priorities:

- Archaeological sites,
- Cemeteries,
- Covered bridges,
- Cultural interest sites, and
- Unique cellar holes.

All of respondents felt that the Town’s ordinances and regulations do not adequately protect their historical and cultural resources. <sup>31</sup>

Specific comments <sup>31</sup>

-  Need historic district ordinances
-  Town center is of particular importance



## **Ecological Resources**

### NH Natural Heritage Inventory

At this time, the New Hampshire Natural Heritage Inventory has no records for the Town of Deering.<sup>27</sup>

### Corridors

Corridors and greenways are typically used not only by people for recreation or transportation, but also by wildlife to travel from one habitat to another. Maintaining viable and undeveloped corridors ultimately measures the biological success of animals, particularly larger mammals, within an area. The following corridors have been identified in Deering:<sup>15, 18 19, 30, 34</sup>

Due to the relatively undeveloped nature of Deering, wildlife is able to move freely through the Town. There are three primarily riparian corridors within Deering that link over 75% of all wetland soils.

The first large riparian corridor follows the Contoocook River south to north on the Town's western boundary. The Gerini and Manselville Brooks are the primary tributaries. The Town's largest continuous wetland is associated with the Manselville Brook in the northwest corner of Town and together with the other wetlands in this area represent about 25% of the Town's total wetlands. The river's undeveloped banks and the close association with the Town's highest concentration of farms and non-forested habitat offer many animals a resource-rich habitat.

The second large riparian corridor follows the Piscataquog River south and to the east from the Deering Lake (Deering Reservoir). There are several medium and smaller wetlands that dot the entire length of the River and also represent about 25% of Deering's wetlands.

The third riparian corridor originates in north-central Deering with the Smith Brook. This flow runs east and then north and is joined by the Patten Brook in the northeast corner of Town. Patten Brook in turn flows southeast into Dudley Brook. Dudley Brook flows south along the Town's eastern boundary where it eventually joins the Piscataquog in Weare. Associated with Smith Brook is one large wetland and along the entire length of this corridor are several medium and smaller wetlands that collectively represent about 25% of Deering wetlands.

The principal mountain ridge corridor exists in West Deering along Hedgehog Mountain and Wilson Hill. This is a north-south steep ridge that divides the Contoocook River watersheds from the Piscataquog River watersheds. The steepness and undeveloped nature of this feature provides seclusion for the variety of wildlife and easy access to all parts of Deering.

A large utility line corridor cuts through Deering from the southeast corner to the northwest corner. This corridor offers a long, undisturbed path for wildlife to use when traveling between habitats. Also the unique nature of the habitat created by the utility lines offers a new place for many plants and animals to live.

A railroad corridor exists along Deering's western border and runs parallel to the Contoocook River. Railroad corridors, like utility corridors, offer wildlife a long, uninterrupted corridor to travel along. This rail corridor is no longer in use and has been turned into a public trail owned by the State of New Hampshire.

*Exemplary Natural Communities*

Other special, undisturbed lands are essential for the biological diversity of plants and animals. The more bio-diversity found within an area, the more valuable and self-sustaining the community becomes from both ecological and economic perspectives. The following natural communities have been identified in Deering: <sup>18</sup>

Currently, Deering enjoys a variety of exemplary natural communities that have not been significantly disturbed. Two areas are worthy of special recognition because of large properties protected by conservation easements.

The first general area centers around Falls Road in southeast Deering. This includes the King Forest to the south, the Hodgden Pasture to the north and the French easement to the east. There is a large block of land with an impressive mix of natural features including pond, stream, wetlands, meadows, and forests. Present is one of the Town's two heron rookeries and this area consistently is home for the highest concentration of seasonal and migratory waterfowl.

The second general area is centered along Clement Hill Road in north-central Deering. This would include the Deering Wildlife Sanctuary to the south, the lead mine and Mud Pond wetlands to the north, and Dudley Pond and Vincent State Forest area to the east. This large block of land also has a rich mixture of natural features that are home to impressive collections of diverse wildlife and the Town's second heron rookery.

*Scenic Roads and Vistas* <sup>14, 30, 34</sup>

Ten scenic roads have been identified in Deering:

**Class V Roads**

- Bartlett Hill Road
- Glen Road
- Old Henniker Road
- Wolf Hill Road (portion)
- Fisher Road
- Old County Lane
- Pleasant Pond Road

**Class VI Roads**

- Wolf Hill Road (portion)
- Old Frankestown Road
- Old Clement Hill

A scenic lookout is protected by a conservation easement off of Deering Center Road at the intersection with Old County Road.

**Identified Ecological Resource Priorities**

Town officials and volunteers have named the following ecological resources as being particularly important to the Town: <sup>18</sup>

- ☛ Turkey population
- ☛ Deer yards
- ☛ Investigation of endangered and rare species

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Scenic vistas
Second Priority	Plant/tree communities (tied w/3rd)
Third Priority	Greenway corridors (tied w/2nd)
Fourth Priority	Riparian corridors
Fifth Priority	Biological diversity

Surveys returned from Deering indicated the following as ecological resource priorities:

- Animal communities,
- Biodiversity,
- Greenway corridors,
- Natural Heritage Inventory sites, and
- Plant/tree communities.

The majority of the respondents felt that the Town’s ordinances and regulations do not adequately protect their ecological resources. <sup>31</sup>

Specific comments <sup>31</sup>

- ☛ Need to update ordinances and regulations to address ecological resources
- ☛ The Conservation Commission is actively exploring ecological resource protection issues



**✂ Geologic Resources**

Surficial Geology

Floodplain alluvium underlies the Contoocook River, and kames and kame terraces lie in the lands along the river’s eastern banks. Isolated organic deposits are scattered throughout the Town, and stratified drift outwash plains underlie a patch of land in the Town’s eastern side (southeast of East Deering Road).<sup>12, 14</sup>

Additional and perhaps more recognizable geologic formations are mountains and hills:<sup>14, 28</sup>

<b>MOUNTAINS AND HILLS</b>	<b>Elevation</b>
Bartlett Hill	1120'
Clark Summit (Wolf Hill)	1520'
Gove Hill	883'
Goodale Hill	1160'
Gregg Hill	1320'
Hedgehog Hill	1340'
Locke Hill	1000'
Sodom Hill	1150"
Wilson Hill	1400'

Bedrock Geology

About half of Deering’s bedrock is composed of the Littleton Formation of Undifferentiated Schists and Gneisses. The Contoocook River is underlain by the Antrim Pluton comprised of Granodiorite-Biotite Granodiorite Biotite Quartz Monzonite. A formation of similar composition (Hungry Moose Pluton) begins in the southeast corner of the Town and extends west to Deering Lake and north to just below Vincent State Forest.<sup>12</sup>

**Identified Geological Resource Priorities**

Town officials and volunteers have named the following geologic resources as being particularly important to the Town:<sup>18</sup>

- ✂ Hedgehog Hill
- ✂ Sand deposits on Robinson/Warner Lands
- ✂ Lead mines on Clement Hill
- ✂ Wolf Hill
- ✂ Eisenglass mine

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Mountains and hills
Second Priority	Soils identification
Third Priority	Sand and gravel deposits
Fourth Priority	Bluffs
Fifth Priority	Gorges

Surveys returned from Deering indicated the following as geologic resource priorities:

- Caves,
- Eskers,
- Gorges,
- Mountains and hills, and
- Sand and gravel deposits.

All of the respondents felt that the Town’s ordinances and regulations do not adequately protect their geologic resources. <sup>31</sup>

Specific comments <sup>31</sup>

- ☒ Need to study existing sand & gravel deposits and their recovery processes



**Recreational Resources**

A variety of recreational opportunities and resources exist in Deering that are closely associated with the previous resources stated earlier in this narrative. In addition, there are several others deserving of attention: <sup>18, 29, 30, 34</sup>

PUBLIC & PRIVATE RECREATION	Type	Location	Acreage / Miles
Clarke Summit Trails	public	Between Wolf Hill Road and Old Country Road	2 miles
Deering Reservoir	public	Reservoir Road	314 acres
Deering Reservoir swimming area	public	Reservoir Road	2 acres

Deering Wildlife habitat reserve	private	Clement Hill Road	506 acres
Deering Lake boat launch	public	Deering Lake	1 acre
Dudley Pond boat launch	public	Dudley Pond - North East Deering	1 acre
Old B&M RR trail	public	West Deering	6 miles
Oxbow Campground	private	East off Deering Center Road, just south of the Hillsborough town line	175 acres
Horsemanship	private	Old County Road and North Road	
Falls Road natural area	private	off Old County Road, includes King Forest, Hodgden Pastures, and French Conservation Area	225 acres
Vincent State Forest	public	North East Deering - shared with Weare	217 acres

**Identified Recreational Resource Priorities**

Town officials and volunteers have named the following recreational resources as being particularly important to the Town: <sup>18, 34</sup>

-  Clarke Summit Trails
-  Dudley Brook Corridor Trail
-  Deering Reservoir
-  Deering Reservoir boat launch & swimming area
-  Old Boston and Maine railroad bed trails

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Recreational trails
Second Priority	Canoe/boat access
Third Priority	Outdoor sporting fields
Fourth Priority	Picnic areas and playgrounds
Fifth Priority	Beach access

Surveys returned from Deering indicated the following as recreational resource priorities:

- Beach access,
- Canoe/boat access,
- Outdoor sporting fields,
- Picnic areas and playgrounds, and
- Recreational trails.

Specific comments<sup>31, 34</sup>



At current population levels, public facilities are not major issues.



People are showing much more interest in outdoor sporting fields at the present.



**Other Identified Resource Priorities**

Town officials and volunteers did not name any other resources of major importance to the Town.<sup>18</sup>



***ACTIVE RESOURCE PRESERVATION COMMITTEES***

In order to more adequately protect these finite natural and historical resources, Deering has established a Conservation Commission, an Historic District Commission, and the Deering Historical Society. Private organizations, such as the Deering Association, Deering Lake Association and the Friends of Deering, are also active in protecting the Town's natural and cultural heritage.<sup>30</sup>

Conservation Commission

Recent activities of the Conservation Commission include: the development of a conservation easement report; the development and initiation of a Wood Duck revitalization program which involved rehabilitating all of the Wood Duck boxes located in Deering's waterways; the organization and support of a volunteer based roadside clean-up project; surface water testing; the Lay lakes monitoring project; the redesign and rehabilitation of a picnic area and boat launch on Deering Reservoir; and the ongoing search for new conservation easements.<sup>8</sup>

Historic District Commission

This commission works with the Conservation Commission, the Planning Board, and the Historical Society to protect Deering's Historic District.

Historical Society

A private Historical Society also exists to help protect Deering's heritage. The group works to identify and preserve Deering's historical resources through research and public education. One of the society's significant recent projects was the restoration of the East Deering Church.

**ADDITIONAL SURVEY FINDINGS**

The following results have also been compiled from Deering’s responses to the natural, cultural, and historical resources survey: <sup>31</sup>

Conservation Activities Undertaken Within the Last Three (3) Years

- conservation easements
- land protection and water testing
- roadside Clean-up
- education
- efforts to protect lakeshore and lake quality
- work on the Town’s public beach and boat access area
- wood duck restoration

Conservation Activities Planned or Anticipated Within the Following Three (3) Years

- ✧ land protection
- ✧ more education to voters in regard to conservation committee issues
- ✧ Town forest
- ✧ updating the Town Master Plan
- ✧ wildlife baseline including rare and endangered species

Essential Factors to Deering’s “Quality of Life”

- ☪ rural character and natural setting
- ☪ protection of unique resources
- ☪ recreation trails
- ☪ local (non-government) organizations which try to provide a mix of activities and community focus (including churches, historical society, local newsletter, etc.)
- ☪ active participation of many young people

REFERENCES

- 1 - CNHRPC: *Historical Overview*, 1976
- 2 - CNHRPC *Regional Master Plan: Land Use Element*, 1991
- 3 - US Census STF1A and STF3A, 1970, 1980, & 1990
- 4 - NH Office of State Planning: *Current Estimates and Trends in NH's Housing Supply 1996, 1997*
- 5 - NH Office of State Planning: *Population Estimates of NH Cities and Towns (1997), 1998*
- 6 - *Deering Zoning Ordinance*, 1998
- 7 - *Town Officials/Employees*, 1998
- 8 - *Deering Town Annual Report*, 1997
- 9 - *Deering Subdivision Regulations*, 1989
- 10 - NH Department of Environmental Services, *Water Resources Division*, 1998
- 11 - NH Fish and Game: *Biological Survey of the Lakes and Ponds in Survey Report 8c*, 1970
- 12 - CNHRPC: *Natural Resources Inventory*, 1974
- 13 - *Inventory of Merrimack County Lakes and Ponds*, 1968
- 14 - *Deering Town Plan*, 1982
- 15 - NH Geographically Referenced and Information Transfer (GRANIT) System, 1998
- 16 - US Geological Survey (Bow, NH): *Bedrock Geology Mapping*, 1998
- 17 - US Fish and Wildlife Service: *National Wetlands Inventory, 1986-1990*
- 18 - *Town Officials (anecdotal)*, 1998
- 19 - NH Office of State Planning: *Comprehensive Statewide Trails Study*, 1997
- 20 - *Society for the Protection of NH Forests*, 1998
- 21 - *LCIP Final Report*, 1993
- 22 - *State of NH: Real Property Summary*, 1995
- 23 - NH Association of Conservation Commissions, 1998
- 24 - NH Division of Historical Resources: *Historical New Hampshire*, 1990
- 25 - NH Division of Historical Resources: *Historical Markers*, 1989
- 26 - NH Department of Transportation: *Covered Bridges of the Past*, 1994
- 27 - NH Department of Revenue and Economic Development: *NH Natural Heritage Inventory*, 1998
- 28 - CNHRPC: *Open Space Plan*, 1980
- 29 - NH Office of State Planning: *Recreation Plan*, 1997
- 30 - *Deering Conservation Commission and its citizen contributors*
- 31 - *Deering Survey Results*, 1998
- 32 - *Deering Conservation Easement Report*
- 33 - *Deering Wood Duck Program Report*, 1997
- 34 - *1999 Municipal Profile Update*

**DUNBARTON**

About Dunbarton.....	
Member of CNHRPC	✓
Surveys Mailed	15
Surveys Received for Tallying	1
REPP Meeting Participation	✓
Profile Review & Comment by Town	X
1999 Update	✓

**Historical Profile**

Dunbarton was first settled around 1740 and became known as Gorham Town. When Archibald Stark purchased and resided on the land, the Town became known as Starkstown. The Town was renamed Dunbarton in 1765 when Governor Wentworth granted a charter incorporating the Town. Most of Dunbarton’s early settlers came from the areas around Londonderry and Derry, but many also came from England, Scotland, and Ireland. The earliest form of industry in Dunbarton was, by necessity, lumbering in order for the settlers to build houses and have farms to grow their food. While lumbering remained a steady industry in Dunbarton for many years, the main industry became agriculture. In more recent times, Dunbarton has successfully managed to keep its rural character, although working farms are rare. An active Historical Society has helped preserve many historical landmarks and works to keep Dunbarton’s history alive.<sup>1</sup>

**Present-Day Profile**

The area of Dunbarton is 19,560 acres, or 31.4 square miles. The Town comprises 4.0% of the CNHRPC area.<sup>2, 33</sup>

Over the last twenty-seven years, Dunbarton’s population has grown by 143% while the number of housing units has increased by 125%:<sup>3, 4, 5</sup>

GROWTH	Population	Net Change		Housing Units	Net Change	
		#	%		#	%
1970 (US Census)	825	na	na	354	na	na
1980 (US Census)	1174	+349	+42.3	431	+77	+21.8
1990 (US Census)	1759	+585	+49.8	685	+254	+58.9
1997 Population & 1996 Housing (NHOSP)	2007	+248	+14.1	796	+111	+16.2
<b>TOTAL CHANGE FROM 1970 - 1997</b>		<b>+ 1182</b>	<b>+ 143.2</b>		<b>+ 442</b>	<b>+ 124.9</b>

In an effort to control its growth, while protecting its resources in an economically viable manner,

the Town has adopted a number of land use controls to facilitate the conservation process: <sup>6, 33</sup>

Town Zoning Districts	Town-Adopted Resource & Conservation Ordinances
Low Density Residential	Cluster Development Option
Medium Density Residential	Excavation Regulations
Village District	
Manufactured Housing	
Wetland Conservation	

Non-regulatory measures for protecting Dunbarton’s resources include the following: <sup>7, 8, 14, 33</sup>

Town Master Plan Elements	Special Conservation Plans, Reports, and Studies
General Statement (1990)	Open Space Plan (1973, updated 1988)
Existing Land Use (1990)	
Housing, Population and Income (1990)	
Transportation (1990)	
Public / Municipal Facilities (1990)	
Recreation (1990)	
Conservation and Preservation (1990)	
Future Land Use (1990)	



## **TOWN RESOURCES**



### **Water Resources**

#### Water Supplies

The Town of Dunbarton has one public water supply, the Dunbarton Elementary School, which serves a population of up to 180 persons.

Between 1983 and 1997, the NHDES has issued 132 private well permits to residents of Dunbarton. The majority of them occur on Robert Rogers Road (16) and on Route 13 (13). Others roads which have several of these well sited on them are: Gorham Pond Road (8), Leg Ache Hill Road (6), Clifford Farms Road (7), and Black Brook Road (7). These new well locations have been mapped by NHDES.<sup>10</sup>

#### Ponds<sup>11, 12, 13, 14, 33</sup>

Gorham Pond is the main tributary to Gorham Brook. This 103-acre pond has a maximum sounded depth of 14 feet.

The 10.8-acre Stark Pond is also one of Dunbarton's ponds, yet its shallowness yields an average depth of only six feet.

Kimball Pond is 52 acres in area with an average depth of nine feet. This pond becomes a tributary to the Merrimack through the Black Brook.

Long Pond is a natural 32-acre pond and is a tributary to the Piscataquog River.

Purgatory Pond is a small 14-acre pond. The maximum depth sounded was 14 feet with an average depth of 10 feet.

#### Rivers<sup>11, 12, 13, 14</sup>

There are no rivers located within the boundaries of Dunbarton. On the western side of Dunbarton, within the boundaries of Weare, lies the Piscataquog River. On the eastern side, within the boundaries of Hooksett, lies the Merrimack River. Many of the lakes and streams within Dunbarton empty into these two major rivers.

#### Brooks<sup>11, 12, 13, 14, 33</sup>

Harry Brook flows from Long Pond south into Goffstown.

Black Brook flows southward out of Kimball Pond and out of Dunbarton into Goffstown.

Gorham Brook flows from Gorham Pond in the Southwest area of Dunbarton over the border and into Goffstown where it makes its way to the Piscataquog River.

Stark Brook flows from the Stark Marsh area several miles into the north branch of the Piscataquog River.

Bela Brook flows from Dunbarton into Bow.

Purgatory Brook travels a short distance from Purgatory Pond into Goffstown.

### Hydric Soils

Out of the total land acreage of Dunbarton (20,416), 14.4% of all soils are characterized as hydric:<sup>6, 32</sup>

<b>HYDRIC SOILS</b>	<b>Acreage</b>	<b>Total Percentage of Town</b>
Poorly Drained	1238	6.1
Very Poorly Drained - organic base	1354	6.6
Very Poorly Drained - mineral base	9	0
Marsh	349	1.7
<b>TOTALS</b>	<b>2,950</b>	<b>14.4</b>

### Watersheds

Although not containing a river within its own borders, Dunbarton nonetheless is situated in many sub-watersheds of the Piscataquog and Merrimack Rivers. The watersheds of the Concord, Henniker, and Manchester Tributaries of the Merrimack River cover the northern and eastern boundaries of the Town. The Upper and Lower Piscataquog watersheds cover the remaining southern and western portions of Dunbarton.<sup>10</sup>

### Aquifers

A fairly large aquifer resides beneath the Stark Pond, Stark Brook, and Stark Marsh area. This aquifer stretches from a few miles south of Hopkinton, travels along Stark Brook to Stark Marsh, then down to Stark Pond. After Stark Pond, the aquifer becomes less continuous with small segments periodically underlying the surface until Clough State Park. The other main aquifer in Dunbarton lies along the Kimball Pond/Black Brook watershed. This aquifer is concentrated around Kimball Pond with smaller portions north and south of the pond. A few additional small aquifers underlie the Town in the southeastern parts and southwestern parts.<sup>16</sup>

### Wetlands

Wetlands inventoried, field-checked, and mapped by the US Fish and Wildlife Services between 1986 and 1990 dot the entire Town. A large wetland resides in the Kimball Pond area, encompassing it and the entire surrounding area. A second large wetland begins north of Gorham Pond in the south western corner of Dunbarton. From north of the pond this wetland continues through the Gorham Pond drainage area and thins as it follows the Gorham Brook into Goffstown. Other large wetland areas include: Stark Marsh, portions along Stark Brook, areas of Purgatory Pond, and portions along Bela Brook. Many other smaller isolated wetlands exist throughout Dunbarton.<sup>17, 33</sup>

### ***Identified Water Resource Priorities***

Town officials and volunteers have named the following water resources as being particularly important to the Town:<sup>18</sup>

- ☞ Gorham Pond
- ☞ Kimball Pond
- ☞ Marsh off of Route 13 including Stark Marsh
- ☞ Bela Brook
- ☞ Purgatory Pond
- ☞ Long Pond
- ☞ Black Brook
- ☞ sand and gravel aquifer at Gorham and Stark Ponds
- ☞ intermittent and perennial streams

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Rivers and streams
Second Priority	Aquifers
Third Priority	Lakes and ponds
Fourth Priority	Designated prime wetlands
Fifth Priority	Watersheds

The survey returned from Dunbarton indicated the following as water resource priorities:

- Lakes and ponds,
- Rivers and streams,
- Shorelands,
- Watersheds, and
- Wetlands.

The respondent felt that the Town’s ordinances and regulations do not adequately protect their water resources. <sup>31</sup>

Specific comments included: <sup>31</sup>

- ☞ Stream and wetland set-backs are needed.
- ☞ Building should be prohibited on floodplains.
- ☞ Vernal pools and ponds are also of importance.
- ☞ The only aquifer large enough as a water supply is located beneath the town dump.



## 🌲 Land and Forestry Resources

The total number of acres under conservation was calculated to be approximately 19% of the entire Town. The following table breaks down the components: <sup>7, 8, 14, 20, 21, 22, 33</sup>

CONSERVATION LANDS	Held by	Acres
KTFCA - Brown (Gorham Pond) (LCIP)	Town	50
Clough State Park (small portion in Dunbarton)	NH DRED	1
Kuncanowet Natural Area - Erikson Lot	Town	122
KTFCA - Fogg (Gorham Pond) (LCIP)	Town	58
KTFCA - Fogg (Gorham Pond) (LCIP)	Town	14
KTFCA - Freeport Development (Gorham Pond) (LCIP)	Town	62
French #5 easement	SPNHF	127
Grant easement & Grant Flowage easement	Town	8
KTFCA - Gravis (Gorham Pond) (LCIP)	Town	269
Great Meadow - Three Lots	Town	75
KTFCA - Greenhalge (Gorham Pond) (LCIP)	Town	22
Greenhalge easement	SPNHF	50
Hopkinton-Everett Reservoir (portion in Dunbarton)	US Army Corps	1187
Hough easement	SPNHF	130
Kimball Pond	Town	72
Kuncanowet Town Forest and Conservation Area (KTFC)	Town	43
Kuncanowet Town Forest - Heino Lot	Town	34
Kuncanowet Town Forest - Holiday Shore Lot	Town	12
Town Forest - Kimball Pond Road	Town	278
Town Forest - Mansion Road	Town	12
Kuncanowet Town Forest - Parker/Stinson Lot	Town	259
Kuncanowet Town Forest - Town Forest & Cons Area	Town	123
Town Forest - Winslow Lot #1	Town	107
Town Forest - Winslow Lot #2	Town	41
Kuncanowet Town Forest - Upton Lot	Town	14
Long Pond Lot	Town	10
Gorham Pond Lot	Town	5
Ray Road Lot	Town	20
Richards easement (Kimball Pond)	Town	76

Story Easement	Town	53
Taylor easement	Town	145
KTFCA - Whitney #1 (Gorham Pond) (LCIP)	Town	190
KTFCA - Whitney #2 (Gorham Pond) (LCIP)	Town	2
<b>TOTAL ACREAGE PROTECTED</b>		<b>3671</b>

In addition, approximately 9957 acres, or 51% of the Town’s area, were in current use as of December 31, 1998.<sup>33</sup>

In 1998, Dunbarton supported a 50% land use change tax allocation to be directed to the Conservation Fund for additional land acquisition.<sup>23</sup>

***Identified Land & Forestry Resource Priorities***

Town officials and volunteers have named the following land and forestry resources as being particularly important to the Town:<sup>18</sup>

- ✦ Town Forests
- ✦ open Farmland at Page’s Corner
- ✦ view of Mount Kearsarge from Dunbarton Hill
- ✦ land around Long Pond
- ✦ Route 13 ridge
- ✦ Hopkinton and Everett flood control lands
- ✦ power line corridors
- ✦ large blocks of undeveloped land
- ✦ prime agricultural lands
- ✦ unique wildlife habitats and corridors

***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Open spaces
Second Priority	Agricultural lands
Third Priority	Conservation easements
Fourth Priority	Town parks & forests
Fifth Priority	Deeded conservation lands

The survey returned from Dunbarton indicated the following as land and forestry resource priorities:

- Agricultural lands,
- Conservation easements,
- Deeded conservation lands,
- Open spaces, and
- Town parks and forests.

The one respondent felt that the Town's ordinances and regulations do not adequately protect their land and forestry resources.<sup>31</sup>

*Specific comments*<sup>31</sup>

- ✦ Recognition of the importance of habitats and resource-based enterprises is too low.



## **Historical and Cultural Resources**

### *National Register of Historic Places*

No additional regulative restrictions are placed upon those properties which are listed on the National Register, but instead a listing in the Register recognizes the significance of and encourages the stewardship of the property. Dunbarton currently has no sites listed on the National Register of Historic Places.<sup>1, 24</sup>

### *New Hampshire Historical Markers*

These markers stand at places of great historical significance to the State of New Hampshire. Some of these places contain tangible reminders of the past, while others mark the locations of where structures once stood or a historical event took place.

One of the most well-known historical sites in Dunbarton is the Molly Stark House. This house was built in 1759 by Captain Caleb Page and became home to Molly Page. Molly married John Stark, the illustrious General/Hero of the Revolutionary War, and lived with him in this house for many years.<sup>25</sup>

Local markers, or the actual remnants of the structures themselves, indicate the sites of various other, yet not less important, historic landmarks and events:<sup>1, 25</sup>

- ✦ The first Meeting House in Dunbarton was built in 1767, serving as both a meeting house and a church for twenty years.
- ✦ The second Meeting House, larger and more detailed than the first, was built in 1789.
- ✦ The first church built in Dunbarton served the Congregationalists. This church, which still stands today, was built in 1836.

-  Stark’s Mill was the first mill built in Dunbarton. The townspeople granted General John Stark 100 acres of land upon which to build a saw mill. In return, Stark was obliged to “sell to the town’s people for as cheap as any neighboring mill”.
-  The Town Pound, less than one acre in size, was erected around 1767 near the first Meeting House.

Covered Bridges

Covered bridges once played an integral part of the transportation network of the 19th century. Today, they are recognized for their beauty and uniqueness. The fact that no rivers run through Dunbarton is a likely reason why no covered bridges were built in the Town. <sup>26</sup>

Cemeteries

As do many other small Central Region towns, Dunbarton has a rich heritage and a strong connection to its past. Cemeteries, both Town and small, private family plots, are an important and personal link: <sup>8, 14, 18</sup>

<b>CEMETERIES</b>	<b>Owner</b>	<b>Parcel Number / Location</b>
Pages Corner Cemetery	Town	Page’s Corner
Center Cemetery	Town	Center of Town
East Cemetery	Town	Bow town line
Stark Cemetery	private	Mansion Road

**Identified Historical Resource Priorities**

Town officials and volunteers have named the following general and specific historical and cultural resources as being particularly important to the Town: <sup>18, 33</sup>

-  Molly Stark House (1759) at Page’s Corner and Stark Mansion (1785)
-  Waite Blacksmith Shop south of Page’s Corner near St. John Episcopal Church
-  old cellar holes, including those of Rogers and Putney
-  Indian corn mill located off of Everett Dam Road
  
-  Dunbarton town center, including the Rev. Walter Harris House (1789), Dunbarton Congregational Church (1836), and Dunbarton Town Office Building (formerly Dunbarton Center School, 1868)
-  scenic roads
-  Stark Cemetery
-  Mill sites, including those at Kimball, Stinson, and Stark Ponds.

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is

most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Cemeteries
Second Priority	Cultural interest sites
Third Priority	Covered bridges
Fourth Priority	National Register of Historic Places
Fifth Priority	Archaeological sites

The survey returned from Dunbarton indicated the following as historical and cultural resource priorities:

- Archaeological sites,
- Cultural interest sites,
- Unique cellar holes, and
- Unique stone walls.

The respondent felt that the Town’s adequately protect their historical and



ordinances and regulations did not cultural resources. <sup>31</sup>

 **Ecological Resources**

*NH Natural Heritage Inventory*

One outstanding animal species has been identified in Dunbarton since the 1930's through the NHI program. A Great Blue Heron rookery has existed in Dunbarton for many years. This beautiful large bird has only thirty-three listed nesting locations in the State although it is not formally listed as a threatened or endangered species. <sup>18, 27</sup>

*Corridors*

Corridors and greenways are typically used not only by people for recreation or transportation, but also by wildlife to travel from one habitat to another. Maintaining viable and undeveloped corridors ultimately measures the biological success of animals, particularly larger mammals, within an area. The following corridors have been identified in Dunbarton: <sup>15, 18, 19, 33</sup>

A large utility line corridor travels through the entire length of Dunbarton from the northern border with Hopkinton to the southern border with Goffstown. This corridor runs through several marshes, conservation lands, and other non-developed lands making it an excellent travel corridor for different wildlife.

The riparian corridor of Bela Brook is primarily undisturbed by roadways or human activities. A series of wetlands dot the entire Brook as it travels along the Bow/Dunbarton town line to Turkey

Pond in Concord.

Perhaps the most significant corridor is found within the Black Brook watershed, a sub-watershed of the Manchester Tributaries of the Merrimack River watershed. This rich area encompasses Great Meadow, Kimball Pond and Black Brook and follows along the eastern edge of a contiguous block of conservation land.

North/south trending streams make for excellent corridors, as does the Kuncanowet Ridge.

*Exemplary Natural Communities*

A deeryard has been identified to exist between Winslow and Barnard Roads. <sup>18, 33</sup>

Excellent habitat is found in a large open space adjacent to Chase Sanctuary in Hopkinton which includes deer wintering yards. <sup>33</sup>

*Scenic Roads and Vistas*

A scenic vista is located from Mill's Hill, off Route 13, offering views of the countryside and of Mount Washington on a clear day. Other views include those from the Route 13 ridge and Grapevine Road and Gorham Pond Road. <sup>14, 33</sup>

The official designation of a scenic road has also been granted to Legache Hill Road, County Road, Line Hill Road, Stone Road, Guinea Road, Tenney Hill Road, Gile Road, and Black Brook. <sup>14, 18, 33</sup>

***Identified Ecological Resource Priorities***

Town officials and volunteers have named the following ecological resources as being particularly important to the Town: <sup>18, 33</sup>

- ☛ Great Blue Heron rookeries
- ☛ Great Meadows
- ☛ habitat around Bela Brook corridor
- ☛ Kimball Pond wildlife corridor to Goffstown line
- ☛ Green Meadows deeryards
- ☛ beaver dams and uplands east of Mansion Road
- ☛ undeveloped corridor between Kuncanowet Town Forest and Conservation Area and Everett Flood Control Area including Gorham Pond
- ☛ land north of Route 77 along Hopkinton town line
- ☛ Harry Brook corridor
- ☛ Long Pond watershed
- ☛ Purgatory Pond watershed

***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Scenic vistas
Second Priority	Plant/tree communities (tied w/3rd)
Third Priority	Animal communities (tied w/2nd)
Fourth Priority	Riparian corridors
Fifth Priority	Biological diversity

The survey returned from Dunbarton indicated the following as ecological resource priorities:

- Animal communities,
- Biodiversity,
- Greenway corridors,
- plant/tree communities, and
- Riparian corridors.

The respondent felt that the Town’s ordinances and regulations did not adequately protect their ecological resources.<sup>31</sup>

Specific comments<sup>31, 33</sup>

- ✦ Large continuous blocks of land/water are critical for protection of wildlife corridors.
- ✦ Old growth forests are very important.
- ✦ More NHI field work is needed.
- ✦ Additional training of planning board members regarding cluster development and siting for resource impacts should be conducted.



✦ **Geologic Resources**

Along with a large glacial erratic found at junction of Clinton Street (Route 13) and the power line corridor, the most recognizable geologic formations within Dunbarton are its mountain and hills:<sup>14, 28</sup>

MOUNTAINS AND HILLS	Elevation
Quimby Mountain	850'
Kuncanowet Hills	650'
Mills Hill	900'
Burnham Hill	825'

**Identified Geological Resource Priorities**

Town officials and volunteers have named the following geologic resources as being particularly important to the Town: <sup>18, 33</sup>

- ✗ esker in Everett Flood Control Area
- ✗ glacial erratics along utility lines
- ✗ eskers in Kuncanowet Town Forest and Conservation Area

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Mountains and hills
Second Priority	Soils identification
Third Priority	Sand and gravel deposits
Fourth Priority	Bluffs
Fifth Priority	Gorges

The survey returned from Dunbarton indicated the following as geologic resource priorities:

- Bluffs,
- Eskers,
- Gorges,
- Mountains and hills, and
- Sand and gravel deposits.

The respondent felt that the Town’s ordinances and regulations did not adequately protect their geologic resources. <sup>31</sup>

Specific comments <sup>31</sup>

- ✗ Additional zoning regulations are needed to keep roads and building off steep slopes.





## **Recreational Resources**

A variety of recreational opportunities and resources exist in Dunbarton that are closely associated with the previous resources stated earlier in this narrative. In addition, there are several others deserving of attention: <sup>14, 18, 29, 33</sup>

<b>PUBLIC &amp; PRIVATE RECREATION</b>	<b>Type</b>	<b>Location</b>	<b>Acreage / Miles</b>
Kuncanowet Town Forest and Conservation Area	public		1000 acres
Recreation trail from Kimball to Long Pond	private		
Recreational trails within Hop-Everett Reservoir	public	access from Ray or Everett Dam Roads	20 miles
Non-motorized use trails	public	Kuncanowet	7 miles
Dunbarton Elementary School Playground	public	Robert Rogers Road	12 acres
Pioneer Sportsmen, Inc	private		12 acres
Gorham Pond boat access	public	Gorham Pond	1 acre
Kimball Pond boat access	public	Kimball Pond	1 acre
Long Pond boat access	public	Long Pond	1 acre
Purgatory Pond boat access	public	Purgatory Pond	1 acre
Lake Gorham Association boat access	private		1 acre
Clough State Park (small portion within town)	public		1 acre
Center School Sports Field	public		5 acres
Countryside Golf Club	private	Route 13	67 acres

### ***Identified Recreational Resource Priorities***

Town officials and volunteers have named the following recreational resources as being particularly important to the Town: <sup>18</sup>

-  Clough State Park
-  Boat ramps on Gorham & Kimball Ponds
-  Recreation trail from Kimball to Long Pond

### ***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Recreational trails
Second Priority	Canoe/boat access
Third Priority	Outdoor sporting fields
Fourth Priority	Picnic areas & playgrounds
Fifth Priority	Beach access

The survey returned from Dunbarton indicated the following as recreational resource priorities:

- Outdoor sporting fields, and
- Recreational trails.

Specific comments <sup>31</sup>

-  Need more trails for non-motorized recreational activities.
-  Hunting should be more restricted in public forests.



**Other Identified Resource Priorities**

Town officials and volunteers have named the following other resources as being particularly important to the Town: <sup>18, 33</sup>

-  Volunteers and a volunteer Fire Department are very important
-  Small population
-  Golf course
-  Scenic roads



***ACTIVE RESOURCE PRESERVATION COMMITTEES***

In order to more adequately protect these finite natural and historical resources, Dunbarton has established a Conservation Commission, an Historical Awareness Committee, a Town Forest Committee, and the Kuncanowet Town Forest and Conservation Area Committee.

Conservation Commission

Dunbarton's active Conservation Commission, with the extraordinary efforts of its volunteers, has acquired many important conservation lands; their latest large acquisition was a 122-acre lot off of Everett Dam Road that abuts the Town Forest. The Commission has won the support of the

Town and saw an increase in its funding allocations in 1997. The Commission has also been active in wetland inspections and in the promotion of conservation easements.

Historical Awareness Committee

This valuable committee is charged with helping teach adults and children the history of Dunbarton. Four historical tours of Dunbarton have been created to help show and teach the community about Dunbarton's rich historical past. Some exciting information came to the attention of the Committee in 1997 when inventories of Dunbarton from 1761 and 1763 were discovered in archives. These inventories hold the names of residents and the locations of buildings, some long lost and until now, forgotten.

Town Forest Committee

The Town Forest Committee exists to help govern and maintain the Town Forests. This Committee is key in managing the selective lumbering of the Forest land.<sup>33</sup>

Kuncanowet Town Forest and Conservation Area Committee

Comprised of members appointed by the Chairs of the Town Forest Committee and Conservation Commission, the Kuncanowet Committee works to keep the Forest and its trails well maintained for the public to enjoy.



**ADDITIONAL SURVEY FINDINGS**

The following results have been also compiled from Dunbarton's responses to the natural, cultural, and historical resources survey:<sup>31</sup>

Conservation Activities Undertaken Within the Last Three (3) Years

- two major land acquisitions
- four or five resident field trips
- wetlands inspections

Conservation Activities Planned or Anticipated Within the Following Three (3) Years

- \* public education on conservation issues
- \* continuation of resident field trips
- \* promotion of conservation easements

Essential Factors to Dunbarton's "Quality of Life"

-  small size
-  feeling of neighborliness
-  open space and public lands
-  responsive public officials

REFERENCES

- 1 - *CNHRPC: Historical Overview, 1976*
- 2 - *CNHRPC Regional Master Plan: Land Use Element, 1991*
- 3 - *US Census STF1A and STF3A, 1970, 1980, & 1990*
- 4 - *NH Office of State Planning: Current Estimates and Trends in NH's Housing Supply 1996, 1997*
- 5 - *NH Office of State Planning: Population Estimates of NH Cities and Towns (1997), 1998*
- 6 - *Dunbarton Zoning Ordinance, 1990*
- 7 - *Town Officials/Employees, 1998*
- 8 - *Dunbarton Town Annual Report, 1997*
- 9 - *(reserved)*
- 10 - *NH Department of Environmental Services, Water Resources Division, 1998*
- 11 - *NH Fish and Game: Biological Survey of the Lakes and Ponds in Survey Report 8c, 1970*
- 12 - *CNHRPC: Natural Resources Inventory, 1974*
- 13 - *Inventory of Merrimack County Lakes and Ponds, 1968*
- 14 - *Dunbarton Master Plan, 1990*
- 15 - *NH Geographically Referenced and Information Transfer (GRANIT) System, 1998*
- 16 - *US Geological Survey (Bow, NH): Bedrock Geology Mapping, 1998*
- 17 - *US Fish and Wildlife Service: National Wetlands Inventory, 1986-1990*
- 18 - *Town Officials (anecdotal), 1998*
- 19 - *NH Office of State Planning: Comprehensive Statewide Trails Study, 1997*
- 20 - *Society for the Protection of NH Forests, 1998*
- 21 - *LCIP Final Report, 1993*
- 22 - *State of NH: Real Property Summary, 1995*
- 23 - *NH Association of Conservation Commissions, 1998*
- 24 - *NH Division of Historical Resources: Historical New Hampshire, 1990*
- 25 - *NH Division of Historical Resources: Historical Markers, 1989*
- 26 - *NH Department of Transportation: Covered Bridges of the Past, 1994*
- 27 - *NH Department of Revenue and Economic Development: NH Natural Heritage Inventory, 1998*
- 28 - *CNHRPC: Open Space Plan, 1980*
- 29 - *NH Office of State Planning: Recreation Plan, 1998*
- 30 - *(reserved)*
- 31 - *Dunbarton Survey Results, 1998*
- 32 - *Merrimack County Conservation District: Inventory of Soil Erosion and Agricultural Waste, 1979*
- 33 - *1999 Municipal Profile Update*

**EPSOM**

About Epsom.....	
Member of CNHRPC	X
Surveys Mailed	12
Surveys Received for Tallying	2
REPP Meeting Participation	X
Profile Review & Comment by Town	X
1999 Update	X

**Historical Profile**

Epsom was incorporated in 1727 under the condition that its grantees settle the region immediately. The 1730's saw the beginnings of a true frontier town complete with log cabins, farms, and kidnappings by Native Americans. By 1765, a meeting house and a school house had been built. The Revolutionary War gave Epsom its fair share of war heroes, and the 1800's brought industry to the Town in the form of grist and saw mills. During the mid 19th century, the Town laid new roads to facilitate transportation and communication. Epsom's growth, however, was neither rapid nor particularly steady. Industry remained light, mills shut down, and farmers found new lands to harvest in the Midwest. L.M. Bunker reported in 1927 that "Epsom of the past" was a more active place than "Epsom of the present." In a way, this is still true. While recent technological advances have brought the necessary modernities to the Town of Epsom, it remains a quiet, simple, and beautiful place to live.<sup>1</sup>

**Present-Day Profile**

The area of Epsom is 21,696 acres, or 33.9 square miles. The Town comprises 4.2 % of the CNHRPC area.<sup>2</sup>

Over the last twenty-seven years, Epsom's population has grown by 163% while the number of housing units has increased by 197%:<sup>3, 4, 5</sup>

GROWTH	Population	Net Change		Housing Units	Net Change	
		#	%		#	%
1970 (US Census)	1469	na	na	519	na	na
1980 (US Census)	2743	+1274	+ 86.7	1074	+555	+ 106.9
1990 (US Census)	3591	+848	+ 30.1	1396	+322	+ 30.0
1996 Population & 1997 Housing (NHOSP)	3866	+275	+ 7.7	1542	+146	+ 10.5
<b>TOTAL CHANGE FROM 1970 - 1997</b>		+ 2397	<b>+ 163.2%</b>		+ 1023	<b>+ 197.1%</b>

In an effort to control its growth, while protecting its resources in an economically viable manner, the Town has adopted a number of land use controls to facilitate the conservation process: <sup>6</sup>

Town Zoning Districts	Town-Adopted Resource & Conservation Ordinances
Residential/Agricultural	Excavation Regulations
Residential/Commercial	Cluster Development Ordinance
	Floodplain Development Ordinance

Non-regulatory measures for protecting Epsom’s resources include the following: <sup>7, 8, 9</sup>

Town Master Plan Elements	Town Conservation Plans, Reports and Studies
Goals and Objectives (1986)	
Housing (1986)	
Economic Conditions (1986)	
Land Use (1986)	
Natural Limitations (1986)	
Population and Trends (1986)	
Town Services and Facilities (1986)	

The Town will begin revising their Master Plan in early 1999.



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## TOWN RESOURCES

### Water Resources

#### Water Supplies

Many public water supplies exist within Town; most are directly associated with restaurants, campgrounds, or manufactured housing parks. Private wells serve the majority of the residential population. Between 1983 and 1997, the NHDES issued 156 well permits to residents of Epsom. The majority of them occur on Route 4 (10), Route 28 (10), Chestnut Pond Road (11), Goboro Road (10), and North Pembroke Road (10). These new well locations have been mapped by NHDES.<sup>10</sup>

#### Ponds<sup>11, 12, 13, 14</sup>

Seeley Pond is approximately three acres in area with an average depth of two feet.

Chestnut Pond is located in the northeast corner of Town, just south of the Pittsfield town line. It has an area of 30 acres and serves as a tributary to Little Bear Brook.

Odiorne Pond is a 20 acre pond surrounded by swamp land. It is located west of Chestnut Pond and south of the Pittsfield town line, and it serves as a tributary to Lockes Brook.

The Little Suncook River flows into Bixby Pond, a body of water located south of Route 9/202.

A small western section of Northwood Lake lies in the Town of Epsom. The rest of the Lake lies in Northwood. It serves as a tributary to Little Suncook River.

Round Pond lies southeast of Bear Island beside the Suncook River.

#### Rivers<sup>11, 12, 13, 14</sup>

The Suncook River crosses the Pittsfield town line in the north and flows through the western part of Epsom. It exits in the southwest, where it becomes the boundary between Allenstown and Pembroke.

Little Suncook River flows between Northwood Lake and the Suncook River.

#### Brooks<sup>11, 12, 13, 14</sup>

Deer Brook runs through in the southern part of Epsom from the Suncook River and through wetlands.

Blake Brook features Steeles Falls.

Lockes Brook flows south out of Odiorne Pond until it converges with the Little Suncook River.

Little Bear Brook flows south out of Chestnut Pond until it meets the Little Suncook River.

Mason Brook and the Suncook River meet along the western side of Bear Island.

Marden Brook flows west from the Suncook River into Chichester.

Gulf Brook flows out of Blake Pond in Pittsfield, across the Epsom-Pittsfield town line, through a series of wetlands, to its convergence with the Little Suncook River just east of Bixby Pond.

Hydric Soils

Out of the total land acreage of Epsom (21,696), 11.8% is comprised of hydric soils: <sup>14, 32</sup>

<b>HYDRIC SOILS</b>	<b>Acreage</b>	<b>Total Percentage of Town</b>
Poorly Drained	1749	8.1
Very Poorly Drained - organic base	409	1.9
Very Poorly Drained - mineral base	315	1.5
Marsh	77	0.4
<b>TOTALS</b>	<b>2550</b>	<b>11.8</b>

Watersheds

Epsom lies entirely within the Suncook River watershed. <sup>10</sup>

Aquifers

A very large stratified drift aquifer exists along the Suncook River corridor. This aquifer runs beneath the center of Town and follows Route 28 in a southerly direction. A small portion of an aquifer between Northwood Lake and Penacook Lake lies beneath Epsom soil. <sup>16</sup>

Wetlands

Wetlands inventoried, field-checked, and mapped by the US Fish and Wildlife Service between 1986 and 1990 dot the entire Town. Large areas of mapped wetlands which do not co-occur with ponds are found north of Northwood Lake, and along Little Suncook River, Deer Brook and Blake Brook. <sup>17</sup>

**Identified Water Resource Priorities**

The 1980 CNHRPC Open Space and Recreation Plan named the following water resources as being particularly important to the Town: <sup>28</sup>

-  Gulf Brook
-  Chestnut Pond
-  Deer Meadow Pond
-  Mason Brook
-  Blake Brook
-  Lockes Brook
-  Deer Brook
-  Marden Brook
-  Little Bear Brook

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Rivers and streams
Second Priority	Aquifers
Third Priority	Lakes and ponds
Fourth Priority	Designated prime wetlands
Fifth Priority	Watersheds

Surveys returned from Epsom indicated the following as water resource priorities:

- Designated prime wetlands,
- Floodplains,
- Lakes and ponds,
- Other wetlands, and
- Rivers and streams.

All of the respondents felt that the Town’s ordinances and regulations do not adequately protect their water resources. <sup>31</sup>

Specific comments included: <sup>31</sup>

- ☛ Epsom has a poor conservation ethic. This is the fourth year that the Town tried to obtain a 25% Municipal Use Change Tax Allocation and it was defeated again by a vote of 4-1.
- ☛ We need to involve local people with appropriate background, schooling and experience.



**Land and Forestry Resources**

The total number of acres under conservation was calculated to be approximately 4% of the entire Town. The following table breaks down the components: <sup>8, 20, 21, 22</sup>

CONSERVATION LANDS	Held by	Acres
Bronstein Conservation Area easement	Town	17
Cass Pond	NH Water Res Council	
Champney Easement	Town	30
Chestnut Pond	NH DPWH	1

Epsom Grammar School Grounds	Town	5
Ethel Fokas Property	Town	318
Hart Town Forest	Town	71
Jackson easement	Town	75
Alice Kimball Smith easement	Town	107
NH DOT Scenic easement	NH DOT	63
NH DOT Rest Area	NH DOT	3
Northwood Lake	NH Water Res Council	
Town of Epsom Land	Town	6
Town of Epsom Land	Town	4
Town of Epsom Land	Town	2
Town of Epsom Land	Town	4
Town of Epsom Land	Town	14
Town of Epsom Land	Town	6
Webster Park	Town	25
Whitehouse Acres Open Space	Town	12
<b>TOTAL ACREAGE PROTECTED</b>		<b>763</b>

In addition, approximately 14,414 acres, or 66% of the Town’s acreage, were in current use as of June 2, 1999.<sup>33</sup>

In 1998, Epsom did not support a land use change tax allocation to be directed to the Conservation Fund for additional land acquisition.<sup>23</sup>

***Identified Land & Forestry Resource Priorities***

Town officials and volunteers have named the following land and forestry resources as being particularly important to the Town:<sup>18</sup>

- ✦ conservation easements

***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Open space
Second Priority	Agricultural land
Third Priority	Conservation easements
Fourth Priority	Town parks and forests
Fifth Priority	Deeded conservation lands

Surveys returned from Epsom indicated the following as land and forestry resource priorities:

- Conservation easements,
- Deeded conservation lands,
- Open space,
- State parks and forests, and
- Town parks.

All of the respondents felt that the Town’s ordinances and regulations do not adequately protect their land and forestry resources.<sup>31</sup>

Specific comments<sup>31</sup>

- ✦ Epsom’s residents do not value open space or its long term conservation and many officials do not believe in regulations.
- ✦ We need to help the Conservation Commission to convince the local government to fund issues. We also need more state and federal funding for regional acquisition. Full time personnel would be useful.



**Historical and Cultural Resources**

National Register of Historic Places

Epsom currently has no historic locations listed on the National Register. A large effort is required on the part of individuals to promote a place of historic importance through the application process of the National Historic Register.<sup>1, 24</sup>

New Hampshire Historical Markers

These markers stand at places of great historical significance to the State of New Hampshire. Some of these places contain tangible reminders of the past, while others mark the locations of where structures once stood or a historical event took place. Currently Epsom has no sites listed with the New Hampshire Division of Historical Resources.

Local markers, or the actual remnants of the structures themselves, indicate the sites of various other, yet not less important, historic landmarks and events:<sup>1, 8, 18</sup>

-  Industrial mills operated in Epsom during the 19th century. One well-remembered mill stood on Route 4 across from Knowles Store. An old dam and sluiceway still stand in the southeastern corner of Epsom. Some of the Town's most active mills were located along the Suncook River.
  
-  The open fields at McClary Farm were a favorite place for mustering during the late 18th and early 19th centuries.
  
-  The Berry House (located near McClary Hill and Blake Brook) is the oldest standing house in Epsom. The cellar has a tunnel that was allegedly used to help run-away slaves escape the South before the Civil War.

Covered Bridges

Covered bridges once played an integral part of the transportation network of the 19th century. Today, they are recognized for their beauty and uniqueness. Although Epsom no longer has standing covered bridges, one once existed: <sup>26</sup>

COVERED BRIDGE NAME/LOCATION	Date Built	Date Gone
Short Falls	1831	1948

Cemeteries

As do many other small Central Region towns, Epsom has a rich heritage and a strong connection to its past. Cemeteries, both Town and small, private family plots, are an important and personal link: <sup>8, 18</sup>

CEMETERIES	Owner	Parcel Number / Location
McClary Cemetery	Town	Center Road
Cemetery 1 on North Road	Town	just north of Old Turnpike Road, by its intersection with North Road
Cemetery 2 on North Road	Town	west off North Road, southwest of Chestnut Pond
Cemetery on Route 28	Town	off Route 28, north of the Epsom Traffic Circle
Cemetery 1 on New Rye Road	Town	west of the New Rye Road and Nash Road intersection
Cemetery 2 on New Rye Road	Town	west off New Rye Road, just north of the Allenstown town line
Cemetery 1 on Black Hall Road	Town	east off Black Hall Road, just north of its intersection with New Rye Road and River Road
Cemetery 2 on Black Hall Road	Town	west off Black Hall Road, by Round Pond

**Identified Historical Resource Priorities**

Town officials and volunteers have named the following general and specific historical and cultural resources as being particularly important to the Town: <sup>18</sup>

 no specific resources have been identified

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Cemeteries
Second Priority	Cultural interest sites
Third Priority	Covered bridges
Fourth Priority	National Register of Historic Places
Fifth Priority	Archaeological sites

Surveys returned from Epsom indicated the following as historical and cultural resource priorities:

- Archaeological sites,
- Cemeteries,
- Covered bridges,
- Mill sites, and
- Museums.

All of respondents felt that the Town’s ordinances and regulations did not adequately protect their historical and cultural resources. <sup>31</sup>

Specific comments <sup>31</sup>

 No response

 **Ecological Resources**



NH Natural Heritage Inventory

Several outstanding plant and animal species have been located in Epsom since the 1930's and recorded NHI program’s database. <sup>27</sup>

Small Whorled Pogonia (*Isotria medeoloides*) is listed as an endangered species in the state of New Hampshire, and is threatened in the rest of the United States. Epsom has one location which has reported harboring this species within the last twenty years.

The vertebrate Blanding's Turtle (*Emydoidea blandingii*), not a native species to New Hampshire, has been sighted in Epsom within the last 20 years.

The Spotted Turtle (*Clemmys guttata*) has been sighted once in Epsom during the last 20 years.

### Corridors

Corridors and greenways are typically used not only by people for recreation or transportation, but also by wildlife to travel from one habitat to another. Maintaining viable and undeveloped corridors ultimately measures the biological success of the animals, particularly larger mammals, within an area. The following corridors have been identified in Epsom: <sup>15, 18 19</sup>

A large riparian corridor is located along the Suncook River which flows through the western part of the Town.

An old railroad grade follows the Suncook River from Epsom's southern Allenstown boundary to its northern Pittsfield boundary.

### Exemplary Natural Communities

Other special, undisturbed lands are essential for the biological diversity of plants and animals. The more bio-diversity found within an area, the more valuable and self-sustaining the community becomes from both ecological and economic perspectives. The following natural communities have been identified in Epsom: <sup>18</sup>

The Suncook River splits in two just south Epsom Circle and rejoins itself just northwest of Round Pond. The land enclosed by the splitting river is called Bear Island, and it is a valuable biological resource.

Odiorne Pond is surrounded by wetlands, offering an important habitat for wetland species.

At this time, no heron rookeries have been identified in Epsom although several local marshes and wetlands may accommodate them.

### ***Identified Ecological Resource Priorities***

The 1980 CNHRPC Open Space and Recreation Plan named the following ecological resources as being particularly important to the Town: <sup>18</sup>

- ☛ Bear Island
- ☛ Odiorne Pond
- ☛ Little Suncook River
- ☛ Chestnut Pond
- ☛ Deer Meadow Pond

### ***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is

most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Scenic vistas
Second Priority	Plant/tree communities (tied w/3rd)
Third Priority	Greenway corridors (tied w/2nd)
Fourth Priority	Riparian corridors
Fifth Priority	Biological diversity

Surveys returned from Epsom indicated the following as ecological resource priorities:

- Animal communities,
- Greenway corridors,
- Natural Heritage Inventory sites,
- Plant/tree communities, and
- Riparian corridors.

All of the respondents felt that the Town’s ordinances and regulations do not adequately protect their ecological resources. <sup>31</sup>

Specific comments <sup>31</sup>

- ✦ There are large undeveloped blocks of land that should be protected including: the remote Odiorne Pond, the land around the three mountains, and the land close to Bear Brook. A regional plan to conserve these large lands should be initiated.
- ✦ We need funds for a professional, paid champion.



**⌘ Geologic Resources**

Epsom is fortunate to have large number of topographic features. Its differences in elevation offer the opportunity for extraordinary viewsheds: <sup>14, 28</sup>

<b>MOUNTAINS AND HILLS</b>	<b>Elevation</b>
Nat’s Mountain	1180'
Fort Mountain	1410'
McCoy Mountain	1260'
Brush Hill	960'
Sanborn Hill	920'
Lockes Hill	680'
Barton Hill	800'
Epsom Mountain	960'

***Identified Geological Resource Priorities***

The 1980 CNHRPC Open Space and Recreation Plan named the following geologic resources as being particularly important to the Town: <sup>18</sup>

- ⌘ Nat’s Mountain
- ⌘ ledge
- ⌘ McCoy Mountain
- ⌘ Lamb’s Ledge
- ⌘ Fort Mountain

***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Mountains and hills
Second Priority	Soils identification
Third Priority	Sand and gravel deposits
Fourth Priority	Bluffs
Fifth Priority	Gorges

Surveys returned from Epsom indicated the following as geologic resource priorities:

- Bluffs,
- Caves,
- Gorges,
- Mountains and hills, and
- Sand and gravel deposits.

All of respondents felt that the Town’s ordinances and regulations did not adequately protect their geologic resources. <sup>31</sup>

Specific comments <sup>31</sup>

- ✂ Two very large gravel pits along Route 28 should be required to be reclaimed. The Town has done little to require the owner (who wants to develop the area into another trailer park) to restore the sites.



**Recreational Resources**

A variety of recreational opportunities and resources exist in Epsom that are closely associated with the previous resources stated earlier in this narrative. In addition, there are several others deserving of attention: <sup>18, 29, 30</sup>

<b>PUBLIC &amp; PRIVATE RECREATION</b>	<b>Type</b>	<b>Location</b>	<b>Acreage / Miles</b>
Town Forest	public	Tarlton Road	458 acres
Roadside Park	public	east off Route 28, by the Allenstown town line	1 acre
Blakes Brook Campground	private		41 acres
Circle 9 Ranch	private	west off Route 28, south of Epsom Circle	11 acres
Epsom Valley Campground	private	east off Route 28, north of Epsom Circle	10 acres
Lazy River Campground	private	off Route 28, along the Suncook River, by the Chichester town line	48 acres
Epsom Grammar School grounds	public	East off Black Hall Road	11 acres
Webster Park	public	off Route 28	28 acres
Scenic Easement at Bixby Pond	public	Bixby Pond, south off Route 9/202	1 acre
Hart Town Forest	public		
Chestnut Pond	public	east of North Road	1 acre
Cornerstone Christian	private	at the intersection of Route 202/9 and Black Hall Road	2 acres

**Identified Recreational Resource Priorities**

The 1980 CNHRPC Open Space and Recreation Plan named the following recreational resources as being particularly important to the Town: <sup>18</sup>

- campgrounds
- town parks and commons
- school grounds

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Recreational trails
Second Priority	Canoe/boat access
Third Priority	Outdoor sporting fields
Fourth Priority	Picnic areas and playgrounds
Fifth Priority	Beach access

Surveys returned from Epsom indicated the following as recreational resource priorities:

- Canoe/boat access, and
- Recreation trails

**Specific comments** <sup>31</sup>

- No response



**Other Identified Resource Priorities**

No other resources were identified by the Town.



## **ACTIVE RESOURCE PRESERVATION COMMITTEES**

In order to more adequately protect these finite natural and historical resources, Epsom has established both a Conservation Commission and a private Historical Society.

### Conservation Commission

Recent activities of the Conservation Commission include: working with BearPaw Regional Greenways on conservation easement acquisitions, reviewing dredge and fill applications, and managing and monitoring Town land. The goal of Epsom's Conservation Commission is to protect the future of critical undeveloped open spaces.

### Historical Society

A private Historical Society also exists to help protect Epsom's heritage.



## **ADDITIONAL SURVEY FINDINGS**

The following results have been also compiled from Epsom's responses to the natural, cultural, and historical resources survey: <sup>31</sup>

### Conservation Activities Undertaken Within the Last Three (3) Years

- roadside clean-up
- the acquisition of land for conservation easements
- establishment of trails and vistas

### Conservation Activities Planned or Anticipated Within the Following Three (3) Years

- ✧ funding for personnel
- ✧ acquisition of easements

### Essential Factors to Epsom's "Quality of Life"

- 🌿 a rural atmosphere
- 🌿 small town, friendly people
- 🌿 balanced land usage
- 🌿 the availability of outdoor recreation facilities

REFERENCES

- 1 - *CNHRPC: Historical Overview, 1976*
- 2 - *CNHRPC Regional Master Plan: Land Use Element, 1991*
- 3 - *US Census STF1A and STF3A, 1970, 1980, & 1990*
- 4 - *NH Office of State Planning: Current Estimates and Trends in NH's Housing Supply 1996, 1997*
- 5 - *NH Office of State Planning: Population Estimates of NH Cities and Towns (1997), 1998*
- 6 - *Epsom Zoning Ordinance, 1997*
- 7 - *Town Officials/Employees, 1998*
- 8 - *(Reserved)*
- 9 - *Epsom Site Plan Review Regulations, 1979*
- 10 - *NH Department of Environmental Services, Water Resources Division, 1998*
- 11 - *NH Fish and Game: Biological Survey of the Lakes and Ponds in Survey Report 8c, 1970*
- 12 - *CNHRPC: Natural Resources Inventory, 1974*
- 13 - *Inventory of Merrimack County Lakes and Ponds, 1968*
- 14 - *(Reserved)*
- 15 - *NH Geographically Referenced and Information Transfer (GRANIT) System, 1998*
- 16 - *US Geological Survey (Bow, NH): Bedrock Geology Mapping, 1998*
- 17 - *US Fish and Wildlife Service: National Wetlands Inventory, 1986-1990*
- 18 - *Town Officials (anecdotal), 1998*
- 19 - *NH Office of State Planning: Comprehensive Statewide Trails Study, 1997*
- 20 - *Society for the Protection of NH Forests, 1998*
- 21 - *LCIP Final Report, 1993*
- 22 - *State of NH: Real Property Summary, 1995*
- 23 - *NH Association of Conservation Commissions, 1998*
- 24 - *NH Division of Historical Resources: Historical New Hampshire, 1990*
- 25 - *NH Division of Historical Resources: Historical Markers, 1989*
- 26 - *NH Department of Transportation: Covered Bridges of the Past, 1994*
- 27 - *NH Department of Revenue and Economic Development: NH Natural Heritage Inventory, 1998*
- 28 - *CNHRPC: Open Space Plan, 1980*
- 29 - *NH Office of State Planning: Recreation Plan, 1998*
- 30 - *Visit NH Webpage: Merrimack Valley Attractions, 1998*
- 31 - *Epsom Survey Results, 1998*
- 32 - *Merrimack County Conservation District: Inventory of Soil Erosion and Agricultural Waste, 1979*
- 33 - *1999 Municipal Profile Update*

## HENNIKER

About Henniker.....	
Member of CNHRPC	✓
Surveys Mailed	15
Surveys Received for Tallying	3
REPP Meeting Participation	✓
Profile Review & Comment by Town	✓
1999 Update	✓

### Historical Profile

Henniker's first settler was Rev. James Peters of Hopkinton. He and his family moved to the area in 1761, settling in a small log cabin in the northeastern part of Town. In 1768, the Town was incorporated under the name of "Henniker," chosen by Governor Wentworth in honor of Sir John Henniker, a well-to-do London merchant. It was originally a farming community, and its people sustained themselves on the grain they harvested and the livestock they raised. The late 1800's brought the Contoocook Valley Paper Mill to the Town, but manufacturing was only a small contributor to Henniker's overall economy. During the twentieth century, Henniker benefitted from the opening of Pat's Peak, a family ski area. In addition, the Town has prospered due to the establishment of New England College. Founded in 1946 as a place where veterans could receive a college education, the school is now a successful institution that attracts students from across the country. A small, rural community set among scenic hills and a rolling river, Henniker is an attractive place to live and visit.<sup>1</sup>

### Present-Day Profile

The area of Henniker is 28,352 acres, or 44.3 square miles. The Town comprises 5.5% of the CNHRPC area.<sup>2</sup>

Over the last twenty-seven years, Henniker's population has grown by 76% while the number of housing units has increased by almost 131%:<sup>3, 4, 5</sup>

GROWTH	Population	Net Change		Housing Units	Net Change	
		#	%		#	%
1970 (US Census)	2348	na	na	708	na	na
1980 (US Census)	3246	+ 898	+ 38.2	989	+ 281	+ 39.7
1990 (US Census)	4151	+ 905	+ 27.9	1558	+ 569	+ 57.5
1997 Population & 1996 Housing (NHOSP)	4122	- 29	- .7	1633	+ 75	+ 4.8
<b>TOTAL CHANGE FROM 1970 - 1997</b>		+ 1774	+ 75.6%		+ 925	+130.6%

In an effort to control its growth, while protecting its resources in an economically viable manner, the Town has adopted a number of land use controls to facilitate the conservation process: <sup>6</sup>

<b>Town Zoning Districts</b>	<b>Town-Adopted Resource &amp; Conservation Ordinances</b>
Village Proper (1997)	Historic District Regulations
Residential Neighborhood (1997)	Wetlands Conservation Ordinance
Rural Residential (1997)	Excavation Regulations
Heavy Commercial (1997)	Sign Regulations
Medium Commercial (1997)	Floodplain Development Ordinance
Commercial Recreational (1997)	Sexually Oriented Business Ordinance
Village Commerce (1997)	Shoreland Ordinance
Federal Lands (1997)	
Educational District (1997)	

Non-regulatory measures for protecting Henniker’s resources include the following: <sup>7, 8, 9</sup>

<b>Town Master Plan Elements</b>	<b>Town Conservation Plans, Reports and Studies</b>
Land Use Element (1988)	Water Resource Management and Protection Plan (1989)
Conservation and Preservation Element (1988)	
Housing Element (1988)	
Transportation Element (1988)	
Community Facilities and Services Element (1988)	
Recreation Element (1988)	
Utilities Element (1988)	



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## **TOWN RESOURCES**

### **Water Resources**

#### Water Supplies

Henniker depends on groundwater for its drinking water supply. Two gravel packed wells, located on the south side of Route 114, supply water to Henniker Village. Other wells are found on Depot Hill Road and off of the Foster Hill Road Extension. The Town does not use any surface water bodies for its public drinking water supply.<sup>33</sup>

Between 1983 and 1997, the NHDES has issued 143 well permits to residents of Henniker. The most significant cluster of wells occurs in the region known as Tanglewood, just southwest of Long Pond (approximately 70). These new well locations have been mapped by NHDES.<sup>10</sup>

#### Ponds<sup>11, 12, 13, 14, 35</sup>

Long Pond, located north of Henniker Village, has a size of approximately 90 acres.

Lower Pond is approximately 12 acres in size.

Upper Pond is one of two small ponds that lie just east of Long Pond. Upper Pond is 25 acres in size, with an average depth of 13 feet. Middle Pond is located just south of Upper Pond.

Pleasant Pond, 92 acres in size, has an average depth of 16 feet. It lies just north of the Weare town line by Vincent State Forest.

Mud Pond is eight acres in size with an average depth of 15 feet.

French Pond is a 33-acre pond that is 19 feet deep on average.

Craney Pond, located at the foot of Craney Hill, is approximately 36 acres in size.

Henniker shares Carr Pond with Hopkinton. It is 11 acres in size, with an average depth of five feet.

Keyser Pond lies in the eastern part of Henniker beside Routes 9 and 202 near the Hopkinton border.

Morrill Pond lies between Craney and Morrill Hills.

Grassy Pond lies east of Clough Hill and west of Clement Pond in Hopkinton; Henniker shares this pond with Hopkinton.

#### Rivers<sup>11, 12, 13, 14</sup>

The Contoocook River bisects the Town of Henniker as it flows towards the Merrimack River.

Brooks <sup>11, 12, 13, 14, 35</sup>

Amey Brook flows through the northwestern corner of Henniker. It feeds into the Contoocook River.

Chase Brook flows from Mount Hunger and Trotten Trails State Forest northward into the Contoocook River.

Colby Brook flows from Colby, Wadsworth, and Liberty Hills southeast for 4.3 miles before it empties into the Contoocook River.

Black Brook enters Henniker from Weare near Route 114 and flows north for 3.9 miles before emptying into the Contoocook River.

Hydric Soils

Out of the total land acreage of Henniker (28,352), 7.6% is comprised of hydric soils: <sup>14, 34</sup>

<b>HYDRIC SOILS</b>	<b>Acreage</b>	<b>Total Percentage of Town</b>
Poorly Drained	1279	4.5
Very Poorly Drained - organic base	638	2.3
Very Poorly Drained - mineral base	101	0.4
Marsh	128	0.5
<b>TOTALS</b>	<b>2146</b>	<b>7.6</b>

Watersheds

The Town lies within two main watersheds: the Contoocook River Watershed and the Piscataquog River Watershed. These watersheds can be broken down into 16 smaller watersheds including: the Amey Brook Watershed, the Colby Brook Watershed, and the Liberty Hill Watershed. <sup>10, 33</sup>

Aquifers

An extensive high yield stratified drift aquifer underlies the Contoocook River Valley east of Henniker Village. Two medium yield aquifers also exist in Henniker: one is located in West Henniker along the Contoocook River, and another lies along the west side of Route 114 just before the Bradford town line. <sup>16, 33</sup>

Wetlands

Wetlands inventoried, field-checked, and mapped by the US Fish and Wildlife Service between 1986 and 1990 dot the entire Town. Large areas of mapped wetlands which do not co-occur with ponds are found just north of Upper Pond, south of the Contoocook River by Mill Pond, and in lands lying between the Contoocook River and US Route 202. <sup>17</sup>

***Identified Water Resource Priorities***

The CNHRPC's 1980 Open Space and Recreation Plan named the following water resources as being particularly important to the Town: <sup>18, 32</sup>

- ☞ Blaisdell Pond
- ☞ Pleasant Pond
- ☞ Cascade Falls
- ☞ Craney Pond
- ☞ significant wetlands off of Old Concord Road
- ☞ Long Pond System (upper, lower, middle)

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Rivers and streams
Second Priority	Aquifers
Third Priority	Lakes and ponds
Fourth Priority	Designated prime wetlands
Fifth Priority	Watersheds

Surveys returned from Henniker indicated the following water resource priorities:

- Aquifers,
- Lakes and ponds,
- Public water supplies,
- Rivers and streams, and
- Watersheds.

The majority of the respondents felt that the Town’s ordinances and regulations do not adequately protect their water resources. <sup>31</sup>

Specific comments included: <sup>31</sup>

- ☞ Our regulations are more strict than the rest of the state.
- ☞ We need prime wetlands and shore lands protection legislation, and aquifer protection.
- ☞ Zoning regulations should be made with water resources in mind. We have a lot of flood plains through Army Corps and a Pond system with heavy development pressures.



**🌲 Land and Forestry Resources**

The total number of acres under conservation was calculated to be approximately 15% of the entire Town. The following table breaks down the components: <sup>8, 20, 21, 22</sup>

CONSERVATION LANDS	Held By	Acres
Ames State Forest	NH DRED	13
Azalea Park	Town	5
Buehler/Salmen Parcel	Town	52
Cascade Brook Lot	Town	27
Cogswell Springs Water Works	Town	53
Colby Hill Forest	SPNHF	107
Community Center Park	Town	1
Contoocook PVR Access Maine	NH F&G	10
Contoocook Village Precinct Land	Town	169
Contoocook Village Precinct Land	Town	38
Contoocook River Access	Town	29
Craney Hill State Forest	NH DRED	21
Craney Hill Tower Land	Town	4
Davis easement	Town	75
Fisherman's Access Presby	NH F&G	5
Foster Conservancy	SPNHF	151
French Pond Boat Access	NH F&G	1
Henniker Middle and Elementary School Grounds	Town	5
Hopkinton-Everett Flood Control Reservoir (portion)	Army Corps	2415
Keyser Pond Access	NH F&G	2
Memorial Park	Town	1
New England College	private	133
Pat's Peak	private	60
Proctor Hills Trails	NE College	16
Totten Trails State Forest	NH DRED	109
Town Athletic Fields	Town	
Vincent State Forest	NH DRED	638

Wells easement	Town	45
<b>TOTAL ACREAGE PROTECTED</b>		<b>4184</b>

In addition, approximately 16,391 acres, or 58% of the Town’s area, were in current use as of December 31, 1998.<sup>35</sup>

***Identified Land & Forestry Resource Priorities***

Town officials and volunteers have named the following land and forestry resources as being particularly important to the Town:<sup>18, 32</sup>

- ✦ College Woods
- ✦ Cascade Brook tract (Town owned but not protected) includes wetland with Black Gum
- ✦ Forests
- ✦ Contoocook River Floodplain

***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Open space
Second Priority	Agricultural land
Third Priority	Conservation easements
Fourth Priority	Town parks and forests
Fifth Priority	Deeded conservation lands

Surveys returned from Henniker indicated the following as land and forestry resource priorities:

- Agricultural land,
- Conservation easements,
- Deeded conservation lands,
- Open space, and
- Town parks and forests.

The majority of the respondents felt that the Town’s ordinances and regulations adequately protect their land and forestry resources.<sup>31</sup>

***Specific comments***<sup>31</sup>

- ✦ Tax breaks should be given to farmers, and farming of all types should be encouraged.
- ✦ For zoning to be most efficient we need to supervise loggers better. BMPs are not always used & should be enforced. Protected lands should be tied to greenways, wildlife corridors, etc.





**Historical and Cultural Resources**

National Register of Historic Places

Henniker has one exemplary site located on the National Register. No additional regulative restrictions are placed upon those properties which are listed on the National Register, but instead a listing in the Register recognizes the significance of and encourages the stewardship of the property: <sup>1, 24, 35</sup>

NATIONAL REGISTER OF HISTORIC PLACES	Date Listed	Location	Significance/Description
Henniker Town Hall	1/81	On Depot Hill Road	It was the Henniker Meeting House; now Town offices

New Hampshire Historical Markers

These markers stand at places of great historical significance to the State of New Hampshire. Some of these places contain tangible reminders of the past, while others mark the locations of where structures once stood or a historical event took place. Henniker currently has no sites listed with the New Hampshire Division of Historic Resources.

Local markers, or the actual remnants of the structures themselves, indicate the sites of various other, yet not less important, historic landmarks and events: <sup>1, 8, 18</sup>

 Henniker’s first post office was established in 1812 by Isaac Rice. He located the facility in Judge Darling’s Store, now the site a school parking lot.

 In 1771, the first two story house was built in Henniker. A new plaque now marks this site at 54 Western Avenue (0.55 miles west of the blinker in the village center.)

 Amy Cheney Beach was a famous composer and performer who was born in Henniker in 1867. She was a soloist with the Boston Symphony Orchestra and was highly acclaimed throughout Europe. She spent her summers in Hillsborough. Her birthplace has been marked by a plaque located at 102 Western Avenue (1.1 miles west of the blinker in the village center).

 The first Gristmill was built around 1777. A marker now resides on the unnumbered northern side of Western Avenue on the site of the old Contoocook Valley Paper Company (1.4 miles west of the blinker in village center).

 The first saw mill was built in 1768 at a site along Old Concord Road.

 Around 1815, Charles Pingree began to manufacture felt hats. He worked for only two or three years using an old set kettle. He employed no extra help and he made no profit. Still, the site of his home on Old Concord Road is remembered as the site of Henniker’s first Hat Factory. A marker is located 0.7 miles east of the blinker in the village center.

 The arrival of the first Henniker settler was marked in 1761. Rev. James Peters of

Hopkinton settled in the northeastern part of the Town in a region of unbroken forest and very few trails. A marker is located along Route 9/202, 200' north of the road's edge, 1.4 miles east of its junction with Route 114.

-  A plaque marks the site of the first blacksmith shop at 29 Shore Drive, in Tanglewood.
-  In 1770, the first Town meeting house was erected at a cost of 20 dollars. The first Town Meeting was said to have been held “under the stars” because the roof had not yet been added. The building was destroyed by fire, but a marker commemorates its presence near its original site on Flanders Road.
-  The first Town pound was located in the Log Meeting House. The second Town pound was built in 1808, and was encircled by stone. It was used until 1899.
-  The first bridge was built in 1780 at the “Middle Place” (the site voted most appropriate by the Town’s citizens). It was swept away by floods in 1835 after serving the Town for close to fifty years. A stone arch bridge is now found close to this original site.
-  The site of the first school house in Henniker dates back to the time of the Revolutionary War. A marker is found on River Road, 0.5 miles east of its junction with Route 114.
-  The first frame house was built in Henniker in 1765 by Captain Eliakin Howe, the second settler to come to Henniker. His child, Persis Howe, was delivered in the house and was the first white child to be born in the Town. A marker is located on Shaker Hill Road, west of the road edge, 1 mile east of Route 114.
-  Dr. Hunter was Henniker’s first physician; a marker resides on Elm Street at the site of his home.
-  A plaque marks the site of the first Henniker store, probably built in the early 1780s.
-  The site of the homestead of Rev. Jacob Rice is found at 10 Locust Lane. Rev. Rice came from a prominent Massachusetts family and was able to build a house instead of a log cabin.
-  The first burial yard was established in 1770. It is located on Old Depot Road.
-  The site of the first railroad station (1849) is found at 9 Depot Hill Road. The original station building was replaced and moved to its present location in 1900. The railroad operated out of the original location in the building built in 1900 until the 1960's, when rail traffic ceased. The building itself still exists, having been used as a private dwelling since then.
-  Long’s Patent, Henniker’s first covered bridge, spanned the Contocook River in West Henniker. Horace Childs built the original bridge, and Frederick Whitney rebuilt it in 1852 after it had been damaged by flooding.
-  The Quaker Meeting House is a small white cottage built on the slopes of Mt. Hunger,

west of Craney Hill.

- 🏠 In 1923, the Mutual Telephone Company of Henniker completed the installation of the Town's first telephone line. The line connected 12 buildings, and was connected to a Hopkinton line also.
- 🏠 Many libraries operated in Henniker unsuccessfully until Mrs. E Maria Cogswell opened the Henniker Free Library in 1889. That was the first step in a long line of success. During the same year, the Town voted to create a Public Library under Mrs. Cogswell's care, and in 1902 George W Tucker left a large part of his estate to the Town for the construction of a new library building. The handsome red brick building adds an almost Victorian flavor to the Town.
- 🏠 The Ocean Born Mary House is the house where, legend says, Mary Wilson resided with her son James for the latter part of her life. Mary Wilson was only a newborn baby when she traveled to America from Londonderry, England in 1720. While at sea, her ship was taken over by a pirate. The pirate discovered the newborn child but swore to leave the ship unmolested if the child were named Mary after his own mother. He gave the child a bolt of brocaded satin (light green with pink flowers), and he left the ship and its passengers unharmed. Mary lived in Londonderry, NH, until she moved to Henniker to live with her son. In the past, the "Ocean Born Mary House" has attracted many visitors and was reported widely in travel brochures; today, the building is no longer open to the public.
- 🏠 In 1836, a group of Henniker residents established Henniker Academy to educate its "young persons of both sexes." The building is now used by the Henniker Historical Society.
- 🏠 The Methodists came to Town in 1814. In 1834 the first Methodist Church was erected, but was moved in 1856 and used as a barn. The Methodists stayed in Henniker until 1967.
- 🏠 The Henniker Covered Bridge was built by Milton Graton and his son Arnold in 1972 using traditional covered bridge construction methods. Its use is limited to pedestrians and is owned by New England College.

### Covered Bridges

Covered bridges once played an integral part of the transportation network of the 19th century. Today, they are recognized for their beauty and uniqueness. Henniker has one covered bridge that is still standing, and four more once existed: <sup>18, 26</sup>

COVERED BRIDGE NAME/LOCATION	Date Built	Date Gone
Henniker Bridge	1972	standing
RR Franklin Falls	unknown	unknown
Lower Howes Mill	1843	1900
Upper Amsden Mill	1834	1915
RR #186	1871	1921

### Cemeteries

As do many other small Central Region towns, Henniker has a rich heritage and a strong connection to its past. Cemeteries, both Town and small, private family plots, are an important and personal link:<sup>8, 18</sup>

CEMETERIES	Owner	Parcel Number / Location
Depot Hill Cemetery a.k.a. First Burial Yard	Town	Depot Hill Road
Old or Center Cemetery	Town	Grove Street
Highland Cemetery	New Cemetery Assoc	Old Concord Road
Patterson Hill Cemetery	Town	Patterson Hill Road
Plummer Hill Cemetery	Town	College Hill Road
Colby Cemetery	private	off Dodge Hill Road
Chase Cemetery	private	off Corbin Road
Patten Cemetery	private	Lyman Road
Harriman and Huse Cemetery	private	off Baker Road
Gordon Gravesite	private	Hemlock Corner Loop
Roy Gravesite	private	Bear Hill Road
Quaker Cemetery	Town	Quaker Street

### ***Identified Historical Resource Priorities***

Town officials and volunteers have named the following general and specific historical and cultural resources as being particularly important to the Town:<sup>18</sup>

-  Historic Downtown
-  Old Brick Factory
-  Quaker District

### **Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Cemeteries
Second Priority	Cultural interest sites
Third Priority	Covered bridges
Fourth Priority	National Register of Historic Places
Fifth Priority	Archaeological sites

Surveys returned from Henniker indicated the following historical and cultural resource priorities:

- Archaeological sites,
- Cemeteries,
- Covered bridges,
- Cultural interest sites,
- National Register of Historic Places.

The majority of respondents felt that the Town's ordinances and regulations do not adequately protect their historical and cultural resources. <sup>31</sup>

#### Specific comments <sup>31</sup>

- There is little Town communication on some resources. Private interests help in many cases.
- Maintaining a viable downtown is very important. We need updated zoning and a historic district.



### **Ecological Resources**

#### NH Natural Heritage Inventory

Two outstanding plant and animal species have been located in Henniker since the 1930's, as well as one outstanding natural community, and recorded NHI program's database. <sup>27</sup>

Farwell's Milfoli (*Myriophyllum farwellii*) is threatened in NH, but not listed as such federally or globally. Henniker has reported harboring this species, but not in recent history.

One great Blue Heron rookery (*Ardea herodias*) has been located in Henniker. Only 33 other communities have been officially recorded in NH during the last twenty years.

A natural community valued as very high in importance is the palustrine community Acidic Level Fen which has been found at one location in Henniker within the last 20 years. The State has reported only eleven other such communities.

### Corridors

Corridors and greenways are typically used not only by people for recreation or transportation, but also by wildlife to travel from one habitat to another. Maintaining viable and undeveloped corridors ultimately measures the biological success of the animals, particularly larger mammals, within an area. The following corridors have been identified in Henniker: <sup>15, 18, 19</sup>

The Contoocook River flows out of Contoocook Lake in Jaffrey, and runs in a northeasterly direction into western Henniker. It runs easterly through the center of the town, cutting the region in two halves. Much of its shore line, natural floodplain areas, is protected by conservation lands.

### Exemplary Natural Communities

Other special, undisturbed lands are essential for the biological diversity of plants and animals. The more bio-diversity found within an area, the more valuable and self-sustaining the community becomes from both ecological and economic perspectives. The following natural communities have been identified in Henniker: <sup>18</sup>

Foster Conservancy is a 60-acre forest under the management of the Society for the Protection of New Hampshire Forests. It is an important habitat for many plants and animals.

Colby Hill Forest is also overseen by the Society for the Protection of NH Forests. It too offers a ecologically rich habitat.

The conservation wetlands off of Craney Pond Road provide a home for many wetland species. At this time, one heron rookery has been identified in Henniker, and it is believed that several other local marshes may accommodate them also.

### ***Identified Ecological Resource Priorities***

Town officials and volunteers named the following ecological resources as being particularly important to the Town: <sup>18</sup>

- ☛ Brown's Way along the Contoocook River
- ☛ Upper Pond Island (which includes old growth trees)
- ☛ deer wintering areas

### ***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Scenic vistas
Second Priority	Plant/tree communities (tied w/3rd)
Third Priority	Greenway corridors (tied w/2nd)
Fourth Priority	Riparian corridors
Fifth Priority	Biological diversity

Surveys returned from Henniker indicated the following ecological resource priorities:

- Animal communities,
- Biological diversity,
- Natural Heritage Inventory sites,
- Plant/tree communities, and
- Scenic vistas.

All of the respondents felt that Henniker’s ordinances and regulations do not adequately protect their ecological resources.<sup>31</sup>

Specific comments<sup>31</sup>

- ☛ There are no aggressive programs in place.
- ☛ State laws are more efficient than local laws.



☛ **Geologic Resources**

Surficial Geology

Much of Henniker’s surficial geology is a result of the latest period of glaciation. Glacially ground-up debris of clay, silt, gravel, and boulders were dumped over the landscape creating a zone of small hills and basins. Evidence of this effect can be seen today in the northeast section of the Town where glacial deposits have formed a drumlin and an esker. The Contoocook River Basin also dictates much of Henniker’s surficial geology. It is composed of stratified sand and silt consisting of glacial outwash and recent stream deposits. Sand and gravel deposits are found in scattered kame terraces, and isolated organic deposits occur in some of Henniker’s wetlands.<sup>14</sup>

Additional and perhaps more recognizable geologic formations are mountains and hills:<sup>14, 28, 35</sup>

MOUNTAINS AND HILLS	Elevation
Bear Hill	1380'
Buck Hill	1020'
Colby Hill	1256'

Craney Hill	1402'
Liberty Hill	1193'
Morrill Hill	1040'
Mount Misery	1080'
Mount Hunger	1350'
Shaker Hill	900'
Wadsworth Hill	1160'

### Bedrock Geology

The most predominant pluton underlying Henniker is the Cardigan Pluton of Kinsman Quartz Monzonite, which underlies the entire western half of the Town. The eastern half is underlain by a variety of different bedrocks including the Littleton Formation of Undifferentiated Schists and Gneisses (mostly grey mica), and the Henniker Pluton of Concord Granite which underlies the Contoocook River. A small southern section of Town is underlain by the Antrim Pluton of Granodiorite-Biotite Quartz Monzonite, and a Hopkinton Pluton of similar composition has been found just west of Route 114 and in the land surrounding Grasse Pond.<sup>14, 18</sup>

### **Identified Geological Resource Priorities**

Town officials and volunteers have named the following geologic resources as being particularly important to the Town:<sup>18</sup>

☒ no specific priorities were identified

### **Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Mountains and hills
Second Priority	Soils identification
Third Priority	Sand and gravel deposits
Fourth Priority	Bluffs
Fifth Priority	Gorges

Surveys returned from Henniker indicated the following as geologic resource priorities:

- Bluffs,
- Gorges,
- Mining sites,
- Mountains and hills,
- Sand and gravel deposits, and
- Soils identification.

All of the respondents felt that Henniker’s ordinances and regulations do not adequately protect their geologic resources. <sup>31</sup>

Specific comments <sup>31</sup>

- ✂ We need a plan to restore gravel pits on natural land.
- ✂ We need updated sand & gravel regulations and new tower regulations.



**Recreational Resources**

A variety of recreational opportunities and resources exist in Henniker that are closely associated with the previous resources stated earlier in this narrative. In addition, there are several others deserving of attention: <sup>18, 29, 30, 35</sup>

<b>PUBLIC &amp; PRIVATE RECREATION</b>	<b>Type</b>	<b>Location</b>	<b>Acreage / Miles</b>
Ames State Forest Natural Area	public	North of Old Route 114, close to the Hopkinton town line	13 acres
Amey Brook Park	public	on the north side of Old Concord Road	
Azalea Park	public	S/S Western Avenue	5 acres
Colby Hill Forest Natural Area	public	off of Colby Hill Road	
Community Center Park	public	Main Street	1 acre
Contoocook River Access	public	River Road	26 acres
Craney Hill Tower Trail Area	public	off of Craney Hill Road, By Pats Peak	
Buehler/Salmen Forest	public	off of Craney Pond Road	5 acres
Craney Hill State Forest Natural Area	public	By Craney Hill Road	21 acres
Devil’s Den Natural Area	public	off of Route 114, on Mink Hills Road	
Foster Conservancy	private	off of Dodge Hill Road	60 acres
French Pond Boat Launch	private	at French Pond, Off of Dodge Hill Road onto French Pond Road	1 acre

Henniker Trail Travelers	public		
Henniker Middle and Elementary School Grounds	public	Western Avenue	1 acre
Hopkinton-Everett Reservoir Natural Area	public	off of Shaker Hill Road	4200 acres
Hopkinton-Everett Reservoir Trails	public	off of Shaker Hill Road	13 miles
Keyser Pond Fishing Area	public	Keyser Pond, just south of Route 202/9, close to the Hopkinton town line	107 acres
Keyser Pond Camping Area	private	Keyser Pond, just south of Route 202/9, close to the Hopkinton town line	20 acres
Leather Board Bridge Trails	private	off of Route 114, left onto Ramsdell Road, by the steel bridge	
Lee Clement Arena	private	off Route 114 on Circle Street	
Memorial Park	public		1 acre
Mile Away Travel Trailer Park	private		20 acres
Mount Liberty Natural Area	public	off of Liberty Hill Road	
New England College Fields	private	Henniker Village	216 acres
Old Concord Road Trails	public	off of Main Street, on Old Concord Road	
Pat's Peak Snow Ski Area	private	off of Flanders Road	60 acres
Pleasant Pond Fishing and Boat Launch	public	off of Western Avenue, on Quaker Street at its intersection with Dudley Pond Road	1 acre
Proctor Hills Trails	public		16 miles
Rock N Birch Campground	private	Ray Road	27 acres
The Upper Pond Water Sports Area	public	Upper Pond, off of Ray Road	1 acres
Totten Trails State Forest Natural Area	public	at junction of Butter Road and Chase Road	109 acres
Town Athletic Fields	public		
Vincent State Forest Natural Area	public		7 acres

### ***Identified Recreational Resource Priorities***

The 1980 CNHRPC Open Space and Recreation Plan named the following recreational resources as being particularly important to the Town: <sup>18, 35</sup>

-  Keyser Pond
-  Mile Away Travel Trailer Park
-  Rock N Birch
-  Azalea Park
-  Memorial Park
-  New England College

- ☒ Contoocook River
- ☒ Craney Hill State Forest
- ☒ Ames State Forest
- ☒ Vincent State Forest
- ☒ Totten Trail State Forest
- ☒ Pat's Peak
- ☒ Town beach
- ☒ Upper Pond
- ☒ Pleasant Pond
- ☒ Community Center Park

### ***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Recreational trails
Second Priority	Canoe/boat access
Third Priority	Outdoor sporting fields
Fourth Priority	Picnic areas and playgrounds
Fifth Priority	Beach access

Surveys returned from Henniker indicated the following as recreational resource priorities:

- Beach access,
- Canoe/boat access,
- Outdoor sporting fields,
- Picnic areas and playgrounds, and
- Recreational trails.

All of the respondents felt that Henniker's ordinances and regulations do not adequately protect their geologic resources. <sup>31</sup>

### ***Specific comments*** <sup>31</sup>

- ☒ Local clubs do most of the planning and work.





### **Other Identified Resource Priorities**

Henniker officials and volunteers have commented that the following issues are also of extreme importance to the Town: <sup>18</sup>



Towns should encourage more sporting clubs and tourism.



We should update our zoning and spend more time on town planning.



### ***ACTIVE RESOURCE PRESERVATION COMMITTEES***

In order to more adequately protect these finite natural and historical resources, Henniker has established both a Conservation Commission and, more recently, a Historical Society.

#### ***Conservation Commission***

Recent activities of the Conservation Commission include: environmental studies and technical assistance related to the demolition of the Contoocook Valley Paper Company buildings; a review of the NH Department of Transportation's proposal for widening the Edna Dean Proctor (Route 114) bridge; and studies regarding the laying out of new recreational trails.

#### ***Historical Society***

A private Historical Society also exists to help protect Henniker's heritage. Recent activities of the Society include overseeing the restoration of Academy Hall and the ongoing process of archiving and housing many historical items.



### ***ADDITIONAL SURVEY FINDINGS***

The following results have been also compiled from Henniker's responses to the natural, cultural, and historical resources survey: <sup>31</sup>

#### *Conservation Activities Undertaken Within the Last Three (3) Years*

- wetlands inventory and rules enforcement
- monitoring Henniker's plans for a brownfields site
- recycling

#### *Conservation Activities Planned or Anticipated Within the Following Three (3) Years*

- \* public education on conservation issues (including wellhead pollution)
- \* new trails and recreation opportunities
- \* monitoring the development of open space
- \* town planning

#### *Essential Factors to Henniker's "Quality of Life"*

-  the sense of community due to a viable downtown
-  aesthetic sense of the Town and its open spaces
-  recreation opportunities
-  wildlife
-  good access and proximity to larger areas of population and services
-  good water
-  fair government
-  improved education
-  sanitation
-  good planning
-  indoor and outdoor activities
-  citizen participation
-  more businesses and shopping outlets

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REFERENCES

- 1 - *CNHRPC: Historical Overview, 1976*
- 2 - *CNHRPC Regional Master Plan: Land Use Element, 1991*
- 3 - *US Census STF1A and STF3A, 1970, 1980, & 1990*
- 4 - *NH Office of State Planning: Current Estimates and Trends in NH's Housing Supply 1996, 1997*
- 5 - *NH Office of State Planning: Population Estimates of NH Cities and Towns (1997), 1998*
- 6 - *Henniker Zoning Ordinance, 1997*
- 7 - *Town Officials/Employees, 1998*
- 8 - *Henniker Town Annual Report, 1997*
- 9 - *(Reserved)*
- 10 - *NH Department of Environmental Services, Water Resources Division, 1998*
- 11 - *NH Fish and Game: Biological Survey of the Lakes and Ponds in Survey Report 8c, 1970*
- 12 - *CNHRPC: Natural Resources Inventory, 1974*
- 13 - *Inventory of Merrimack County Lakes and Ponds, 1968*
- 14 - *Henniker Master Plan: Land Use Element, 1988*
- 15 - *NH Geographically Referenced and Information Transfer (GRANIT) System, 1998*
- 16 - *US Geological Survey (Bow, NH): Bedrock Geology Mapping, 1998*
- 17 - *US Fish and Wildlife Service: National Wetlands Inventory, 1986-1990*
- 18 - *Town Officials (anecdotal), 1998*
- 19 - *NH Office of State Planning: Comprehensive Statewide Trails Study, 1997*
- 20 - *Society for the Protection of NH Forests, 1998*
- 21 - *LCIP Final Report, 1993*
- 22 - *State of NH: Real Property Summary, 1995*
- 23 - *NH Association of Conservation Commissions, 1997*
- 24 - *NH Division of Historical Resources: Historical New Hampshire, 1990*
- 25 - *NH Division of Historical Resources: Historical Markers, 1989*
- 26 - *NH Department of Transportation: Covered Bridges of the Past, 1994*
- 27 - *NH Department of Revenue and Economic Development: NH Natural Heritage Inventory, 1998*
- 28 - *CNHRPC: Open Space Plan, 1980*
- 29 - *NH Office of State Planning: Recreation Plan, 1998*
- 30 - *Visit NH Webpage: Merrimack Valley Attractions, 1998*
- 31 - *Henniker Survey Results, 1998*
- 32 - *1997 Inventory of Outdoor Recreation Facilities in New Hampshire, 1997*
- 33 - *Water Resource Management and Protection Plan, April 1998*
- 34 - *Merrimack County Conservation District: Inventory of Soil Erosion and Agricultural Waste, 1979*
- 35 - *1999 Municipal Profile Update*

## HILLSBOROUGH

About Hillsborough.....	
Member of CNHRPC	✓
Surveys Mailed	16
Surveys Received for Tallying	1
REPP Meeting Participation	✓
Profile Review & Comment by Town	X
1999 Update	✓

### Historical Profile

In 1735, Colonel John Hill of Boston was granted six square miles for settlement in south central New Hampshire by the Massachusetts General Court. The Town was named after its founder and was originally spelled without the “s,” as Hillborough. Through time, the town was known as Hillbury, Hillsburg, Hillsberry, Hillsbury, and finally as Hillsborough. The county name of Hillsborough was after the Earl of Hillsborough, England and is of later origin than the Town’s name. That the town and county have the same name derived from different sources is a coincidence. In 1772, Governor Wentworth incorporated the Town as a part of New Hampshire. Proximity to water played an important part in the physical layout of Hillsborough, and it dictated the location of the Town’s village districts. During the late nineteenth century, woolen mills located along the Contoocook River were important to Hillsborough’s economy. The twentieth century saw the introduction of electronic manufacturing. Hillsborough, however, followed the same industrial trend as most small New Hampshire towns. Industry remained light, and the Town has retained its pleasant, rural character.<sup>1, 33</sup>

### Present-Day Profile

The area of Hillsborough is 28,288 acres, or 44.4 square miles. The Town comprises 5.5% of the CNHRPC area.<sup>2</sup>

Over the last twenty-seven years, Hillsborough’s population has grown by 68% while the number of housing units has also increased by 68%:<sup>3, 4, 5</sup>

GROWTH	Population	Net Change		Housing Units	Net Change	
		#	%		#	%
1970 (US Census)	2775	na	na	1337	na	na
1980 (US Census)	3437	+662	+ 23.9	1828	+491	+ 36.7
1990 (US Census)	4498	+1061	+ 30.9	2157	+329	+ 18.0
1996 Population & 1997 Housing (NHOSP)	4650	+152	+ 3.4	2252	+95	+ 4.4
<b>TOTAL CHANGE FROM 1970 - 1997</b>		+1875	<b>+ 67.6%</b>		+ 915	<b>+ 68.4%</b>

In an effort to control its growth, while protecting its resources in an economically viable manner, the Town has adopted a number of land use controls to facilitate the conservation process: <sup>6, 33</sup>

Town Zoning Districts	Town-Adopted Resource & Conservation Ordinances
Residential	Floodplain Ordinance
Commercial	Historic District Ordinance
Rural	Excavation Regulations
Historic	Loon Pond/Town Water Supply
Central Business	

Non-regulatory measures for protecting Hillsborough’s resources include the following: <sup>7, 8, 9, 33</sup>

Town Master Plan Elements	Town Conservation Plans, Reports and Studies
Objectives, Principles, and Assumptions (1997)	Hillsborough Conservation Commission Project for Beautification of River Property (1984)
Population (1986)	
Land Use (1986)	
Community Facilities (1986)	
Traffic and Transportation (1986)	
Recreation (1986)	

A revision to Hillsborough’s Master Plan will be completed by mid-1999.



## **TOWN RESOURCES**

### **Water Resources**

#### Water Supplies

Loon Pond is approximately 156 acres in size and serves as the Town of Hillsborough's municipal water supply.<sup>14, 33</sup>

Between 1983 and 1997, the NHDES has issued 88 well permits to residents of Hillsborough. Many them occur off Bible Hill Road and along Route 9. Other clusters include those private wells installed along Symonds Road, Gibson Road and Meetinghouse Road. These new well locations have been mapped by NHDES.<sup>10</sup>

#### Ponds<sup>11, 12, 13, 14, 33</sup>

Loon Pond has an area of 156 acres and serves as Hillsborough's municipal water supply. In March 1999, the Town adopted a Loon Pond watershed ordinance which regulates uses of the property in the Loon Pond watershed, an area of approximately 950 acres containing residential and other land. The Hillsborough Water Commission owns four properties in the watershed, the largest of which is 53 acres in size. The Hillsborough Conservation Commission owns one property within the watershed, the 10-acre Seymour Lot on County Road.

Contention Pond, located just northwest of Loon Pond, has an area of 95 acres.

Gould Pond is 48 acres in size and has an average depth of 21 feet. The land surrounding it has been subdivided into private lots used for summer and permanent housing units. The housing density has necessitated a well-fed water system called Emerald Lake District.

The Jackman Reservoir is often called Franklin Pierce Lake. Hillsborough shares this 519-acre body of water with Antrim.

Three acres of Bagley Pond lie inside Hillsborough while the rest lies within Windsor. The only pond access is through Windsor.

Carter Pond is a small 3-acre pond located in the north central section of the Town on Camp Road.

#### Rivers<sup>11, 12, 13, 14, 33</sup>

The Contoocook River flows for a short distance in the southeast corner of the Town. It crosses the Deering-Hillsborough town line in the south and the Henniker-Hillsborough town line in the east.

The North Branch River flows from the North Branch section of Antrim into Franklin Pierce Lake. It then continues east through Hillsborough Lower Village to join the Contoocook River just north of the junction of the Antrim, Deering, and Hillsborough town lines. It was originally known as the West Branch of the Contoocook River.

Brooks<sup>11, 12, 13, 14, 33</sup>

Beards Brook enters Hillsborough near the southeast corner of Washington, then flows in a general southeasterly direction to the North Branch River. It was originally known as the North Branch of the Contoocook River, and later as the Hillsborough River.

Black Pond Brook flows out of Black Pond in Windsor and easterly through Hillsborough Upper Village to Shedd Brook. It was formerly known as the West Branch of West Brook.

Cedar Brook enters Hillsborough near the southwest corner of Bradford and flows southerly to Beard Brook.

Loon Pond Brook flows out of Loon Pond southwest to Beard Brook.

Molly Jackson Brook flows out of Hillsborough Center south and southwest through the Fox State Forest into Beard Brook.

Potash Brook flows out of the south end of the Fox State Forest southerly to the Contoocook River.

Preston Brook flows out of the east end of the Fox State Forest south and east to the Contoocook River.

Sand Brook flows out of Low State Forest in the Concord End section of northwest Hillsborough into Sand Brook Marsh. It then flows south into Gould Pond and out into the Contoocook River. The south portion of the brook is also known as Nelson Brook.

Shedd Brook enters the west side of Hillsborough from Windsor and flows east, south, and southeast to Beard Brook. From its junction with Black Pond Brook in Hillsborough Upper Village to Beard Brook it was formerly known as West Brook. From Black Pond Brook to Windsor it was formerly known as the North Branch of West Brook.

Hydric Soils

Out of the total land acreage of Hillsborough (28,288), an unknown acreage is comprised of hydric soils.

Watersheds

Hillsborough lies 2/3 within the Contoocook River watershed and 1/3 within the Loon Pond watershed.<sup>10, 12, 33</sup>

Aquifers

Stratified drift aquifers underlie the Contoocook River area, Sand Brook Marsh, and Gould Pond. Aquifers also underlie an irregular strip of wetlands running north-south about two miles east of the Hillsborough-Windsor town line.<sup>16</sup>

Wetlands

Wetlands inventoried, field-checked, and mapped by the US Fish and Wildlife Service between 1986 and 1990 dot the entire Town. Large areas of mapped wetlands which do not co-occur with ponds are found in the regions lying west and north of Contention Pond, and in the land surrounding Sand Brook (sometimes referred to as the Farrar Marsh State Wildlife Management Area).<sup>17</sup>

**Identified Water Resource Priorities**

Town officials and volunteers have named the following water resources as being particularly important to the Town: <sup>18</sup>

- ☞ Franklin Pierce Lake
- ☞ Loon Pond
- ☞ Contoocook River Basin
- ☞ Mud Pond (Fox State Forest)
- ☞ Gould Pond
- ☞ Shedd Brook
- ☞ Beard Brook
- ☞ Contention Pond
- ☞ Farrar Marsh
- ☞ pond on Camp Road
- ☞ Sand Brook

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Rivers and streams
Second Priority	Aquifers
Third Priority	Lakes and ponds
Fourth Priority	Designated prime wetlands
Fifth Priority	Watersheds

The survey returned from Hillsborough indicated the following as water resource priorities:

- Aquifers,
- Floodplains,
- Public water supplies,
- Rivers and streams, and
- Watersheds.

The respondent felt that the Town's ordinances and regulations adequately protect their water resources.<sup>31</sup>

Specific comments included:<sup>31</sup>

- ☛ State and federal regulations are efficient, but it is very hard to pass local ordinances at Town meetings.
- ☛ We should update laws to protect agricultural areas in floodplains.



**🌲 Land and Forestry Resources**

The total number of acres under conservation was calculated to be approximately 11% of the entire Town. The following table breaks down the components:<sup>8, 14, 20, 21, 22, 33</sup>

CONSERVATION LANDS	Held by	Acres
Latham Lot	Town	10
Beard Brook Park	Town	4
Butler Park	Town	1
Chute Forest	SPNHF	108
Conservation Lot on County Road	Town	53
Contoocook Falls	Town	7
Cottrell Place	SPNHF	100
Farrar Marsh WMA	NH F&G	291
Fire Department land along the Contoocook	Town	6
Fox State Forest	NH DRED	1436
Gleason Falls	Cons. Com.	4
Gould Pond	NH DOT	43
Grimes Field	Town	16
Hillsborough Water Works Land	Town	57
House Rock Lot	Cons. Com.	20
Jones/Olson Lot	Town	21
Jones/Gibson Lot	Town	47
Low State Forest	NH DRED	717
Manahan Park	Town	47
Old Town Pound	Town	1

Pierce Homestead Historic Site	NH DRED	13
Riverwalk # 1 (behind Grimes Field)	Town	57
Riverwalk # 2 (behind Grimes Field)	Town	17
School District land	Town	38
Farley-West Marsh	Town	12
Seymour Lot	Cons. Com.	10
Widow Murdough Wood Lot	Cons. Com.	12
Knapton Lot	Cons. Com.	2
Rowe Marsh	Cons. Com.	18
Hildreth Mills Lots	Cons. Com.	1
Sand Brook Lot	Town	7
Brown/Grasso Lot	Water Com.	1
Loon Pond Lot	Water Com.	1
<b>TOTAL ACREAGE PROTECTED</b>		<b>3179</b>

In addition, approximately 16,711 acres, or 59% of the Town’s area, was in current use as of December 31, 1998.<sup>33</sup>

***Identified Land & Forestry Resource Priorities***

Town officials and volunteers have named the following land and forestry resources as being particularly important to the Town:<sup>18</sup>

- ✦ Manahan Park
- ✦ Fox State Forest
- ✦ Grimes Field
- ✦ Farrar Marsh State Forest
- ✦ Chute Forest
- ✦ Low State Forest

***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Open space
Second Priority	Agricultural land
Third Priority	Conservation easements
Fourth Priority	Town parks and forests
Fifth Priority	Deeded conservation lands

The survey returned from Hillsborough indicated the following as land and forestry resource priorities:

- Agricultural lands,
- Conservation easements,
- Open space,
- State parks and forests, and
- Town parks and forests.

The respondent felt that the Town’s ordinances and regulations adequately protect their land and forestry resources.<sup>31</sup>

*Specific comments*<sup>31, 33</sup>

- ✦ State & federal regulations are efficient, but it is very hard to pass local ordinances at Town meetings.
- ✦ The Town should be more watchful over logging practices.
- ✦ The Town does not protect forest resources except by giving logging permits. The quality of logging varies greatly. This subject deserves some study.
- ✦ The Town does not specifically protect “open space”.



**Historical and Cultural Resources**

*National Register of Historic Places*

Hillsborough has four exemplary sites located on the National Register. Two of them were nominated and listed in 1975, one in 1966, and one in 1982. No additional regulative restrictions are placed upon those properties which are listed on the National Register, but instead a listing in the Register recognizes the significance of and encourages the stewardship of the property:<sup>1, 24</sup>

NATIONAL REGISTER OF HISTORIC PLACES	Date Listed	Location	Significance/Description
Franklin Pierce Homestead	10/66	On NH Route 31	A frame, two-story house built in 1804 and owned by General Benjamin Pierce, father of President Franklin Pierce. It is now a museum.
Contoocook Mills Industrial District	6/75	Between Mill Street and the Contoocook River	A strip of historic Mills including George Little's Mill, Marcy Mills, and Smith Mills.
Jonathan Barnes Homestead	3/82	North Road	The home of Rev. Jonathan Barnes, one of Hillsborough's original grantees.

New Hampshire Historical Markers

These markers stand at places of great historical significance to the State of New Hampshire. Some of these places contain tangible reminders of the past, while others mark the locations of where structures once stood or a historical event took place.<sup>25</sup>

One of the most well-known historical sites in Hillsborough is the Pierce Homestead, built in 1804 by Benjamin Pierce. Pierce was a Revolutionary War general, the governor of New Hampshire from 1827 to 1830, and the father of Franklin Pierce, the 14th President of the United States. Franklin Pierce was born in this house November 23, 1804. The homestead is located along NH Route 31, just north of its junction with Route 9.

A commemorative marker stands at the place where Colonel John Hill granted a triangular tract of land to Reverend Jonathan Barnes, Hillsborough's first settled minister. The grant provided for the establishment of a church, a meeting house, a school, a Town pound, and Town burial grounds. Descendants of Jonathan Barnes still occupy many of Hillsborough's oldest homes.

Local markers, or the actual remnants of the structures themselves, indicate the sites of various other, yet not less important, historic landmarks and events:<sup>1, 8, 18, 33</sup>

-  Four stone arch bridges are found in Hillsborough, all of them constructed during the mid-19th century without mortar and supported only by the careful placing of fieldstones.
-  The Dutton Twin Houses on West Main Street belonged to Ephrate Dutton, a well-to-do merchant. The houses were built in 1860 and were identical in style (Greek revival in intent, with French Renaissance windows, Gothic Gables, and a classic facade).
-  After his marriage, Franklin Pierce moved out of his father's home and into a house located in Hillsborough Lower Village. The house was built in 1812.
-  When Franklin Pierce was campaigning for the presidency, he hosted a mass meeting and barbecue along the Contoocook River near the present location of River Street. An oven known locally as the Pierce Oven remains intact on the banks of the Contoocook River at the rear of Kemps Mack Truck Museum. Also located on this site is an old cider mill.
-  One of the oldest covered railroad bridges in the United States was located on the

Contoocook River near West Mill Street in Hillsborough. It was built in 1869 and rebuilt in 1903.

-  Marcy Block, now called Robertson’s Block, was created in 1825 and was the first business block in the Town. It was also the site of the first house built in Hillsborough (1741).
-  The Hillsborough Community Building, located across from the Post Office on School Street, was at one time the residence of Governor John B. Smith. It now houses the Fuller Library, historic rooms, and Town Offices.
-  Woolen mills sustained Hillsborough’s economy during the pre and post-Civil War years. Wood’s Woolen Mill was located on West Mill Street.
-  The Town Pound was built in the center of Town during 1774. It has recently been protected by the Conservation Commission.
-  The Samuel Bradford Inn, established in 1766, was located on Bible Hill. The first Hillsborough Town Meeting was held at this inn on November 24, 1772.
-  Two of Hillsborough’s earliest homes are the Timothy Bradford House on Bear Hill Road and the Saltmarsh Place on Stowe Mountain Road. Both were built around the year 1770.
-  Hillsborough features five historic areas, which may be worthy of protection or preservation: Hillsborough Center, Hillsborough Upper and Lower Villages, Hillsborough Bridge Village, Concord End, and the town’s first jail, located at the rear of the fire station on Central Street.
-  Scattered old mill sites, cellar holes, and abandoned farm sites throughout the town

Covered Bridges

Covered bridges once played an integral part of the transportation network of the 19th century. Today, they are recognized for their beauty and uniqueness. Although Hillsborough no longer has standing covered bridges, one once existed: <sup>26</sup>

COVERED BRIDGE NAME/LOCATION	Date Built	Date Gone
RR	1877	1985

Cemeteries

As do many other small towns in Central New Hampshire, Hillsborough has a rich heritage and a strong connection to its past. Cemeteries, both Town and small, private family plots, are an important and personal link. There are thirty cemeteries located in the Town of Hillsborough, half of which are owned by the Town: <sup>8, 18, 33</sup>

CEMETERIES	Owner	Parcel Number / Location
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Hillsborough Center Cemetery	Town	Meeting House Hill
Bear Hill Cemetery	Town	Bear Hill Road
Bible Hill Cemetery	Town	off Beard Road
Clark Cemetery	Town	Center Road
Codman Cemetery	Town	Beard Road
Cooledge Cemetery	Private	Cooledge Road
Dascomb Cemetery	Town	West Main Street
Farrar Cemetery	Town	Carter Hill Road
Gerry Cemetery	Private	Concord End Road
Hillsborough Bridge Cemetery	Town	off Church Street
Kimball Cemetery	Town	Kimball Road
Kimball Hill Cemetery	Town	Kimball Hill Road
Maple Avenue Cemetery	Town	Atwood Road
Monroe Cemetery	Town	Flint Road
Pine Hill Cemetery	Town	Atwood Road
Preston Cemetery	Town	Preston Street
St. Charles Cemetery	Town	Shedd Road
St. Mary's Cemetery	Catholic Church	Center Road

**Identified Historical Resource Priorities**

Town officials and volunteers have named the following general and specific historical and cultural resources as being particularly important to the Town: <sup>18</sup>

-  Franklin Pierce Lake
-  Fuller Public Library
-  Hillsborough Center
-  arch bridge on Antrim Road
-  arch bridge on Jones Road
-  single arch stone bridge off NH Route 149
-  twin Arch Bridge off Route 9/202
-  arch bride at Gleason Falls
-  Town Pound
-  Appleton Cemetery
-  Maple Cemetery
-  St. Mary Cemetery
-  Hillsborough Center Cemetery
-  Gerry Family Cemetery

-  Center Burial Ground
-  stone bridges
-  the Pierce oven

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Cemeteries
Second Priority	Cultural interest sites
Third Priority	Covered bridges
Fourth Priority	National Register of Historic Places
Fifth Priority	Archaeological sites

The survey returned from Hillsborough indicated the following as historical and cultural resource priorities:

- Archaeological sites,
- Cemeteries,
- Cultural interest sites,
- Museums, and
- National Register of Historic Places.

The respondent felt that the Town’s ordinances and regulations do not adequately protect their historical and cultural resources. <sup>31</sup>

Specific comments <sup>31, 33</sup>

-  The community’s interest in preserving historical and cultural resources is on the rise.

 **Ecological Resources**



NH Natural Heritage Inventory

Several outstanding plant and animal species have been located in Hillsborough since the 1930's as well as two outstanding natural communities. They have been recorded in the NHI program’s database. <sup>27</sup>

The Blackgum/Red Maple Basin Swamp is a palustrine natural community which has been listed as being of very high importance in the State of New Hampshire. One location in Hillsborough

has reported this community within the last twenty years.

Another natural community valued as very high in importance is the palustrine community of the Level Bog. Nineteen communities have been reported in New Hampshire during the last 20 years, one of them in Hillsborough.

Andrew's Genitian (*Gentiana andrewsii*) is listed as threatened in the State but is not listed as such federally or globally. Hillsborough once harbored this plant, but it has not been found within the last twenty years.

Atlantic White Cedar (*Chamaecyparis thyoides*) was at one time native to Hillsborough. It has not been found in Hillsborough recently, but 32 locations in the State have named the species during the last twenty years.

The Barren Strawberry (*Waldsteinia fragarioides*) is listed as threatened in the State, and only two locations have reported this plant during the last twenty years. Hillsborough once reported it also, but not in recent history.

Hillsborough has harbored the Green Adder's-Mouth (*Malaxis unifolia*) in the past, but not recently. The species is listed as threatened in the State, and only 11 New Hampshire locations have named this plant within the last twenty years.

Hoary Mountain Mint (*Pycnanthemum incacum*) has been found in Hillsborough in the past, but not recently. It is listed as an endangered plant species, and has only appeared at four New Hampshire locations during the last 20 years.

Kidney-Leaved Violet (*Viola nephrophylla*) was once native to New Hampshire, but the State has not reported harboring the plant during the past twenty years. The species is listed as threatened.

Pale Early Violet (*Viola affinis*), endangered in the state of New Hampshire, was once reported in Hillsborough. No locations have been reported recently.

Rue Anemone (*Anemonella thalictroides*) is a plant valued very highly in importance. One location in Hillsborough has reported the species.

Squaw Root (*Conopholis americana*) is also valued as very high in importance. Only one location reports harboring the plant. It is threatened in New Hampshire, and only five other locations have been named during the last twenty years.

Hillsborough harbored Squirrel-Corn (*Dicentra canadensis*) at one time, but not in recent history. The species is threatened in the State of New Hampshire.

Summer Sedge (*Carex aestivalis*) has been found in Hillsborough in the past, but it has not been located anywhere in New Hampshire during the last twenty years.

Three-Birds Orchid (*Triphora trianthophora*) is a striking plant species that is threatened in New Hampshire. It was found in Hillsborough at one time, but not recently.

Wedge Sand Blackberry (*Rubus cuneifolius*) is endangered in New Hampshire but is not listed as such federally or globally. Hillsborough is the only New Hampshire town that has reported harboring this plant during the last twenty years.

One Great Blue Heron rookery (*Ardea herodias*) has been located in Hillsborough. Only 32 other rookeries have been named in the state.

The Purple Martin (*Progne subis*) is a species of bird that is listed as threatened in the State of New Hampshire. It has been reported at three locations in Hillsborough.

### Corridors

Corridors and greenways are typically used not only by people for recreation or transportation, but also by wildlife to travel from one habitat to another. Maintaining viable and undeveloped corridors ultimately measures the biological success of the animals, particularly larger mammals, within an area. The following corridors have been identified in Hillsborough: <sup>15, 18 19</sup>

A large riparian corridor is located along the Contoocook River which flows in the southeast corner of Town.

### Exemplary Natural Communities

Other special, undisturbed lands are essential for the biological diversity of plants and animals. The more bio-diversity found within an area, the more valuable and self-sustaining the community becomes from both ecological and economic perspectives. The following natural communities have been identified in Hillsborough: <sup>14, 18</sup>

Sandbrook Marsh, also called the Farrar State Wildlife Management Area, is owned by the NH Fish and Game and offers a critical habitat for many freshwater wetlands species, especially birds.

Low State Forest is an ecologically rich area that benefits from its own topography. Because of its steep slopes, much of the land is not very accessible. Few roads bypass the area, and wildlife is abundant. The State has begun a forestry management program in this forest.

Fox Forest is a 1400-acre tract of land that is managed by the State. Trails used for walking, jogging, Nordic skiing, and horseback riding are found throughout the area. One of the Forest's most outstanding features is its sphagnum moss quaking bog. The rare community itself can harbor unique plant species such as pitcher plants and cranberries. A boardwalk has been constructed for public access and enjoyment.

Chute Forest lies within conservation land boundaries and provides important woodland habitats for many plants and animals.

At this time, one heron rookery has been identified in Hillsborough and it is presumed that several other local marshes and wetlands may accommodate them also.

### Scenic Roads and Vistas

Scenic views of Gleason Falls can be seen from Beard Road. The area is particularly attractive during the fall, and the site attracts many foliage seekers. <sup>14, 33</sup>

Scenic views include: Bridge Village from Bear Hill Road, the entire town (including Thompson Mountain, the town's highest peak and Mounts Kearsarge and Sunapee) from the top of Stowe Mountain, and south and west from the Monroe Hill Tower in Fox State Forest.

Roads designated by the Town as Scenic Roads include Barden Hill Road, Beard Road, County Road, Danforth Corners Road, Dean Hill Road, Farley Road, Jones Road, Kimball Road, 2nd New Hampshire Turnpike, and Shedd Road.

***Identified Ecological Resource Priorities***

Town officials and volunteers have named the following ecological resources as being particularly important to the Town: <sup>18</sup>

- ☛ Fox State Forest
- ☛ Kimball Hill Area
- ☛ Bear Hill Area

***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Scenic vistas
Second Priority	Plant/tree communities (tied w/3rd)
Third Priority	Greenway corridors (tied w/2nd)
Fourth Priority	Riparian corridors
Fifth Priority	Biological diversity

The survey returned from Hillsborough indicated the following as ecological resource priorities:

- Animal communities,
- Deeryards,
- Plant communities,
- Riparian corridors, and
- Scenic vistas.

The respondent felt that the Town's ordinances and regulations do not adequately protect their ecological resources. <sup>31</sup>

***Specific comments*** <sup>31</sup>

- ☛ I do not think that the protection of these areas is regulated as effectively as it ought to be.
- ☛ More attention needs to be paid to what the role is that these resources play in balancing the ecology of the area.

☛ **Geologic Resources**



*Surficial Geology*

One natural feature that the Town of Hillsborough protects is House Rock, a large glacial erratic found in the northeastern part of Town. Stratified sand and silt from glacial outwash lie next to the Contoocook River.<sup>14</sup>

Additional and perhaps more recognizable geologic formations are mountains and hills:<sup>14, 28, 33</sup>

<b>MOUNTAINS AND HILLS</b>	<b>Elevation</b>
Campbell Mountain	1408'
Jones Hill	1604'
Kimball Hill	1241'
Monroe Hill	1210'
Murdough Hill	1320'
Stowe Hill	1572'
Sulphur Hill	1395'
Thompson Hill	1768'
Unnamed (NE Hillsborough)	1552'
Unnamed (NE Hillsborough)	1428'
Unnamed (N of Contention Pond)	1188'
Unnamed (N of Contention Pond)	1320'
Unnamed (W to N from Kimball Hill)	1351'
Unnamed (W to N from Kimball Hill)	1382'
Unnamed (W to N from Kimball Hill)	1394'
Unnamed (W to N from Kimball Hill)	1604'

***Identified Geological Resource Priorities***

Town officials and volunteers have named the following geologic resources as being particularly important to Hillsborough:<sup>18</sup>

- ☒ Gleason Falls
- ☒ Fox Forest
- ☒ Peaked Hill
- ☒ Monroe Hill
- ☒ Thompson Hill
- ☒ Murdough Hill
- ☒ Bible Hill
- ☒ Sulfur Hill
- ☒ Campbell Mountain

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Mountains and hills
Second Priority	Soils identification
Third Priority	Sand and gravel deposits
Fourth Priority	Bluffs
Fifth Priority	Gorges

The survey returned from Hillsborough indicated the following as geologic resource priorities:

- Mountains and hills, and
- Soils identification.

The respondent felt that the Town’s ordinances and regulations do not adequately protect their geologic resources. <sup>31</sup>

Specific comments <sup>31</sup>

- ☒ I do not think that the protection of these areas is regulated as effectively as it ought to be.
- ☒ We need a better understanding of existing land forms.



**Recreational Resources**

A variety of recreational opportunities and closely associated with the previous



resources exist in Hillsborough that are resources stated earlier in this narrative. In

addition, there are several others deserving of attention: <sup>18, 29</sup>

<b>PUBLIC &amp; PRIVATE RECREATION</b>	<b>Type</b>	<b>Location</b>	<b>Acreage / Miles</b>
Camp Hillsborough	private	east off Cooledge Road	35 acres
Grimes Field	public	Hillsborough Village	17 acres
Contoocook River Access	public	off Route 9/202 on the Contoocook River, along the Henniker town line	4 acres
Angus Lea Golf Course	private	south off Route 9/202, along the Contoocook River	30 acres
Contoocook Mills Industrial (historic site)	private	Hillsborough Village, off Route 9/202 by the Contoocook River	1 acre
Franklin Pierce Homestead (historic site)	public	by the junction of Route 31 and Route 9	13 acres
Sand Brook Marsh (Farrar Marsh State Wildlife Management Area)	public	by Sand Brook , off Bog Road	297 acres
Fox State Forest	public	off Hillsborough Center Road, north of Hillsborough Village	1445 acres
Low State Forest (shared with Bradford)	public	east from Country Road, by the Bradford town line	695 acres
Chute Forest	private	off Farley Road	124 acres
Beard Brook Park	public	off Beard Road	4 acres
Gleason Falls	public	on Beards Brook, south if Gleason Falls Road	4 acres
Gould Pond	public	south from Gould Pond Road	1 acre
Manahan Park	public	off Route 9/202 on Franklin Pierce Lake	32 acres
Butler Park	public	Hillsborough Village	1 acre
Riverwalk	public	Hillsborough Village, along the Contoocook River	

**Identified Recreational Resource Priorities**

Town officials and volunteers have named the following recreational resources as being particularly important to the Town: <sup>18, 33</sup>

-  Fox State Forest
-  Manahan Park (beach and boat access)
-  snowmobile and mountain bike trails network
-  Contoocook River Trail
-  Pierce Lake boating
-  Emerald Lake (Gould Pond) boating
-  Grimes Field
-  Beards Brook

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Recreational trails
Second Priority	Canoe/boat access
Third Priority	Outdoor sporting fields
Fourth Priority	Picnic areas and playgrounds
Fifth Priority	Beach access

The survey returned from Hillsborough indicated the following as recreational resource priorities:

- Beach access,
- Canoe/boat access,
- Outdoor sporting fields,
- Picnic areas and playgrounds, and
- Recreational trails.

The respondent felt that the Town’s ordinances and regulations do adequately protect their public facilities resources. <sup>31</sup>

Specific comments <sup>31</sup>

- ☒ Basic rules established by specific agencies regulate the use of public facilities.
- ☒ Current facilities are mostly adequate.



 **Other Identified Resource Priorities**

Town officials and volunteers have named the following other resources as being particularly important to the Town: <sup>18</sup>

-  Jackman Hydro Electric

Bridge Street Hydro Electric

**ACTIVE RESOURCE PRESERVATION COMMITTEES**

In order to more adequately protect these finite natural and historical resources, Hillsborough has created a Historic District and has established both a Conservation Commission and a private Historical Society.

Conservation Commission

Recent activities of the Conservation Commission include: developing a nature trail which passes under the Hillsborough Bypass; forming a committee to oversee the conservation of suitable open space; advising dredge and fill applicants; and organizing the annual community Contoocook River Clean-up. In 1997, a parcel of land (Tax Map 5, Lot 55) was recorded with the Town, and Linda Stellato was rewarded the Loon Award for the work she did to establish a recycling system in Hillsborough.<sup>8</sup>

Historic District

Hillsborough’s 185 acre Historic District surrounds Hillsborough Center. The buildings are mostly made of wood with some brick, and they stand individually and usually do not share a common wall.<sup>32</sup>

Historical Society

A private Historical Society also exists to help protect Hillsborough’s heritage. Recent activities of the Society included the management and restoration of the Franklin Pierce Homestead.<sup>8</sup>

***ADDITIONAL SURVEY FINDINGS***

The following results have been also compiled from Hillsborough's responses to the natural, cultural, and historical resources survey: <sup>31</sup>

*Conservation Activities Undertaken Within the Last Three (3) Years*

recycling

*Conservation Activities Planned or Anticipated Within the Following Three (3) Years*

✱ continuation of current projects

*Essential Factors to Hillsborough's "Quality of Life"*

 the re-evaluation of resources by an outside panel (this process helps to guide the community in a productive direction)

REFERENCES

- 1 - *CNHRPC: Historical Overview, 1976*
- 2 - *CNHRPC Regional Master Plan: Land Use Element, 1991*
- 3 - *US Census STF1A and STF3A, 1970, 1980, & 1990*
- 4 - *NH Office of State Planning: Current Estimates and Trends in NH's Housing Supply 1996, 1997*
- 5 - *NH Office of State Planning: Population Estimates of NH Cities and Towns (1997), 1998*
- 6 - *Hillsborough Zoning Ordinance, 1989*
- 7 - *Town Officials/Employees, 1998*
- 8 - *Hillsborough Town Annual Report, 1996 & 1997*
- 9 - *Hillsborough Site Plan Review Regulations, 1982*
- 10 - *NH Department of Environmental Services, Water Resources Division, 1998*
- 11 - *NH Fish and Game: Biological Survey of the Lakes and Ponds in Survey Report 8c, 1970*
- 12 - *CNHRPC: Natural Resources Inventory, 1974*
- 13 - *Inventory of Natural, Scenic, & Historic Areas in Hillsborough County, 1968*
- 14 - *Hillsborough Master Plan, 1986*
- 15 - *NH Geographically Referenced and Information Transfer (GRANIT) System, 1998*
- 16 - *US Geological Survey (Bow, NH): Bedrock Geology Mapping, 1998*
- 17 - *US Fish and Wildlife Service: National Wetlands Inventory, 1986-1990*
- 18 - *Town Officials (anecdotal), 1998*
- 19 - *NH Office of State Planning: Comprehensive Statewide Trails Study, 1997*
- 20 - *Society for the Protection of NH Forests, 1998*
- 21 - *LCIP Final Report, 1993*
- 22 - *State of NH: Real Property Summary, 1995*
- 23 - *NH Association of Conservation Commissions, 1996*
- 24 - *NH Division of Historical Resources: Historical New Hampshire, 1990*
- 25 - *NH Division of Historical Resources: Historical Markers, 1989*
- 26 - *NH Department of Transportation: Covered Bridges of the Past, 1994*
- 27 - *NH Department of Revenue and Economic Development: NH Natural Heritage Inventory, 1998*
- 28 - *CNHRPC: Open Space Plan, 1980*
- 29 - *NH Office of State Planning: Recreation Plan, 1998*
- 30 - *(reserved)*
- 31 - *Hillsborough Survey Results, 1998*
- 32 - *CNHRPC Historic Districts and Downtown Revitalization*
- 33 - *1999 Municipal Profile Update*

**HOPKINTON**

About Hopkinton.....	
Member of CNHRPC	✓
Surveys Mailed	13
Surveys Received for Tallying	4
REPP Meeting Participation	✓
Profile Review & Comment by Town	X
1999 Update	X

**Historical Profile**

This Town was founded by the residents of Hopkinton, Massachusetts in 1736, and was not incorporated as a part of New Hampshire until 1765. Hopkinton was originally a farming town, and the presence of fertile land and water power dictated its growth. The most populated part of Town was the Village Center where the congregational Church and Meeting house were erected as early as 1766. Hopkinton was an important meeting place during the 1790's, and the Town battled briefly with Concord for the designation of New Hampshire's state capital. Light industry and trade also affected Hopkinton's development, but in recent history the Town as been characterized more often as a residential area than as a place for industry and business. Its historic main strip with its handsome churches, federal houses, and Town hall is one of the most beautiful "white villages" in Central New Hampshire.<sup>1</sup>

**Present-Day Profile**

The area of Hopkinton is 28,416 acres, or 44.4 square miles. The Town comprises 5.5% of the CNHRPC area.<sup>2</sup>

Over the last twenty-seven years, Hopkinton's population has grown by 67% while the number of housing units has increased by 87%:<sup>3, 4, 5</sup>

GROWTH	Population	Net Change		Housing Units	Net Change	
		#	%		#	%
1970 (US Census)	3007	na	na	1104	na	na
1980 (US Census)	3861	+ 854	+ 28.4	1480	+ 376	+ 34.1
1990 (US Census)	4806	+ 945	+ 24.5	1924	+ 444	+ 30.0
1997 Population & 1996 Housing (NHOSP)	5014	+ 208	+ 4.3	2064	+ 140	+ 7.2
<b>TOTAL CHANGE FROM 1970 - 1997</b>		+ 2007	+ <b>66.7%</b>		+ 960	+ <b>87.0%</b>

In an effort to control its growth, while protecting its resources in an economically viable manner, the Town has adopted a number of land use controls to facilitate the conservation process:<sup>6</sup>

<b>Town Zoning Districts</b>	<b>Town-Adopted Resource &amp; Conservation Ordinances</b>
Residential/Agricultural	Local Regulation of Excavation
Low Density Residential	Cluster Development Ordinance
Medium Density Residential	Manufactured Housing Ordinance
High Density Residential	Affordable Housing - Innovative Land Use Control
Commercial	Sign Regulations
Industrial	Wetland Regulations
Hopkinton Village Precinct	Floodplain Development Ordinance

Non-regulatory measures for protecting Hopkinton’s resources include the following: <sup>7, 8, 9</sup>

<b>Town Master Plan Elements</b>	<b>Town Conservation Plans, Reports and Studies</b>
Goals and Policies Element (1987)	
Community/Population Profile (1987)	
Housing Element (1987)	
Transportation Element (1987)	
Land Use Element (1987)	
Recreation Element (1987)	
Economic Base Element (1987)	
Natural and Historic Resources: Conservation and Preservation Element (1987)	
Community Facilities Element (1987)	
Utilities and Public Services Element (1987)	
Hopkinton Fiscal Analysis Element (1987)	
Growth Management Element (1987)	



## **TOWN RESOURCES**

### **Water Resources**

#### Water Supplies

There are two public water districts that serve the Town of Hopkinton: the Hopkinton Precinct which is supplied by a granite packed well off of Briar Hill Road, and the Contoocook Precinct which relies on the 70-acre Bear Pond in Warner.

The remainder of the Town relies on private wells for their water supply. Between 1983 and 1997, the NHDES has issued 159 well permits to residents of Hopkinton. Many are located in the southeastern corner of Town by Straw Road and the Hooksett Turnpike. Other clusters occur by Galloping Hill Road (13) and Hopkins Green (18). These new well locations have been mapped by NHDES.<sup>10</sup>

#### Ponds<sup>11, 12, 13, 14</sup>

The Hopkinton-Everett Lakes Reservoir protects Hopkinton from flooding. The flood reduction mechanism is comprised of a dam at Hopkinton Lake along the Contoocook River, a dam at the Everett Lake in Weare, and a two mile canal which connects the two bodies of water. The Hopkinton-Everett Reservoir provides Hopkinton with a variety of recreational opportunities including Elm Brook Park.

Drew Lake lies southeast of the Hopkinton-Everett Reservoir. It has an area of approximately 38 acres and is a popular fishing site.

Whittier Pond, also called Fry Pond, is a natural pond that has been raised by damming. It is 14 acres in size and has a average depth of four feet.

Kimball Pond is approximately 75 acres in size. The Town uses the pond as a beach and recreation area. It serves as a tributary to Dolf Brook.

Clement Pond, also called Joe Silver Lake, is 100 acres in size and has a maximum depth of 50 feet. It serves as a tributary to Hardy Spring Brook.

Hopkinton shares Carr Pond with Henniker. This 11-acre Pond has an average depth of five feet.

Hopkinton and Henniker also share Grassey Pond, a marshy pond 20 acres in size that is located west of Clement Pond.

Rolf Pond is 30 acres in size. It lies southeast of Clement Pond and northwest of Carr Pond.

#### Rivers<sup>11, 12, 13, 14</sup>

The Contoocook River has been cited as Hopkinton's prime natural resource. It runs through the center of Hopkinton and crosses the Concord town line in the east and the Henniker town line in the west. It is a tributary of the Merrimack River.

The Warner River and the Blackwater River also flow short distances in Hopkinton.

A headwater area of the Turkey River Basin lies in the southeast corner of Hopkinton.

Brooks <sup>11, 12, 13, 14</sup>

Dolf Brook flows between Kimball Pond and the Contoocook River.

Hardy Spring Brook flows between Clement Pond and the Contoocook River.

One Stack Brook crosses the boundary between Bow and Hopkinton.

Hydric Soils

Out of the total land acreage of Hopkinton (28,416), 16.5% is comprised of hydric soils: <sup>14, 32</sup>

HYDRIC SOILS	Acreage	Total Percentage of Town
Poorly Drained	2506	8.8
Very Poorly Drained - organic base	1383	4.8
Very Poorly Drained - mineral base	650	2.2
Marsh	200	.7
<b>TOTALS</b>	<b>4739</b>	<b>16.5</b>

Watersheds

The Town lies almost entirely with in the Contoocook River watershed. The southeastern corner of the Town lies in the Merrimack River watershed. The Warner River watershed and the Silver River watershed underlie small areas in the north. <sup>10</sup>

Aquifers

A stratified drift aquifer underlies nearly half of the Town. <sup>16</sup>

Wetlands

Wetlands inventoried, field-checked, and mapped by the US Fish and Wildlife Service between 1986 and 1990 dot the entire Town. Large areas of mapped wetlands which do not co-occur with ponds are found along One Stack Brook, Hardy Spring Brook, and in the land surrounding Stumpfield Marsh. <sup>17</sup>

**Identified Water Resource Priorities**

Town officials and volunteers have named the following water resources as being particularly important to the Town: <sup>18</sup>

-  Kimball Pond
-  The Contoocook River Corridor
-  Chase Sanctuary Watershed, on the west side of Jewett Road
-  The Dolf Brook Aquifer

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Rivers and streams
Second Priority	Aquifers
Third Priority	Lakes and ponds
Fourth Priority	Designated prime wetlands
Fifth Priority	Watersheds

Surveys returned from Hopkinton indicated the following water resource priorities:

- Aquifers,
- Designated prime wetlands,
- Lakes and ponds,
- Public water supplies, and
- Rivers and streams.

Half of the respondents felt that the Town’s ordinances and regulations adequately protect their water resources, while half disagreed. <sup>31</sup>

Specific comments included: <sup>31</sup>

- ☛ Hopkinton needs more stringent regulations on development in these areas. We should protect all wetlands, not just prime ones. Electric companies are spreading herbicides and sludge.
- ☛ A wetland inventory is needed.



**🌲 Land and Forestry Resources**

The total number of acres under conservation was calculated to be approximately 28% of the entire Town. The following table breaks down the components: <sup>8, 20, 21, 22</sup>

CONSERVATION LANDS	Held by	Acres
Agricultural and Forest Land	NH DA	239
Brown/Robinson Lot	Town	14
Carriage Lane Lot	Town	1

Chase Wildlife Sanctuary	ASNH	660
Contoocook River Natural Area	Town	97
Contoocook State Forest	NH DRED	28
Dustin Country Club	Private	40
Farrington Corner	Town	96
French Lot	Town	10
Galloping Hills Open Space	Town	25
George's Park	Town	9
Goodwin-Chandler State Forest	NH DRED	26
Grassey Pond Marsh Dam & Row	NH F&G	1
Hopkins Green Open Space & Flowage Area	Town	16
Hopkinton Elementary School Grounds	Town	8
Hopkinton-Everett Reservoir (including Elm Brook Park)	US Army Corps	4,918
Hopkinton High School Grounds	Town	3
Houston Farm	Town	68
Irishmen's Hill Open Space	Town	45
Frank & Dorothy Kimball easement	NH DA	178
Robert Kimball easement	NH DA	62
Kimball Lake	Town	20
Kimball Pond Recreation Area	Town	3
Janeway easement	Town	6
Rachel Johnson Land (LCIP)	Town	93
Mast Yard State Forest (Hopkinton portion)	NH DRED	461
Martin Elementary School Grounds	Town	7
Meadowsend Timberlands easement	Town	7
Murphy easement	Town	13
NE Community Development Group Land	Town	96
Pages Corner State Forest	NH DRED	84
Smith Pond Bog Wildlife Sanctuary	ASNH	61
Town of Hopkinton Land	Town	43
Town of Hopkinton Land	Town	4
Town of Hopkinton Land	Town	46

Town of Hopkinton Land	Town	12
Town of Hopkinton Land	Town	15
Town of Hopkinton Land	Town	19
Town of Hopkinton Land	Town	34
Town of Hopkinton Land	Town	15
Town of Hopkinton Land	Town	6
Town of Hopkinton Land	Town	24
Town of Hopkinton Land	Town	16
Town of Hopkinton Land	Town	31
Town of Hopkinton Land	Town	42
Wells easement	Town	115
<b>TOTAL ACREAGE PROTECTED</b>		<b>7817</b>

In addition, approximately 15,820 acres, or 56% of the Town’s total acreage, were in current use as of December 31, 1998. <sup>33</sup>

In 1998, Hopkinton supported a 35% land use change tax allocation to be directed to the Conservation Fund for additional land acquisition. <sup>23</sup>

***Identified Land & Forestry Resource Priorities***

Town officials and volunteers have named the following land and forestry resources as being particularly important to the Town: <sup>18</sup>

- ✦ Farmlands, especially farms that are still active
- ✦ Hawthorne Town Forest, on the east side of Hopkinton Village
- ✦ Old Well Fields, northwest of Hopkinton Village
- ✦ Brockway Wildlife Reserve

***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Open space
Second Priority	Agricultural land
Third Priority	Conservation easements
Fourth Priority	Town parks and forests
Fifth Priority	Deeded conservation lands

Surveys returned from Hopkinton indicated the following as land and forestry resource priorities:

- Agricultural land,
- Open space,
- Orchards,
- State parks and forests, and
- Town parks and forests.

Half of the respondents felt that the Town’s ordinances and regulations adequately protect their land and forestry resources, while half disagreed.<sup>31</sup>

Specific comments<sup>31</sup>

- ✦ Current use tax regulations must be maintained.
- ✦ The Conservation Commission’s monitoring and zoning ordinances are efficient.
- ✦ Town officials need to change their attitudes to support more open space land and current use land. We need to encourage agriculture and forest activities.



**Historical and Cultural Resources**

National Register of Historic Places

Hopkinton has four exemplary sites located on the National Register. Two were listed in 1980, the other in 1977. No additional regulative restrictions are placed upon those properties which are listed on the National Register, but instead a listing in the Register recognizes the significance of and encourages the stewardship of the property:<sup>1, 24</sup>

NATIONAL REGISTER OF HISTORIC PLACES	Date Listed	Location	Significance/Description
Hopkinton Railroad Covered Bridge	1/80	Off NH 103 and NH 107	Built in 1850, reconstructed in 1889, and saved from flood-destruction in 1936 & in 1938, this is the oldest covered railroad bridge still standing in the US.

Rowell's Bridge	Unk.	On Cement Hill Road over the Contoocook River, North of NH Route 127	Built in 1853 and classified as a combination of Long Truss with Burr arches.
William H. Long Memorial	7/77	Main Street	
Howe - Quimby House	6/80	Sugar Hill Road	Now houses Sugar Hill Antiques

*Historical Markers*

These markers stand at places of great historical significance to the State of New Hampshire. Some of these places contain tangible reminders of the past, while others mark the locations of where structures once stood or a historical event took place. Hopkinton currently has no sites listed with the New Hampshire Division of Historic Resources.

Local markers, or the actual remnants of the structures themselves, indicate the sites of various other, yet not less important, historic landmarks and events: <sup>1, 8, 18</sup>

- 🏛️ St. Andrew's Episcopal Church was built in 1827-1828. It is located in Hopkinton Village.
- 🏛️ The clapboard farm house at Boulder Farm was built in 1816.
- 🏛️ A memorial tablet resides on Beech Hill Road to honor the birth of Abraham Kimball, the first white male born in Hopkinton.
- 🏛️ Kimball's Garrison was located on old "Main Road" in 1744. A marker now commemorates the place.
- 🏛️ A tablet marks the birthplace of Grace Fletcher (born in 1765), the first wife of Daniel Webster. A marker resides on the west side of Garrison Lane.
- 🏛️ The first gristmill was built in Hopkinton in 1765 opposite the Kimball Lake dam off of old "Main Road".
- 🏛️ In 1825, the Town of Hopkinton hosted a reception for Lafayette at a site near St. Andrew's Church.
- 🏛️ The first Meetinghouse was built in the Village Square in 1766, but it burned down in 1789. A tablet now marks the location.
- 🏛️ On Old Putney Road, a tablet commemorates the site of the first Town Pound which was built in 1805.

*Covered Bridges*

Covered bridges once played an integral part of the transportation network of the 19th century. Today, they are recognized for their beauty and uniqueness. Hopkinton is unique in that it has two covered bridges still standing, and three more existed at one time: <sup>26</sup>

COVERED BRIDGE NAME/LOCATION	Date Built	Date Gone
Henniker Road	1862	1935
Contoocook Village	1853	1935
Tyler	1858	1938
Hopkinton Railroad Covered Bridge	1849-1850	standing
Rowell's Bridge	1853	standing

### Cemeteries

As do many other small Central Region towns, Hopkinton has a rich heritage and a strong connection to its past. Cemeteries, both Town and small, private family plots, are an important and personal link: <sup>8, 18</sup>

CEMETERIES	Owner	Parcel Number / Location
Contoocook Village	Town	Contoocook Village
Old Hopkinton (old)	Town	in Hopkinton Village
Old Hopkinton (new)	Town	at I-89, Exit 4
New Hopkinton	Town	
Blackwater	Town	at intersection of Penacook and Old Dustin Roads
Stumpfield	Town	Stumpfield Road
Clement Hill	Town	
Putney Hill	Town	
Hardy/Little	private	
Hues/Wilson/Buckley	private	
Putnam	private	

### ***Identified Historical Resource Priorities***

Town officials and volunteers have named the following general and specific historical and cultural resources as being particularly important to the Town: <sup>18</sup>

-  early school houses
-  Putney Hill historic sites
-  Broad Cove and King Pines
-  West Hopkinton Mill
-  covered bridges
-  fairgrounds
-  cemeteries
-  Town Pound

-  old mill sites scattered through out the Town
-  Village centers

### **Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Cemeteries
Second Priority	Cultural interest sites
Third Priority	Covered bridges
Fourth Priority	National Register of Historic Places
Fifth Priority	Archaeological sites

Surveys returned from Hopkinton indicated the following as historical and cultural resource priorities:

- Archaeological sites,
- Covered bridges,
- Mill sites,
- Unique cellar holes, and
- Unique stone walls.

The majority of respondents felt that the Town's ordinances and regulations did not adequately protect their historical and cultural resources. <sup>31</sup>

### Specific comments <sup>31</sup>

-  Special interest groups are the most efficient.
-  Open space is part of our historic culture.
-  We need our local officials to pay more attention to preserving Hopkinton's historic resources. Old cellar holes are perceived as hazardous.
-  The Town needs a historic district.



## Ecological Resources

### NH Natural Heritage Inventory

Several outstanding plant and animal species have been located in Hopkinton since the 1930's, as well as two outstanding natural communities, and recorded NHI program's database.<sup>27</sup>

Giant Rhododendron (*Rhododendron maximum*) has been reported at four sites in New Hampshire within the last 20 years. Hopkinton once harbored this species also, but no locations have been reported recently.

Gypsywort (*Lycopus rubellus*) was at one time native to Hopkinton, but it has not been seen during the last twenty years in the Town.

Wild Lupine (*Lupinus perennis*) is threatened in New Hampshire. Twenty-six locations have reported harboring the plant within the last twenty years, including Hopkinton.

Three locations in Hopkinton have reported the presence of Great Blue Heron rookeries (*Ardea herodias*). Only 33 locations have been named in the entire State.

Purple Martin (*Progne subis*) is threatened in New Hampshire, and has been located at only 10 sites in the state within the last twenty years. Purple Martins at one time were found in Hopkinton, but none have been reported recently.

The invertebrate mollusk Brook Floater (*Alasmidonta varicosa*) is listed in the State as endangered. Only one occurrence in Hopkinton within the last 20 years has been recorded.

A mesic transitorial forest on acidic bedrock or till is a terrestrial natural community. The unusual community was at one time found within Hopkinton.

The Level Bog is a palustrine natural community that was once located in Hopkinton, but the Town has not reported the presence of the community during the last twenty years.

### Corridors

Corridors and greenways are typically used not only by people for recreation or transportation, but also by wildlife to travel from one habitat to another. Maintaining viable and undeveloped corridors ultimately measures the biological success of the animals, particularly larger mammals, within an area. The following corridors have been identified in Hopkinton:<sup>15, 18 19</sup>

The Contoocook River corridor runs northeast through the Town of Hopkinton.

### Exemplary Natural Communities

Other special, undisturbed lands are essential for the biological diversity of plants and animals. The more bio-diversity found within an area, the more valuable and self-sustaining the community becomes from both ecological and economic perspectives. The following natural communities have been identified in Hopkinton:<sup>18</sup>

The Brockway Nature Preserve is a critical environment for many plant and animal species. A recent donation of land adjacent to the preserve will help to protect the area.

The wetlands surrounding the Hopkinton-Everett Reservoir offer an ideal habitat for many plant and animal species. Stumpfield Marsh in particular serves as important breeding grounds for a variety of wildlife including: pickerel, bass, blue heron, water fowl, red wing blackbirds, beavers, rabbits, and racoons.

Three heron rookeries have been identified in Hopkinton, and it is expected that other local marshes and wetlands accommodate them also.

*Scenic Roads and Vistas*

The summit of Gould Hill offers scenic vistas. <sup>14</sup>

***Identified Ecological Resource Priorities***

Town officials and volunteers have named the following ecological resources as being particularly important to the Town: <sup>18</sup>

- ☛ the filled-in kettle hole on Broad Cove Road
- ☛ Smith Pond Bog
- ☛ Gould Hill scenic area
- ☛ Putney Hill scenic area
- ☛ Beech Hill scenic area
- ☛ deeryards

***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Scenic vistas
Second Priority	Plant/tree communities (tied w/3rd)
Third Priority	Greenway corridors (tied w/2nd)
Fourth Priority	Riparian corridors
Fifth Priority	Biological diversity

Surveys returned from Hopkinton indicated the following as ecological resource priorities:

- Biological diversity,
- Deeryards,
- Greenway corridors,
- Riparian corridors, and
- Scenic vistas.

Half of the respondents felt that the Town’s ordinances and regulations adequately protect their ecological resources, while half disagreed. <sup>31</sup>

Specific comments <sup>31</sup>

- ☛ We need shorter and more stringent regulations. These areas are defaced during the hunting season.
- ☛ The Conservation Commission’s monitoring and zoning ordinances are efficient protection.
- ☛ We need to incorporate the protection of these ecological areas into the Master Plan.



**Geologic Resources**

Surficial Geology

Kames and kame terraces are found in Hopkinton’s northern and western areas. Flood plain alluvium underlies the Contoocook River, and a few drumlins are located in the Town’s center close to Smith Pond and Kimball Pond. <sup>12, 14</sup>

Additional and perhaps more recognizable geologic formations are mountains and hills: <sup>14, 28</sup>

MOUNTAINS AND HILLS	Elevation
Beech Hill	780'
Clement Hill	760'
Dimond Hill	660'
Gould Hill	840'
Irishmans Hill	780'
Mt. Hope	740'
Putney Hill	780'
Rattlesnake Hill	640'

Bedrock Geology

About half of Hopkinton is underlain by an unnamed pluton composed of Granodiorite-Biotite Hranodiorite-Biotite Quartz Monzonite (mostly quartz, some garnet). A Kinsman Quartz Monzonite compound underlies a strip of land extending from the Town’s northeast corner south to the Hopkinton-Weare town line. Grey Gneiss is found in Hopkinton’s northwest territory underlying Clement Pond. <sup>14, 18</sup>

***Identified Geological Resource Priorities***

Town officials and volunteers have named the following geologic resources as being particularly important to the Town: <sup>18, 28</sup>

- ☒ sand and gravel deposits
- ☒ summit of Gould Hill
- ☒ esker along Briar Hill Road
- ☒ unusual quartz formations
- ☒ spring and gravel bank

### ***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Mountains and hills
Second Priority	Soils identification
Third Priority	Sand and gravel deposits
Fourth Priority	Bluffs
Fifth Priority	Gorges

Surveys returned from Hopkinton indicated the following as geologic resource priorities:

- Bluffs,
- Caves,
- Eskers, kames, and drumlins,
- Mountains and hills,
- Sand and gravel deposits, and
- Soils identification.

The majority of the respondents felt that the Town's ordinances and regulations adequately protect their ecological resources. <sup>31</sup>

### ***Specific comments*** <sup>31</sup>

- ☒ The Conservation Commission's monitoring and zoning ordinances are the most efficient. Glacial boulders and topography are important.
- ☒ We need to identify areas in need of protection.





## Recreational Resources

A variety of recreational opportunities and resources exist in Hopkinton that are closely associated with the previous resources stated earlier in this narrative. In addition, there are several others deserving of attention:<sup>18, 29, 30</sup>

<b>PUBLIC &amp; PRIVATE RECREATION</b>	<b>Type</b>	<b>Location</b>	<b>Acreage / Miles</b>
Sandy Beach Camping area	private	west off Clement Hill Road	8 acres
Elm Brook Park	public		
George's Park	public	off Kearsarge Avenue	9 acres
Harold Martin Elementary School	public	off Route 202/9	7 acres
Camp Merrimack	private	Clement Pond	150 acres
Maple Street School	public	off Route 127, south of its junction w/ Route 103	8 acres
Hopkinton High School	public		3 acres
Duston Country Club	private	off Route 202/9, north of Hatfield Corner	40 acres
Contoocook State Forest	public	off Route 202/9, by the Henniker town line	35 acres
Goodwin-Chandler State Forest	public	Off Interstate 89, west of its junction with Route 13	26 acres
Mast Yard State Forest	public	between the Contoocook River and Broad Cove Road, by the Concord town line	380 acres
Chase Forest and Bird Sanctuary	private	accessible from New Road	380-430 acres
Smith Bog	private	between Interstate 89 and Route 9/202 just west of Hopkinton Village	62 acres
Contoocook River Natural Area	public	adjacent to Mast Yard State Forest	99 acres
Hopkinton Fair Grounds	private	north-central Hopkinton, off Route 103/127	60 acres
Dan Mar Riding Academy (horse trails)	private		12 miles
Gulliver's Riding Stable (horse trails)	private	off Jewett Road, by the Chase Bird Sanctuary	50 miles
Kimball Pond (beach)	public	off Hopkinton Road	2 acres
Stumpfield-Mudgett Recreation Area	public		
Elm Brook Recreation Area	public	Elm Brook Park	
Drew Lake Recreation Area	public	Drew Lake	
Clement Pond (fish/boat launch)		Clement Pond, off Shore Lane Drive	

Pages Corner State Forest	public	off Stickney Hill Road, by the Dunbarton town line	
Rachel Johnson Forest	public	off Hopkinton Road	93 acres
John Brockway Nature Area	public	south off Interstate 89, close to Concord	96 acres
Hopkinton Everett Reservoir Hiking trail	public	Hopkinton Everett Reservoir	13 miles

**Identified Recreational Resource Priorities**

Town officials and volunteers have named the following recreational resources as being particularly important to the Town: <sup>18</sup>

- ☒ Hopkinton-Everett Flood Control
- ☒ Town Hall
- ☒ Houston Farm
- ☒ golf courses
- ☒ Kimball Pond

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Recreational trails
Second Priority	Canoe/boat access
Third Priority	Outdoor sporting fields
Fourth Priority	Picnic areas and playgrounds
Fifth Priority	Beach access

Surveys returned from Hopkinton indicated the following as recreational resource priorities:

- Beach access,
- Canoe/boat access,
- Outdoor sporting fields,
- Picnic areas and playgrounds, and
- Recreational trails.

**Specific comments** <sup>31</sup>

- ☒ Recreational trails should have specific organizations responsible for their upkeep.
- ☒ The Conservation Commission’s monitoring and zoning ordinances are the most efficient.
- ☒ Hopkinton has a Recreation Planner. We need to continue improvements to public facilities.





### **Other Identified Resource Priorities**

Town officials and volunteers have named the following other resources as being particularly important to the Town: <sup>18</sup>



utility corridors



### ***ACTIVE RESOURCE PRESERVATION COMMITTEES***

In order to more adequately protect these finite natural and historical resources, Hopkinton has established both a Conservation Committee and a private Historical Society.

#### ***Conservation Commission***

The Hopkinton Conservation Commission, formed in 1965, oversees the Town's conservation issues. Events of 1997 include: the approval of a 35% Land Use Change Tax to go to the HCC Conservation Fund, the donation of the Bean property which borders the Brockway Nature Preserve, and the completion of a bird survey conducted by the Army Corp of Engineers.

#### ***Historical Society***

A private Historical Society also exists to help protect Hopkinton's heritage. The Society continues to gather and archive historical documents and artifacts. The Antiquarian Society is currently exhibiting its summer show which features artwork done by local artists.



### ***ADDITIONAL SURVEY FINDINGS***

The following results have been also compiled from Hopkinton's responses to the natural, cultural, and historical resources survey: <sup>31</sup>

#### *Conservation Activities Undertaken Within the Last Three (3) Years*

- highway clean-ups
- tree planting
- beautifying our neighborhoods
- erosion abatements
- public education
- monitoring and work on recreational trails
- educational meeting on vernal pools
- land acquisitions
- began a town inventory

#### *Conservation Activities Planned or Anticipated Within the Following Three (3) Years*

- ✧ environmental education
- ✧ continuation of current programs
- ✧ forest management plans and inventories for the Town
- ✧ continued utilization of Town land for recreation, hunting, nature trails, snowmobiling, and hiking
- ✧ re-landscaping the Town center
- ✧ repairing pond dams

#### *Essential Factors to Hopkinton's "Quality of Life"*

- 🌿 good schools
- 🌿 community spirit
- 🌿 slow or no growth
- 🌿 retainment of open space
- 🌿 "central village" concept
- 🌿 clean water and air
- 🌿 no sludge spreading

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REFERENCES

- 1 - *CNHRPC: Historical Overview, 1976*
- 2 - *CNHRPC Regional Master Plan: Land Use Element, 1991*
- 3 - *US Census STF1A and STF3A, 1970, 1980, & 1990*
- 4 - *NH Office of State Planning: Current Estimates and Trends in NH's Housing Supply 1996, 1997*
- 5 - *NH Office of State Planning: Population Estimates of NH Cities and Towns (1997), 1998*
- 6 - *Hopkinton Ordinance and regulation Handbook, 1997*
- 7 - *Town Officials/Employees, 1998*
- 8 - *Hopkinton Town Annual Report, 1997*
- 9 - *(Reserved)*
- 10 - *NH Department of Environmental Services, Water Resources Division, 1998*
- 11 - *NH Fish and Game: Biological Survey of the Lakes and Ponds in Survey Report 8c, 1970*
- 12 - *CNHRPC: Natural Resources Inventory, 1974*
- 13 - *Inventory of Merrimack County Lakes and Ponds, 1968*
- 14 - *Hopkinton Master Plan, 1987*
- 15 - *NH Geographically Referenced and Information Transfer (GRANIT) System, 1998*
- 16 - *US Geological Survey (Bow, NH): Bedrock Geology Mapping, 1998*
- 17 - *US Fish and Wildlife Service: National Wetlands Inventory, 1986-1990*
- 18 - *Town Officials (anecdotal), 1998*
- 19 - *NH Office of State Planning: Comprehensive Statewide Trails Study, 1997*
- 20 - *Society for the Protection of NH Forests, 1998*
- 21 - *LCIP Final Report, 1993*
- 22 - *State of NH: Real Property Summary, 1995*
- 23 - *NH Association of Conservation Commissions, 1998*
- 24 - *NH Division of Historical Resources: Historical New Hampshire, 1990*
- 25 - *NH Division of Historical Resources: Historical Markers, 1989*
- 26 - *NH Department of Transportation: Covered Bridges of the Past, 1994*
- 27 - *NH Department of Revenue and Economic Development: NH Natural Heritage Inventory, 1998*
- 28 - *CNHRPC: Open Space Plan, 1980*
- 29 - *NH Office of State Planning: Recreation Plan, 1998*
- 30 - *Visit NH Webpage: Merrimack Valley Attractions, 1998*
- 31 - *Hopkinton Survey Results, 1998*
- 32 - *Merrimack County Conservation District: Inventory of Soil Erosion and Agricultural Waste, 1979*
- 33 - *1999 Municipal Profile Update*

**LOUDON**

About Loudon.....	
Member of CNHRPC	✓
Surveys Mailed	16
Surveys Received for Tallying	2
REPP Meeting Participation	✓
Profile Review & Comment by Town	X
1999 Update	✓

**Historical Profile**

Before Europeans migrated north into the Merrimack Valley area, many Native American tribes lived in the region. The land now called Loudon was home to an Abenaki tribe, and the highest point in Loudon, Sabbattus Heights, is named after an Abenaki Chief. Loudon, originally a part of Canterbury, was incorporated and officially named in 1773. The Town was named for John Campbell, the fourth Earl of Loudon and one of the grantors of Canterbury. Agriculture was the primary industry in Loudon from before its incorporation through to the early 1900's. A second major industry in early Loudon was the making of maple sugar; in 1849, Loudon produced some 22,619 pounds of maple sugar. Over the years, Loudon has managed to keep much of their rural character while still being home to the New Hampshire International Speedway, which brings in more spectators than any other event in New England.<sup>1</sup>

**Present-Day Profile**

The area of Loudon is 29,696 acres, or 46.4 square miles. The Town comprises 5.8% of the CNHRPC area.<sup>2</sup>

Over the last twenty-seven years, Loudon's population has grown by 164% while the number of housing units has increased by 192%:<sup>3, 4, 5</sup>

GROWTH	Population	Net Change		Housing Units	Net Change	
		#	%		#	%
1970 (US Census)	1707	na	na	568	na	na
1980 (US Census)	2454	+747	+ 43.8	880	+312	+ 54.9
1990 (US Census)	4114	+1660	+ 67.6	1476	+596	+ 67.7
1997 Population & 1996 Housing (NHOSP)	4504	+390	+ 9.5	1657	+181	+ 12.3
<b>TOTAL CHANGE FROM 1970 - 1997</b>		+2797	<b>+ 163.9%</b>		+1089	<b>+ 191.7%</b>

In an effort to control its growth, while protecting its resources in an economically viable manner, the Town has adopted a number of land use controls to facilitate the conservation process: <sup>6</sup>

<b>Town Zoning Districts</b>	<b>Town-Adopted Resource &amp; Conservation Ordinances</b>
Village District	Cluster Development Regulations
Rural Residential District	Manufactured Housing Ordinances
Commercial/Industrial District	Excavation Regulations
Agricultural/Forestry Preservation District	Wetland Ordinances
Wetland Conservation District (overlay)	Aquifer Ordinances
Steep Slope District (overlay)	

Non-regulatory measures for protecting Loudon’s resources include the following: <sup>7, 8, 9</sup>

<b>Town Master Plan Elements</b>	<b>Town Conservation Plans, Reports and Studies</b>
Goals and Objectives (1992)	
Population Characteristics (1992)	
Land Use (1992)	
Housing (1992)	
Community Facilities (1992)	
Transportation (1992)	
Utilities (1992)	
Excavation (1992)	



## **TOWN RESOURCES**

### **Water Resources**

#### Water Supplies

All of Loudon's households and businesses depend on groundwater that is stored in natural aquifers and accessed by private wells. Between 1983 and 1997, the NHDES has issued 132 well permits to residents of Loudon. Well clusters occur in more densely populated residential areas. Noticeable concentrations occur along Route 106, west of Oak Hill Road, and in the region defined roughly by Currier Road, Clough Hill Road, and Young Hill Road. These new well locations have been mapped by NHDES.<sup>10, 18</sup>

#### Ponds<sup>11, 12, 13, 14, 33</sup>

Clough Pond is located on Loudon's western border with Canterbury. It is a 45-acre pond with a maximum sounded depth of over 55 feet.

Crooked Pond is a 29-acre pond with an average depth of 13 feet. This pond is located in the southeastern portion of Loudon, not far from the Chichester town line.

Sanborn Pond is located in east central Loudon near the Pittsfield/Gilmanton town line. Sanborn is a 104- acre pond with a maximum sounded depth of 23 feet.

Holt Pond, or Unnamed Pond #3, is a 43-acre pond with an average depth of five feet.

#### Rivers<sup>11, 12, 13, 14</sup>

With its headwaters in Gilmanton, the Soucook River forms in the northwestern portion of Loudon from the confluence of several brooks. The Soucook joins more streams further down river and grows in size as it continues through Loudon in a southeasterly direction toward the Concord/Pembroke border.

#### Brooks<sup>11, 12, 13, 14, 33</sup>

Academy Brook flows into Loudon from Gilmanton. In Loudon, it travels several miles to Kimball Brook and Bumfagon Brook and helps form the Soucook River.

Kimball Brook flows along the Loudon/Canterbury border for a few miles from Rocky Pond before it enters Loudon. The brook then travels a short distance to converge with Academy Brook.

Bumfagon Brook forms in the central northern portion of Loudon and then travels about a mile until it converges with the Soucook River.

Clarke Brook flows from a small pond in central Loudon a few miles to the Soucook River.

Pine Island Brook forms around Hunting Swamp in southwest Loudon and flows southeast for a few miles until it joins the Soucook River.

Bee Hole Brook begins north of Crooked Pond in a marshy area and is increased by the outflow of Crooked Pond. The brook then flows south into Giddis Brook and then into the Soucook.

Giddis Brook flows into Loudon from Chichester in the southeast corner of Loudon. The brook flows a short distance in Loudon and eventually meets the Soucook River.

Gues Meadow Brook originates south of the New Hampshire International Speedway and flows southward, helping to form the Soucook River with Academy Brook.

Shaker Brook originates from Carding Mill Pond in Canterbury and flows south to its confluence with its tributary Pickard Brook, also originating in Canterbury. At this point, Shaker Brook flows southeast until it empties into the Soucook River.

### Hydric Soils

Out of the total land acreage of Loudon (29,696), 14.8% is comprised of hydric soils: <sup>14, 32</sup>

<b>HYDRIC SOILS</b>	<b>Acreage</b>	<b>Total Percentage of Town</b>
Poorly Drained	3163	10.7
Very Poorly Drained - organic base	725	2.4
Very Poorly Drained - mineral base	270	.9
Marsh	224	.8
<b>TOTALS</b>	<b>4382</b>	<b>14.8</b>

### Watersheds

The Soucook and Suncook Rivers dominate Loudon's surface drainage system. More than 75% of the Town's area is drained into the Suncook River, either directly or through a series of tributaries. The Suncook River watershed drains the far eastern part of the Town. <sup>10, 12, 33</sup>

### Aquifers

A large coarse-grained stratified drift aquifer exists along the Soucook River corridor in Loudon. This aquifer stretches from Rocky Pond at the junction of the Gilmanton/Loudon/Canterbury border and travels south along Route 106 until the Soucook forms from the confluence of small streams. From there, the aquifer travels south again. It underlies the Soucook River and runs between Concord and Pembroke. <sup>16</sup>

### Wetlands

Many small and medium sized wetlands exist throughout Loudon. A large wetland is located in the southwestern corner of Loudon between Route 106 and Old Shaker Road. Another large wetland can be found east of Route 129 in central Loudon. Several medium sized wetlands can be found in the northeastern corner of Loudon, many of which are located in conservation lands. <sup>17</sup>

**Identified Water Resource Priorities**

Past Town reports have named the following water resources as being particularly important to the Town: <sup>28, 29</sup>

- ☛ Bream Jaggen Swamp, just south of Rocky Pond
- ☛ Sanborn Brook Swamp
- ☛ Cranberry Bogs, due south of Hunting Swamp near Pine Island Brook
- ☛ Peat Bog
- ☛ Hothole Pond
- ☛ Sanborn Pond
- ☛ Clough Pond
- ☛ Crooked Pond
- ☛ Bumfagon Brook
- ☛ Bee Hole Brook
- ☛ Academy Brook
- ☛ Shaker Brook
- ☛ Holt Pond

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Rivers and streams
Second Priority	Aquifers
Third Priority	Lakes and ponds
Fourth Priority	Designated prime wetlands
Fifth Priority	Watersheds

Surveys returned from Loudon indicated the following as water resource priorities:

- Aquifers,
- Designated prime wetlands,
- Lakes and ponds,
- Rivers and streams, and
- Watersheds.

Half of the respondents felt that the Town’s ordinances and regulations adequately protect their water resources, while half disagreed. <sup>31</sup>

Specific comments included: <sup>31</sup>

- ☛ Loudon's ordinances need to be updated to address water resources specifically.
- ☛ We need to protect the Soucook River and its watershed.



☛ **Land and Forestry Resources**

The total number of acres under conservation was calculated to be approximately 11% of the entire Town. The following table breaks down the components: <sup>8, 20, 21, 22, 33</sup>

CONSERVATION LANDS	Held by	Acres
Bachelor Lot	Town	152
Bachelor easement	Town	35
Bachelor easement	Town	34
Bearhill Commons Lot	Town	18
Harvey Bergeron WMA easement	NH F&G	81
Clough Pond	NH F&G	1
Crooked Pond	NH DOT	1
Flagg Lot	Town	20
Esther Greene easement	Town	98
Hoit Road Marsh WMA	NH F&G	219
Loudon Grade School Fields	Town	3
Loudon Recreation Fields	Town	43
Maxfield Lot	Town	181
William Maxfield Monument	Town	1
Richard Merrill easement	Town	273
Joseph Merrill easement	Town	189
Oak Hill Fire Tower Land	State	2
Oak Hill Fire Tower Right of Way	State	6
Osborne WMA easement	NH F&G	738
Prescott easement	Town	113
Row - Access Clough Pond - Berry	NH F&G	1
Sanborn Family Trust easement	Town	332
Soucook River State Forest	Town	50

Thunberg easement	Town	25
Town Beach	Town	1
Bruce Yeaton easement	Town	129
New Hampshire International Speedway lands	Town/NH DRED/NH F&G	282
Maxfield Road (Old Cabot Lot)	NH F&G	43
Nature Conservancy (former Bear Paw Timber Co.)	TNC	128
<b>TOTAL ACREAGE PROTECTED</b>		<b>3199</b>

In addition, approximately 19,594 acres, or 66% of the Town’s total area, were in current use as of December 31, 1998.<sup>33</sup>

In 1998, Loudon did not support a land use change tax allocation to be directed to the Conservation Fund for additional land acquisition.<sup>23</sup>

***Identified Land & Forestry Resource Priorities***

Past Town reports have named the following land and forestry resources as being particularly important to the Town:<sup>29</sup>

- ♣ Hoit Road Marsh Wildlife Management Area
- ♣ Soucook River State Forest

***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Open space
Second Priority	Agricultural land
Third Priority	Conservation easements
Fourth Priority	Town parks and forests
Fifth Priority	Deeded conservation lands

Surveys returned from Loudon indicated the following as land and forestry resource priorities:

- Agricultural land,
- Open spaces,
- State parks and forests, and

- Town parks and forests.

Half of the respondents felt that the Town's ordinances and regulations adequately protect their land and forestry resources, while half disagreed.<sup>31</sup>

*Specific comments*<sup>31</sup>

- ✦ Additional protection should be sought for prime agricultural land.



## **Historical and Cultural Resources**

### *National Register of Historic Places*

Loudon does not have any sites located on the National Register at this time. A large effort is required on the part of individuals to promote places of historic importance through applications to the National Historic Register.<sup>24</sup>

### *New Hampshire Historical Markers*

These markers stand at places of great historical significance to the State of New Hampshire. Some of these places contain tangible reminders of the past, while others mark the locations of where structures once stood or a historical event took place.

One of the most well-known historical sites in New Hampshire is the Canterbury Shaker Village. While Loudon shares this historical site with Canterbury, the actual marker is located off of Route 106 at the terminus of Shaker Road in Loudon. The Shakers built the attractive utopian Canterbury Shaker Village in 1792 based on their high moral standards. The Shakers became renown for their craftsmanship, agricultural efficiency, and domestic skill. The Shaker Village was listed on the National Register in 1975 under the Town of Canterbury.<sup>25</sup>

Local markers, or the actual remnants of the structures themselves, indicate the sites of various other, yet not less important, historic landmarks and events:<sup>1, 8, 18</sup>

- ✦ The Loudon Town Hall was erected in 1779 and served as the first church for the Town as well. In 1782, New Hampshire's first Shaker sermon was given in this building.
- ✦ The Sanborn Farm has been owned and operated by the same family for over a century. Their water-powered sawmill has been in operating condition since pre-revolutionary times.
- ✦ Five stone houses made from cut Loudon stone were built in 1830, and four of them still stand today.
- ✦ An old Native American trail travels along the Soucook River in Loudon. This trail once connected the Concord area with Alton and Lake Winnepesaukee.

-  At least a dozen small district schools existed in Loudon in the 19th century.
-  Old tanning pits used in processing leather goods in the late 1700's can still be found off of Pleasant Street.
-  The original Town post office is the oldest standing structure in Loudon. The structure also served as Abraham Batchelder's store.
-  Various old mill sites dot Loudon's countryside. These mills played a major part in the Town's early development. Some remains of these structures can be seen along the Soucook River.

Covered Bridges

Covered bridges once played an integral part of the transportation network of the 19th century. There is no evidence nor records of any covered bridges being located in Loudon.<sup>26</sup>

Cemeteries

As do many other small Central Region towns, Loudon has a rich heritage and a strong connection to its past. Cemeteries, both Town and small, private family plots, are an important and personal link. Loudon has many Town and private cemeteries. A few of them are listed below:<sup>8, 18</sup>

<b>CEMETERIES</b>	<b>Owner</b>	<b>Parcel Number / Location</b>
Mount Hope Cemetery	Town	
Moore Cemetery	Town	
Loudon Center Cemetery	Town	
Maxfield Cemetery	Town	
Lovering Cemetery	Town	
Loudon Ridge Cemetery	Town	

**Identified Historical Resource Priorities**

Past Town reports have named the following general and specific historical and cultural resources as being particularly important to the Town:<sup>29</sup>

-  Town pound
-  William A. Maxfield Monument

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Cemeteries
Second Priority	Cultural interest sites
Third Priority	Covered bridges
Fourth Priority	National Register of Historic Places
Fifth Priority	Archaeological sites

Surveys returned from Loudon indicated the following as historical and cultural resource priorities:

- Cemeteries,
- Cultural interest sites,
- Mill sites, and
- Museums.

The majority of respondents felt that the Town's ordinances and regulations adequately protect their historical and cultural resources.<sup>31</sup>

Specific comments<sup>31</sup>

 None



 **Ecological Resources**

NH Natural Heritage Inventory

Several outstanding plant and animal species have been located in Loudon since the 1930's and recorded in the NHI program's database.<sup>27</sup>

The plant species Canadian Mountain-Rice (*Oryzopsis candensis*) is listed as endangered in the State of New Hampshire. The only listed sightings of this rare plant (both in the Granite State and in Loudon) are historical.

The invertebrate mollusk Brook Floater (*Alasmidonta varicosa*) is listed in the State as endangered. One occurrence in Loudon within the last 20 years has been recorded.

The vertebrate Blanding's Turtle (*Emydoidea blandingii*), not a native species to New Hampshire, has been sighted in Loudon only once within the last 20 years.

A Great Blue Heron (*Ardea herodias*) rookery is located in Loudon. This species of bird is not listed as threatened or endangered as there are 33 locations reported within New Hampshire.

### Corridors

Corridors and greenways are typically used not only by people for recreation or transportation, but also by wildlife to travel from one habitat to another. Maintaining viable and undeveloped corridors ultimately measures the biological success of the animals, particularly larger mammals, within an area. The following corridors have been identified in Loudon: <sup>15, 18 19</sup>

A large riparian corridor is located along the Soucook River which forms in northern Loudon and flows in a southerly direction and eventually forms the border between Concord and Pembroke. The wild and undeveloped nature of the Soucook offers prime habitat and migration opportunities.

### Exemplary Natural Communities

Other special, undisturbed lands are essential for the biological diversity of plants and animals. The more bio-diversity found within an area, the more valuable and self-sustaining the community becomes from both ecological and economic perspectives. The following natural community has been identified in Loudon: <sup>18</sup>

A large, mostly continuous area of conservation land is located in the northeastern corner of Loudon. The area contains a pond, several wetlands and streams and very few roads.

### ***Identified Ecological Resource Priorities***

Past Town reports have named the following ecological resources as being particularly important to the Town: <sup>28</sup>

- ☛ Breem Jaggen Swamp
- ☛ Blue Heron Nesting areas
- ☛ Sanborn Pond
- ☛ Hoit Road Marsh wildlife habitat
- ☛ Cranberry Bogs
- ☛ Peat Bog
- ☛ Hothole Pond
- ☛ Soucook River State Forest
- ☛ Crooked Pond

### ***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Scenic vistas
Second Priority	Plant/tree communities (tied w/3rd)
Third Priority	Greenway corridors (tied w/2nd)
Fourth Priority	Riparian corridors
Fifth Priority	Biological diversity

Surveys returned from Loudon indicated the following as ecological resource priorities:

- Biodiversity, and
- Greenway corridors.

All of the respondents felt that the Town's ordinances and regulations do not adequately protect their ecological resources.<sup>31</sup>

Specific comments<sup>31</sup>

☛ None



☛ **Geologic Resources**

Surficial Geology

Glacial drift left over from the Pleistocene Period underlies most of Loudon. Stratified drift outwash plains lie beside the Soucook River and are accompanied by sand pits scattered in kames and kame terraces. Organic deposits are found in various wetland areas.<sup>12, 14</sup>

Additional and perhaps more recognizable geologic formations are mountains and hills:<sup>14, 28</sup>

MOUNTAINS AND HILLS	Elevation
Clough Hill	800'
Bear Hill	740'
Oak Hill	920'

Bedrock Geology

The Littleton Formation composed of undifferentiated schists and gneisses dominates Loudon's bedrock and underlies approximately 80% of the Town. Two small patches of Binary Granite (Concord Granite) lies in southern Loudon, one south of Hothole Pond and one just west of Route 106. Grey gneiss is found in the north, and isolated deposits of pegmatite dot the Town.<sup>12, 14</sup>

**Identified Geological Resource Priorities**

Past Town reports have named the following geologic resources as being particularly important to the Town: <sup>28</sup>

- ✕ old mica mine
- ✕ old gold mine
- ✕ old silver mine
- ✕ old quarry sites
- ✕ gravel deposits

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Mountains and hills
Second Priority	Soils identification
Third Priority	Sand and gravel deposits
Fourth Priority	Bluffs
Fifth Priority	Gorges

Surveys returned from Loudon indicated the following geologic resource priorities:

- Gorges,
- Mining sites,
- Mountains and hills,
- Sand and gravel deposits, and
- Soils identification.

The majority of respondents felt that the Town’s ordinances and regulations adequately protect their geologic resources. <sup>31</sup>

Specific comments <sup>31</sup>

- ✕ None





## **Recreational Resources**

A variety of recreational opportunities and resources exist in Loudon that are closely associated with the previous resources stated earlier in this narrative. In addition, there are several others deserving of attention: <sup>18, 29, 30, 33</sup>

<b>PUBLIC &amp; PRIVATE RECREATION</b>	<b>Type</b>	<b>Location</b>	<b>Acreage / Miles</b>
Loudon Recreation Field	Town	at Intersection of Routes 106 & 129	43 acres
Loudon Country Club	private	off Route 106, north of its intersection with Shaker Road	84 acres
Cascade Park	Private	off Route 106	60 acres
Loudon Grade School	Town	School Street	3 acres
Clough Pond boat access	State	Clough Pond Road	1 acre
Hoit Road Marsh Wildlife Management	State	at the Concord city line, off Hoit Road	64 acres
Osborne Wildlife Management	State		370 acres
Oak Hill State Forest Tower	State	west of Oak Hill Road	2 acres
Soucook River State Forest	State	west of Route 106 near Concord city line	50 acres
NH International Speedway	private	where Route 106 enters Canterbury	438 acres
Crooked Pond boat access	State	off Route 129	1 acre
Town Beach	Town	Clough Pond Road	1 acre

### ***Identified Recreational Resource Priorities***

Past Town reports have named the following recreational resources as being particularly important to the Town: <sup>28</sup>

-  Soucook River State Forest
-  Hoit Road Marsh
-  Cascade Park
-  the Speedway
-  the Town swimming beach
-  Crooked Pond

### ***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Recreational trails
Second Priority	Canoe/boat access
Third Priority	Outdoor sporting fields
Fourth Priority	Picnic areas and playgrounds
Fifth Priority	Beach access

Surveys returned from Loudon indicated the following recreational resource priorities:

- Beach access,
- Canoe/boat access,
- Outdoor sporting fields,
- Picnic areas and playgrounds, and
- Recreational trails.

Specific comments <sup>31</sup>

 None



**Other Identified Resource Priorities**

Town officials and volunteers have named the following other resources as being particularly important to the Town: <sup>18</sup>



None listed



***ACTIVE RESOURCE PRESERVATION COMMITTEES***

In order to more adequately protect these finite natural and historical resources, Loudon has established a Conservation Commission.<sup>8</sup>

Conservation Commission

Recent activities of the Conservation Commission include: monitoring NHIS parking facilities and wetland mitigations; stabilizing the Town beach and a few other areas; monitoring conservation lands and lands held under conservation easements; and being active in planning issues where the environment is threatened.

Historical Society

A private Historical Society also exists to help protect Loudon's heritage. In 1996, the society moved into their permanent museum located in the Community Building at the back of the Town Office Building. In addition, the Historical Society is helping Loudon compile a Town History.



**ADDITIONAL SURVEY FINDINGS**

The following results have been also compiled from Loudon's responses to the natural, cultural, and historical resources survey: <sup>31</sup>

Conservation Activities Undertaken Within the Last Three (3) Years

- developing easement areas around the Soucook River and watershed

Conservation Activities Planned or Anticipated Within the Following Three (3) Years

- \* mapping of all prime wetlands and major streams to develop protective ordinances

Essential Factors to Loudon's "Quality of Life"

-  abundant open space both in fields and forests as well as streams and ponds
-  economic development that co-exists with the environment by organized zoning

REFERENCES

- 1 - *CNHRPC: Historical Overview, 1976*
- 2 - *CNHRPC Regional Master Plan: Land Use Element, 1991*
- 3 - *US Census STF1A and STF3A, 1970, 1980, & 1990*
- 4 - *NH Office of State Planning: Current Estimates and Trends in NH's Housing Supply 1996, 1997*
- 5 - *NH Office of State Planning: Population Estimates of NH Cities and Towns (1997), 1998*
- 6 - *Loudon Zoning Ordinance, 1995*
- 7 - *Town Officials/Employees, 1998*
- 8 - *Loudon Town Annual Report, 1996*
- 9 - *Loudon Site Plan Review Regulations, 1990*
- 10 - *NH Department of Environmental Services, Water Resources Division, 1998*
- 11 - *NH Fish and Game: Biological Survey of the Lakes and Ponds in Survey Report 8c, 1970*
- 12 - *CNHRPC: Natural Resources Inventory, 1974*
- 13 - *Inventory of Merrimack County Lakes and Ponds, 1968*
- 14 - *Loudon Master Plan: Land Use Element, 1992*
- 15 - *NH Geographically Referenced and Information Transfer (GRANIT) System, 1998*
- 16 - *US Geological Survey (Bow, NH): Bedrock Geology Mapping, 1998*
- 17 - *US Fish and Wildlife Service: National Wetlands Inventory, 1986-1990*
- 18 - *Town Officials (anecdotal), 1998*
- 19 - *NH Office of State Planning: Comprehensive Statewide Trails Study, 1997*
- 20 - *Society for the Protection of NH Forests, 1998*
- 21 - *LCIP Final Report, 1993*
- 22 - *State of NH: Real Property Summary, 1995*
- 23 - *NH Association of Conservation Commissions, 1998*
- 24 - *NH Division of Historical Resources: Historical New Hampshire, 1990*
- 25 - *NH Division of Historical Resources: Historical Markers, 1989*
- 26 - *NH Department of Transportation: Covered Bridges of the Past, 1994*
- 27 - *NH Department of Revenue and Economic Development: NH Natural Heritage Inventory, 1998*
- 28 - *CNHRPC: Open Space Plan, 1980*
- 29 - *NH Office of State Planning: Recreation Plan, 1997*
- 30 - *Visit NH Webpage: Merrimack Valley Attractions, 1998*
- 31 - *Loudon Survey Results, 1998*
- 32 - *Merrimack County Conservation District: Inventory of Soil Erosion and Agricultural Waste, 1979*
- 33 - *1999 Municipal Profile Update*

**PEMBROKE**

About Pembroke.....	
Member of CNHRPC	✓
Surveys Mailed	15
Surveys Received for Tallying	3
REPP Meeting Participation	✓
Profile Review & Comment by Town	X
1999 Update	X

**Historical Profile**

In 1728 the legislature of the colony of Massachusetts granted an area of land called Suncook to the survivor of Captain John Lovell’s band of “Indian Fighters”. One year earlier, however, the Masonian had granted the same land to the Town of Bow. This kind of conflict was common in the early settlement of New Hampshire and in the case of Suncook, the conflict was settled amicably. The English King gave the land to the New Hampshire grantees with the provisions that those who had already settled the lands in question would not be disturbed. In 1759, Governor Wentworth formally named and defined Pembroke. Early industries in Pembroke included brick making and cotton milling. In 1818, the Pembroke Academy was established and has remained a important part of Pembroke’s heritage through present day.<sup>1</sup>

**Present-Day Profile**

The area of Pembroke is 14,528 acres, or 22.7 square miles. The Town comprises 2.8% of the CNHRPC area.<sup>2</sup>

Over the last twenty-seven years, Pembroke’s population has grown by 58% while the number of housing units has increased by 42%:<sup>3, 4, 5</sup>

GROWTH	Population	Net Change		Housing Units	Net Change	
		#	%		#	%
1970 (US Census)	4261	na	na	897	na	na
1980 (US Census)	4861	+ 600	+14.1	1114	+ 217	+ 24.2
1990 (US Census)	6561	+ 1700	+ 35.0	1221	+ 107	+ 9.6
1997 Population & 1996 Housing (NHOSP)	6724	+ 163	+ 2.5	1275	+ 54	+ 4.4
<b>TOTAL CHANGE FROM 1970 - 1997</b>		+ 2463	<b>+ 57.8%</b>		+ 378	<b>+ 42.1%</b>

In an effort to control its growth, while protecting its resources in an economically viable manner, the Town has adopted a number of land use controls to facilitate the conservation process:<sup>6</sup>

<b>Town Zoning Districts</b>	<b>Town-Adopted Resource &amp; Conservation Ordinances</b>
Medium Density - Residential	Cluster Development Regulations
Rural/Agricultural - Residential	Shoreland Protection Ordinance
Business/Residential	Aquifer Development Ordinance
Central Business	Floodplain Development Ordinance
Commercial/Light Industrial	Excavation Regulations
Limited Office	Wetland Ordinance
Architectural Design (Overlay)	
Floodplain Development (Overlay)	
Home Business (Overlay)	
Shoreland Protection (Overlay)	
Wetlands (Overlay)	
Aquifer Conservation (Overlay)	

Non-regulatory measures for protecting Pembroke’s resources include the following: <sup>7, 8, 9</sup>

<b>Town Master Plan Elements</b>	<b>Town Conservation Plans, Reports and Studies</b>
Goals and Objectives (1993)	
Resources (1993)	
Population & Housing (1993)	
Economic Factors (1993)	
Town Services & Facilities (1993)	
Transportation (1993)	
Schools (1993)	



## **TOWN RESOURCES**

### **Water Resources**

#### Water Supplies

Pembroke's public water supply system is fed through well sites on the Soucook and Suncook Rivers. The site on the Soucook River contains two wells, each pumping approximately 600 gallons per minute. The site on the Suncook River also contains two wells, each pumping about 300 gallons per minute. The second wells are used to maintain pressure in the water system.

Between 1983 and 1997, the NHDES has issued 95 well permits. The majority of these new private wells have been clustered on Fourth Range Road (15), Cross Country Road (11) Beacon Road (10), and Church Road (9). These new well sites have been mapped by NHDES.<sup>10</sup>

#### Ponds<sup>11, 12, 13, 14</sup>

Interestingly, only one pond of note exists within Town. Bragfield Pond is located off of Brickett Hill Road. This 5-acre pond is managed by the Conservation Commission as a wildlife area.

#### Rivers<sup>11, 12, 13, 14</sup>

The Soucook River forms the Western border of Pembroke separating it from Concord. This undeveloped River flows from Loudon to the north and travels the length between Concord and Pembroke, where it enters the Merrimack at the northern tip of Bow.

The Merrimack River separates Pembroke from Bow and forms Pembroke's southern border. The Merrimack River is the largest river in the area and has served a key purpose in the early industries of Pembroke.

The Suncook River forms the border between Pembroke and Allenstown. The river runs the length between the two towns and makes its way into the Merrimack. The Suncook is historically significant, responsible for the settling of and industries at Suncook Village which Pembroke shares with Allenstown.

#### Brooks<sup>11, 12, 13, 14</sup>

French's Brook flows 2.5 miles into the Soucook River from Plausawa Hill.

Ames Brook begins in the northeastern corner of Town, and travels downhill over an elevation of 400' feet to join with the Suncook.

Pettingill Brook connects the majority of Pembroke's few wetlands through the geographic center of Town and converges with the Suncook.

Hartford Brook travels a relatively short distance parallel to Fourth Range Road and also empties into the Suncook River.

Hydric Soils

Out of the total land acreage of Pembroke (14,528), 13.7% is comprised of hydric soils: <sup>14, 32</sup>

<b>HYDRIC SOILS</b>	<b>Acreage</b>	<b>Total Percentage of Town</b>
Poorly Drained	1571	10.8
Very Poorly Drained - organic base	200	1.4
Very Poorly Drained - mineral base	216	1.5
Marsh	0	0
<b>TOTALS</b>	<b>1987</b>	<b>13.7</b>

Watersheds

Although the surface water features within Pembroke’s political boundaries are limited, the Town is 2/3 bordered by large Rivers. Because of this unique hydrologic advantage, the Town is half encompassed within the Soucook and half within the Suncook watersheds. <sup>10</sup>

Aquifers

A large aquifer exists along the Soucook River in Pembroke. This aquifer is mostly coarse-grain stratified drift and coarse-grain overlaying fine-grain stratified drift. Another large aquifer exists along the Merrimack in Pembroke. This aquifer contains coarse-grain and coarse-grain overlaying fine-grain stratified drift. This aquifer also contains portions of fine-grain stratified drift. A third aquifer exists along the Suncook in eastern Pembroke. This aquifer is mostly coarse-grain overlaying fine-grain stratified drift with a small portion being fine-grain stratified drift. The benefit of these numerous large aquifers should ensure an important future water supply. <sup>16</sup>

Wetlands

Wetlands inventoried, field-checked, and mapped by the US Fish and Wildlife Service between 1986 and 1990 dot the entire Town. The wetlands in Pembroke are fairly small in size and spread throughout all of Pembroke. <sup>17</sup>

**Identified Water Resource Priorities**

Town officials and volunteers have named the following water resources as being particularly important to the Town: <sup>18</sup>

-  Merrimack River
-  Soucook River
-  Suncook River
-  Pond on Academy Street
-  Canal
-  Main Street Dam
-  Wetlands

### Survey Findings

The following table documents the general resource priorities of those who returned surveys from the Town of Pembroke. Although the results are not statistically significant, they do give an indication of what is most important to the community. The responses are compared with the general resource priorities of other communities' respondents in the CNHRPC Region: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Rivers and streams
Second Priority	Aquifers
Third Priority	Lakes and ponds
Fourth Priority	Designated prime wetlands
Fifth Priority	Watersheds

Surveys returned from Pembroke indicated the following as water resource priorities:

- Aquifers,
- Other wetlands,
- Rivers and streams,
- Shorelands, and
- Watersheds.

All of the respondents felt that the Town's ordinances and regulations adequately protect their water resources. <sup>31</sup>

Specific comments included: <sup>31</sup>

☛ no additional comments were given



### 🌲 Land and Forestry Resources

The total number of acres under conservation was calculated to be approximately 3% of the entire Town. The following table breaks down the components: <sup>8, 20, 21, 22</sup>

CONSERVATION LANDS	Held By	Acres
Anderson Lot	Town	27
Bow Lane Conservation Land	Town	1
Bragfield Pond Conservation Area	Town	27
Concord Wellfield	Town	50
Keniston easement	Town	3
Mason Avenue Conservation Land	Town	11

Merrimack River Conservation Land	Town	3
Pembroke Water Works	Town	26
Scripture easement	Town	10
Shuett Conservation Area	Town	7
Suncook River Access	Town	3
Town Forest - Butterfield	Town	28
Town Land	Town	7
Veterans Park	Town	1
White Sands Road Conservation Land	Town	1
White Sands Conservation Area	Town	33
Whittemore Town Forest	Town	135
<b>TOTAL ACREAGE PROTECTED</b>		<b>373</b>

In addition, approximately 9034 acres, or 62% of the Town’s total area, were in current use as of December 31, 1998. <sup>33</sup>

In 1998, Pembroke did not support a land use change tax allocation to be directed to the Conservation Fund for additional land acquisition. <sup>23</sup>

***Identified Land & Forestry Resource Priorities***

Town officials and volunteers have named the following land and forestry resources as being particularly important to the Town: <sup>18</sup>

- ✦ Town lands
- ✦ Town Forest
- ✦ Whittemore Forest
- ✦ old growth trees
- ✦ conservation lands
- ✦ open spaces
- ✦ State Parks
- ✦ agricultural lands
- ✦ floodplains

***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Open space
Second Priority	Agricultural land
Third Priority	Conservation easements
Fourth Priority	Town parks and forests
Fifth Priority	Deeded conservation lands

Surveys returned from Pembroke indicated the following as land and forestry resource priorities:

- Conservation easements,
- Deeded conservation lands,
- Open space, and
- Town parks and forests.

The majority of the respondents felt that the Town’s ordinances and regulations adequately protect their land and forestry resources.<sup>31</sup>

Specific comments<sup>31</sup>

✦ no additional comments were provided



**Historical and Cultural Resources**

National Register of Historic Places

Pembroke has one exemplary site located on the National Register which was nominated and listed in the 1980’s. No additional regulative restrictions are placed upon those properties which are listed on the National Register, but instead a listing in the Register recognizes the significance of and encourages the stewardship of the property:<sup>1, 24</sup>

NATIONAL REGISTER OF HISTORIC PLACES	Date Listed	Location	Significance/Description
Pembroke Mill (Emerson Mill)	9/85	100 Main Street	

New Hampshire Historical Markers

These markers stand at places of great historical significance to the State of New Hampshire. Some of these places contain tangible reminders of the past, while others mark the locations of where structures once stood or a historical event took place.

One of the sites with the most historical significance is the site of the first meeting house and church. The original building was built in 1733 and served as the first meeting house in the Suncook Grant. The meeting house also came to serve as the first church and helped foster early Christian ideals. The building has been moved, rebuilt, and enlarged several times.<sup>25</sup>

Local markers, or the actual remnants of the structures themselves, indicate the sites of various other, yet not less important, historic landmarks and events:<sup>1, 8, 18</sup>

- ❏ Brickyards played an important role in Pembroke's early prosperity. These large mills were located primarily along the Merrimack. Clay was taken from the banks of the river to make the bricks. Only the clay banks and pieces of brick remain at these sites.
- ❏ A heartfelt monument, honoring the memory of schoolgirl Josie Langmaid who was savagely murdered almost a century ago, has been erected on Academy Road.
- ❏ Several old mills along the Soucook and Suncook long served the community. During both the World Wars some of these mills were utilized to make needed materials and today many are still used for a variety of purposes.
- ❏ The old Suncook Glass Works operated during the mid 1800's as one of the few glass mills around. Located between the Suncook River and Glass Street, this mill used sand shipped in from Massachusetts.
- ❏ Some uniquely old homesteads reside in Pembroke. One of the oldest is Doyen's Log Cabin which dates to 1728.
- ❏ Pembroke Academy was constructed in 1818 and has served as Pembroke's public school since then. Many of the original buildings have been destroyed over the years and new ones built in their stead, but overall the complex is still a good example of early architectures.

### Covered Bridges

Covered bridges once played an integral part of the transportation network of the 19th century. Today, they are recognized for their beauty and uniqueness. There are no records of any covered bridges built in Pembroke.<sup>26</sup>

### Cemeteries

As do many other small Central Region towns, Pembroke has a rich heritage and a strong connection to its past. Cemeteries, both Town and small, private family plots, are an important and personal link:<sup>8, 18</sup>

<b>CEMETERIES</b>	<b>Owner</b>	<b>Parcel Number / Location</b>
Pembroke Street Cemetery	Town	Pembroke Street
Buck Street Cemetery	Town	Buck Street
Evergreen Cemetery	Town	

Pembroke Hill Cemetery	Town	
North Pembroke Cemetery	Town	
North Pembroke Cemetery	Town	
Abbott Cemetery	Town	
Button Hole Square Cemetery		

**Identified Historical Resource Priorities**

Town officials and volunteers have named the following general and specific historical and cultural resources as being particularly important to the Town: <sup>18</sup>

-  Town pound
-  cemeteries
-  old homes along Pembroke Street
-  old RR bed along Merrimack River
-  shore of the Merrimack
-  Town Clock
-  Downtown area
-  Conference Center
-  Langmaid memorial
-  Emerson mill
-  Glass Works
-  Water works
-  stone walls
-  old Buck Street school house
-  old congregational church site
-  one-room schoolhouse on Pembroke Street

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Cemeteries
Second Priority	Cultural interest sites
Third Priority	Covered bridges
Fourth Priority	National Register of Historic Places
Fifth Priority	Archaeological sites

Surveys returned from Pembroke indicated the following as historical and cultural resource priorities:

- Cemeteries,
- Cultural interest sites,
- National register of Historic Places, and
- Town pond

All of respondents felt that the Town's ordinances and regulations did not adequately protect their historical and cultural resources. <sup>31</sup>

*Specific comments* <sup>31</sup>

- Need recognition of historic places in zoning



• **Ecological Resources**

*NH Natural Heritage Inventory*

Several outstanding plant and animal species have been located in Pembroke since the 1930's as well as one outstanding natural community and recorded NHI program's database. <sup>27</sup>

The Golden-Heather is a rare plant species threatened in New Hampshire, but not federally or globally. There has been one reported sighting of this plant in Pembroke and only 10 other sightings within the state of New Hampshire.

Another rare plant species seen in Pembroke is the Wild Lupine. This plant is also threatened in the State, but not federally or globally. There have been several reported sightings of this plant in Pembroke over the last 20 years. Of particular significance, the Wild Lupine is the sole diet of the federally and globally endangered Karner Blue butterfly.

There has been one reported sighting in Pembroke in the last 20 years of a bird species which is threatened federally and globally and is endangered in the State of New Hampshire. This rare and exquisite bird is the Bald Eagle. While there have been only 10 reported sightings in New Hampshire, a large and successful effort has been underway for several years to help bring this species of bird back from the brink of extinction.

There are several rare species of insects in Pembroke and several are associated with a unique habitat know as a Pitch Pine/Scrub Oak Barren. These insects are: Geometrid, two types of Noctoid Moth, *Apentesis carlotta*, Barrens Xylotype, Pine Barrens Zanclognatha, and the Pine Sphinx. Of all of these species only one is listed as threatened in the state and that is the Pine Barrens Zanclognatha Moth.

A prime example of a New England Pitch Pine/Scrub Oak Barren is located in Pembroke. This unique type of natural community is home to many rare species of plants and insects and is in itself, a rare find in New England.

***Corridors***

Corridors and greenways are typically used not only by people for recreation or transportation, but also by wildlife to travel from one habitat to another. Maintaining viable and undeveloped corridors ultimately measures the biological success of the animals, particularly larger mammals, within an area. The following corridors have been identified in Pembroke: <sup>15, 18 19</sup>

Riparian corridors exist along each of the three rivers that mark Pembroke’s borders. These corridors, when adequately preserved and protected from development, are unique habitats which serve to harbor to many species of plants, animals and insects.

A few large utility line corridors travel through Pembroke in north-south direction and also in an east-west direction. These corridors can act as protected travel corridors for many different animal species and also offer particular plant species for food or shelter.

***Identified Ecological Resource Priorities***

Town officials and volunteers have named the following ecological resources as being particularly important to the Town: <sup>18</sup>

- ☛ Lupine growth area
- ☛ White Sands
- ☛ orchards
- ☛ various animals
- ☛ floodplains
- ☛ deeryards

***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Scenic vistas
Second Priority	Plant/tree communities (tied w/3rd)
Third Priority	Greenway corridors (tied w/2nd)
Fourth Priority	Riparian corridors
Fifth Priority	Bio-diversity

Surveys returned from Pembroke indicated the following as ecological resource priorities:

- Animal communities,
- Biodiversity,
- Plant/tree communities, and

- Riparian corridors.

All of the respondents felt that the Town's ordinances and regulations do not adequately protect their ecological resources.<sup>31</sup>

Specific comments<sup>31</sup>

- ☛ Planning board needs to consider these resources



☛ **Geologic Resources**

Surficial Geology

Various stratified drift sand and gravel deposits lie along each of the three rivers that border Pembroke. Flat floodplain areas of the Merrimack, Soucook, and Suncook Rivers, typically agricultural soils, border two-thirds of the Town. A number of kames, kame terraces, deltas, and outwash plains exist in Pembroke as evidence of the glaciation retreat.

The elevation differences within the Town are wide and varied, between 195' to 1000' above sea level, although only two specific hills have been named:<sup>14, 28</sup>

MOUNTAINS AND HILLS	Elevation
Pembroke Hill	680'
Plausawa Hill	1000'

***Identified Geological Resource Priorities***

Town officials and volunteers have named the following geologic resources as being particularly important to the Town:<sup>18</sup>

- ☛ Pembroke Hill
- ☛ glacial erratics of 3rd Range Road
- ☛ sand & gravel pits of Pembroke Street
- ☛ Porcupine Caves
- ☛ Plausawa Hill
- ☛ clay beds
- ☛ mining sites off Route 106 & Route 3

***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Mountains and hills
Second Priority	Soils identification
Third Priority	Sand and gravel deposits
Fourth Priority	Bluffs
Fifth Priority	Gorges

Surveys returned from Pembroke indicated the following geologic resource priorities:

- Bluffs,
- Eskers, kames, and drumlins
- Gorges,
- Sand and gravel deposits, and
- Soils identification.

The majority of respondents felt that the Town’s ordinances and regulations did not adequately protect their geologic resources. <sup>31</sup>

Specific comments <sup>31</sup>

☒ no additional comments were provided



**Recreational Resources**

A variety of recreational opportunities and resources exist in Pembroke that are closely associated with the previous resources stated earlier in this narrative. In addition, there are several others deserving of attention: <sup>18, 29, 30</sup>

PUBLIC & PRIVATE RECREATION	Type	Location	Acreage / Miles
Community Center	public		
Pembroke Elementary School fields	public		
Pembroke Hill School Fields	public		
Pembroke Academy	public	off of Route 3	
Memorial Field	public	30 Memorial Field	30 acres
Pembroke Place School	public		
Bragfield Pond Conservation Area	public	502-516 3rd Range Road	27 acres

Town Forest	public	305-325 Brickett Hill Road	28 acres
Plausawa Golf Course	private		
White Sands	public	White Sands Road	33 acres
Whittemore Forest	public	501-623 Kimball Road	135 acres

**Identified Recreational Resource Priorities**

Town officials and volunteers have named the following recreational resources as being particularly important to the Town: <sup>18</sup>

- White Sands
- Town Forest
- Whittemore town forest
- Memorial Field and boat access
- Bragfield pond
- playgrounds
- outdoor sporting fields
- beach access
- Victory Park
- Four Girls Memorial Library

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Recreational trails
Second Priority	Canoe/boat access
Third Priority	Outdoor sporting fields
Fourth Priority	Picnic areas and playgrounds
Fifth Priority	Beach access

Surveys returned from Pembroke indicated the following recreational resource priorities:

- Canoe/boat access,
- Outdoor sporting fields,
- Picnic areas, and
- Recreational trails.

Specific comments <sup>31</sup>

- no other comments were provided





**Other Identified Resource Priorities**

Town officials and volunteers have named the following other resources as being particularly important to the Town: <sup>18</sup>



Plausawa Valley Country Club



Suncook Valley railroad bed



Sanitorium site near top of Center Road



Bambam Bridge area



## **ACTIVE RESOURCE PRESERVATION COMMITTEES**

In order to more adequately protect these finite natural, historical, and recreational resources, Pembroke has established both a Conservation Commission and a Recreation Commission.

### Conservation Commission

Recent activities of the Conservation Commission include: preserving the White Sands beach area; clearing and maintaining trails throughout the Whittemore and Town Forest along with mapping and placing signage along the trails; identified the natural resources located on Town-owned lands; helping with the Soucook River Watershed Study; and identifying parcels of land which may be purchased and preserved as conservation land.

### Recreation Commission

A few of the functions of the Recreation Commission include: overseeing the maintenance of Gamelin Field; helping coordinate Town events like Old Home Day; helping stabilize portions of the Merrimack River bank; plus many more. One unique program held by the Commission is the summer recreation program. This two-dollar-a-day, five-week program for children entering grades 2-8 immerses children in safe and fun activities and weekly field trips.

## **ADDITIONAL SURVEY FINDINGS**

The following results have been also compiled from Pembroke's responses to the natural, cultural, and historical resources survey: <sup>31</sup>

### Conservation Activities Undertaken Within the Last Three (3) Years

- directed the Almost Home Day 5K Road Race
- organized a canoe trip up the Merrimack River

### Conservation Activities Planned or Anticipated Within the Following Three (3) Years

- ✧ road race

### Essential Factors to Pembroke's "Quality of Life"

- ✧ an approachable government
- ✧ community spirit
- ✧ decent public facilities
- ✧ having 3 rivers form the Town's boundaries
- ✧ the Town's rural setting compounded with its proximity to Concord and Manchester



REFERENCES

- 1 - CNHRPC: *Historical Overview*, 1976
- 2 - CNHRPC *Regional Master Plan: Land Use Element*, 1991
- 3 - US Census *STF1A and STF3A*, 1970, 1980, & 1990
- 4 - NH Office of State Planning: *Current Estimates and Trends in NH's Housing Supply 1996, 1997*
- 5 - NH Office of State Planning: *Population Estimates of NH Cities and Towns (1997)*, 1998
- 6 - *Pembroke Zoning Ordinance*, 1996
- 7 - *Town Officials/Employees*, 1998
- 8 - *Pembroke Town Annual Report*, 1997
- 9 - *Pembroke Site Plan Review Regulations*, 1996
- 10 - NH Department of Environmental Services, *Water Resources Division*, 1998
- 11 - NH Fish and Game: *Biological Survey of the Lakes and Ponds in Survey Report 8c*, 1970
- 12 - CNHRPC: *Natural Resources Inventory*, 1974
- 13 - *Inventory of Merrimack County Lakes and Ponds*, 1968
- 14 - *Pembroke Master Plan: Land Use Element*, 1993
- 15 - NH Geographically Referenced and Information Transfer (GRANIT) System, 1998
- 16 - US Geological Survey (Bow, NH): *Bedrock Geology Mapping*, 1998
- 17 - US Fish and Wildlife Service: *National Wetlands Inventory, 1986-1990*
- 18 - *Town Officials (anecdotal)*, 1998
- 19 - NH Office of State Planning: *Comprehensive Statewide Trails Study*, 1997
- 20 - *Society for the Protection of NH Forests*, 1998
- 21 - *LCIP Final Report*, 1993
- 22 - *State of NH: Real Property Summary*, 1995
- 23 - NH Association of Conservation Commissions, 1998
- 24 - NH Division of Historical Resources: *Historical New Hampshire*, 1990
- 25 - NH Division of Historical Resources: *Historical Markers*, 1989
- 26 - NH Department of Transportation: *Covered Bridges of the Past*, 1994
- 27 - NH Department of Revenue and Economic Development: *NH Natural Heritage Inventory*, 1998
- 28 - CNHRPC: *Open Space Plan*, 1980
- 29 - NH Office of State Planning: *Recreation Plan*, 1998
- 30 - *Visit NH Webpage: Merrimack Valley Attractions*, 1998
- 31 - *Pembroke Survey Results*, 1998
- 32 - Merrimack County Conservation District: *Inventory of Soil Erosion and Agricultural Waste*, 1979
- 33 - *1999 Municipal Profile Update*

**PITTSFIELD**

About Pittsfield.....	
Member of CNHRPC	✓
Surveys Mailed	13
Surveys Received for Tallying	2
REPP Meeting Participation	✓
Profile Review & Comment by Town	✓
1999 Update	✓

**Historical Profile**

Pittsfield owes its name to William Pitt, Prime Minister of England and a strong supporter of colonial rights in the pre-revolutionary period. Pittsfield was granted as a part of Chichester in 1727. It became a separate town when it was settled by John Cram in 1768. He immediately erected saw and grist mills. The town was incorporated on March 22, 1782. Initially, it was a collection of farms with several small centers of activity: the Lower City, South Pittsfield, Tommy Town, Knowlton’s Corner, and the Berry District. Within a few decades the Suncook River helped to bring industry to town. The Lower City, situated along the river, became the dominant political, social, commercial, and industrial center of activity. James Joy erected a scythe factory in about 1820 followed by a woolen mill in 1826. A cotton mill replaced the woolen mill when it was destroyed by fire within a year of its construction. Pittsfield was known for its shoe-making factories in the late 1800s; however, they had their beginnings in the homes of local farmers prior to that date. The population explosion of the 1830s and 1840s was interrupted by the Civil War, but the war’s end marked one of the most important periods in Pittsfield’s history. The Suncook Valley Times newspaper was established, and both the telegraph and the railroad (the Blueberry Express) arrived in 1869. The railroad made Pittsfield the center of the Suncook Valley and gave rise to tremendous commercial activity in town. This development also required a variety of services, and soon banks and churches were being built and professional services came to town. This led to the building of many residences. Education was important to the community and in 1830, Pittsfield Academy was founded. Many attendees went on to become prominent figures in the state and country. Pittsfield is well-loved by its residents and it looks at a bright future fostered by a strong community spirit.<sup>34</sup>

**Present-Day Profile**

The area of Pittsfield is 15,488 acres, or 24.2 square miles. The Town comprises 3.0% of the CNHRPC area.<sup>2</sup>

Over the last twenty-seven years, Pittsfield’s population has grown by 56% while the number of housing units has increased by 81%:<sup>3, 4, 5</sup>

GROWTH	Population	Net Change		Housing Units	Net Change	
		#	%		#	%
1970 (US Census)	2517	--	--	892	--	--
1980 (US Census)	2889	+ 372	+ 14.8	1197	+ 305	+ 34.2
1990 (US Census)	3701	+ 812	+ 28.1	1527	+ 330	+ 27.6
1997 Population & 1996 Housing (NHOSP)	3930	+ 229	+ 6.2	1617	+90	+ 5.9
<b>TOTAL CHANGE FROM 1970 - 1997</b>		+ 1413	+ <b>56.1%</b>		+ 725	+ <b>81.3%</b>

In an effort to control its growth, while protecting its resources in an economically viable manner, the Town has adopted a number of land use controls to facilitate the conservation process: <sup>6, 34</sup>

**Town Zoning Districts**

**Town-Adopted Resource & Conservation Ordinances**

Rural	Excavation Regulations
Suburban	
Urban	
Commercial	
Light Industrial/Commercial	

Non-regulatory measures for protecting Pittsfield’s resources include the following: <sup>6,7, 8, 9, 34</sup>

**Town Master Plan Elements**

**Special Conservation Plans, Reports and Studies**

Goals and Objectives Element (1994)	
Community Facilities Element (1988)	

In 1999, the Pittsfield Master Plan Committee will have completed an new Master Plan after two years of diligent volunteer work.



## **TOWN RESOURCES**

### **Water Resources**

#### Water Supplies

Berry Pond serves as the public water supply for the Town of Pittsfield. This 33-acre body of water is a natural pond that has been raised by masonry and compacted earth. It lies at an altitude of 886 feet, and has an average depth of 15 feet. The pond lies within the Suncook River watershed.

One hundred six private well permits have been issued in the Town, most of them along Route 107 (12) and along Wildwood Drive (9). Molly Lane and Tilton Hill Road also house 13 private wells collectively. Public wells at Goose Camp on Wild Goose Road, at the former Kaddyshack Restaurant at the intersection of Route 107 and 28, and at the Pittsfield Aquaduct Company along Route 107, provide water for 250, 125 and 1450 people respectively. Other public wells at the Bearhill School, Leavitt Road, and the former Huckins Chevrolet provide for a population of 106. These wells have been mapped by NHDES.<sup>10</sup>

#### Ponds<sup>11, 12, 13, 34</sup>

Berry Pond is a 33-acre pond that has an average depth of 15 feet. It is located by Catamount Mountain, between Route 107, Governor's Road, and Berry Pond Road and serves as the municipal water supply.

Blake Pond is 14 acres in area. It serves as a tributary to Gulf Brook, and is a part of the Suncook River system.

Eaton Pond is a natural pond that lies within the Suncook watershed. It is approximately 17 acres in size with an average depth of eight feet.

Whites Pond is an artificial pond that is on average seven feet deep and has an area of 36 acres.

Wild Goose Pond is Pittsfield's largest pond with a 78-acre area within its borders and a maximum sounded depth of 20 feet. A portion of Wild Goose Pond is located in Strafford.

Other small ponds comprise an additional 11 acres within Town.

#### Rivers<sup>11, 12, 13, 14</sup>

The Suncook River runs through the center of Pittsfield and is the Town's main waterway. It flows southwest from the Pittsfield/Barnstead border, and marks a portion of the southwestern boundary of the Town. For decades, the Suncook River has provided energy to power Pittsfield's industrial factories and mills. While currently serving as an attractive place of recreation, the River also assists in powering the turbine at the Suncook Leather Factory.

#### Brooks<sup>11, 12, 13, 14</sup>

Berry Pond Brook serves as an overflow for Berry Pond, Pittsfield's water supply. It flows into Whites Pond, through the swimming area, and into the Suncook River.

Sanborn Brook is located in Pittsfield’s southwestern corner, where it enters Chichester.

Gulf Brook flows from Blake Pond into Epsom.

Shingle Mill Brook connects a series of small ponds in Pittsfield’s northeastern corner.

Kelley Brook crosses into Pittsfield from Barnstead. It flows between Lily Lake and the Suncook River.

Hydric Soils

Out of the total land acreage of Pittsfield (15,488), 11.2% is comprised of hydric soils: <sup>14, 33</sup>

HYDRIC SOILS	Acreage	Total Percentage of Town
Poorly Drained	1551	10.0
Very Poorly Drained - organic base	176	1.2
Very Poorly Drained - mineral base	0	0
Marsh	0	0
<b>TOTALS</b>	<b>1727</b>	<b>11.2</b>

Watersheds <sup>10</sup>

Approximately one quarter of the Town of Pittsfield lies within the Upper Suncook Watershed, while close to three quarters of the Town lie in the Lower Suncook River watershed. A small eastern section of the Town falls inside the Piscataqua watershed.

Aquifers <sup>16</sup>

There are no significant aquifers underlying Pittsfield, but two small pockets exist under the Suncook River, and one lies beneath Eaton Pond.

Wetlands <sup>17, 34</sup>

Wetlands inventoried, field-checked, and mapped by the US Fish and Wildlife Service between 1986 and 1990 dot the entire Town. Most areas of mapped wetlands co-occur with ponds. Pittsfield has recently completed an inventory of their wetland areas in conjunction with students from the University of New Hampshire. The inventory is based on data obtained from the National Wetlands Inventory (1986-1990), Landsat Thematic Mapper (1993), and USGS and the Merrimack County Soil Survey. The data has not been field checked.

**Identified Water Resource Priorities**

Town officials and citizens have named the following water resources as being important to the Town: <sup>18</sup>

-  wetlands along Loudon Road
-  aquifers
-  bogs
-  the Berry Pond Reservoir

-  the Suncook River
-  Wild Goose Pond
-  Blake Pond

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Rivers and streams
Second Priority	Aquifers
Third Priority	Lakes and ponds
Fourth Priority	Designated prime wetlands
Fifth Priority	Watersheds

Surveys returned from Pittsfield indicated the following as water resource priorities:

- Aquifers,
- Lakes and ponds,
- Public water supplies, and
- Rivers and streams.

Half of the respondents felt that the Town’s ordinances and regulations adequately protect their water resources, while half disagreed. <sup>31</sup>

Specific comments included: <sup>31</sup>

-  Enact appropriate ordinances



 **Land and Forestry Resources**

The total number of acres under conservation was calculated to be approximately 10% of the entire Town. The following table breaks down the components: <sup>8, 20, 21, 22, 34</sup>

CONSERVATION LANDS	Held By	Acres
Clough Road Lot	Town	112
Drake/Mayo	SPNHF	27
Dustin Barker Town Forest	Town	42

Merrill Lot (Loudon Farms)	private	189
Osborne Lot (Loudon Farms)	NH F&G	738
Pittsfield Aqueduct Company Land	private	223
Pittsfield Dam	NH WRC	1
Sargent Town Forest	Town	5
Town of Pittsfield Land	Town	86
Kimball Lot	Town	106
<b>TOTAL ACREAGE PROTECTED</b>		<b>1529</b>

In addition, approximately 9704 acres, or 63% of the Town's total area, were in current use as of December 31, 1998.<sup>34</sup>

### ***Identified Land & Forestry Resource Priorities***

Town officials and volunteers have named the following land and forestry resources as being important to the Town:<sup>18</sup>

- ✦ Apple View Orchard on Upper City Road, 1500' west of Norris Road
- ✦ Marston Farm on Webster Mills Road, just east of the Suncook River Bridge
- ✦ Sargent Town Forest
- ✦ Lane Hartwell land
- ✦ Upper City farmland
- ✦ Tan Road land
- ✦ Other Town owned lands that have not yet been identified as conservation land.

### ***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Open space
Second Priority	Agricultural land
Third Priority	Conservation easements
Fourth Priority	Town parks and forests
Fifth Priority	Deeded conservation lands

Surveys returned from Pittsfield indicated the following as land and forestry resource priorities:

- Agricultural land,
- Conservation easements,
- Deeded conservation lands,
- Open space, and
- Town parks and forests.

Half of the respondents felt that the Town’s ordinances and regulations adequately protect their land and forestry resources, while half disagreed. <sup>31</sup>

Specific comments <sup>31</sup>

- ⌘ Enact appropriate ordinances and develop program to meet goals.



**Historical and Cultural Resources**

National Register of Historic Places

Pittsfield has one exemplary site located on the National Register. The site, composed of several significant buildings, was nominated and listed during the 1980's. No additional regulative restrictions are placed upon those properties which are listed on the National Register, but instead a listing in the Register recognizes the significance of and encourages the stewardship of the property: <sup>1, 24, 34</sup>

NATIONAL REGISTER OF HISTORIC PLACES	Date Listed	Location	Significance/Description
Pittsfield Center Historic District	12/80	NH 28 and NH 107	Architectural styles of buildings

New Hampshire Historical Markers

These markers stand at places of great historical significance to the State of New Hampshire. Some of these places contain tangible reminders of the past, while others mark the locations of where structures once stood or a historical event took place. Pittsfield currently has no sites listed with the New Hampshire Division of Historic Resources.

Local markers, or the actual remnants of the structures themselves, indicate the sites of various other, yet not less important, historic landmarks and events: <sup>1, 8, 18, 34</sup>



**Pittsfield’s Historic Trails**

A 1.5 mile walking trail encompasses nearly all the features found in any New England community over 100 years ago: homes, churches, schools, industrial and commercial buildings, and dams and bridges. The **Inner Historic Trail** is marked by thirty-five historic markers describing the following: Yellow Block, Cram Avenue, Mayette-Globe Building, Suncook Valley Railroad, Old Meeting House Cemetery, Old Stage Depot,

Grammar School, Old Meeting House, Frederick Douglass' visit, Tuttle Mansion, Memorial School, Pittsfield Bank, Opera House Block, Carpenter Library, John Berry House, Fort Wilkins, First Congregationalist Church, Union Block, Tuttle Block, Washington House, Dr. R. P. J. Tenney House, Agents House, Old Number 1, Cotton Mill, Cram's Purchase, River Schoolhouse, Mary's Bridge, Parsonage House, Pittsfield Weaving, Drake Field, G. A. R. Building, Old Engine House, Free Will Baptist Church, and Pittsfield Academy. The **Outer Historic Trail**, which has yet to be completed, has the following suggested for inclusion with historic markers: Leavitt's Cider Mill, Pittsfield Common, Old Calvinist Baptist Parsonage, Christopher Page House, First Encampment, Doe House, Knowlton's Corner, Quaker Cemetery, Interlocken Inn, Berry Pond Outlet, Joshua Berry Shops, Pittsfield Aqueduct Reservoir, Sargent Hall, Berry Cemetery, Maplehurst, Underwood Brook Area, Solomon Hanson House, South Pittsfield School House, Dowboro House, Friends Meeting House, Pest House Lot, Elisha Eaton's Burial Ground, Catamount School House, White's Pond, Gas House, Blake Street, Riverside 1 and 2, Scythe Factory, Corporation Houses, Reuben Cram's House, Judge Jenness and General Thyngs House, Perkins Homestead, Pittsfield Fairgrounds, Mount Calvary Cemetery, Upper City School, Upper City, Granny White Spring, Daniel Webster Home, First Colony of Shakers, Whites Dam, Barnstead Bridge, Floral Park Cemetery, Senator Norris Home, The Old Cemetery, Porter True House, Old Brickery, Wolfe Meadow, True or Tilton House, Tilton School House, and Adams Brothers Shoe Shop.

Covered Bridges

Covered bridges once played an integral part of the transportation network of the 19th century. Today, they are recognized for their beauty and uniqueness. Although Pittsfield no longer has standing covered bridges, two once existed: <sup>26, 34</sup>

COVERED BRIDGE NAME/LOCATION	Date Built	Date Gone
Mary's	1874	1909
Barnstead	1883	1937

Cemeteries

As do many other small towns in Central New Hampshire, Pittsfield has a rich heritage and a strong connection to its past. Cemeteries, both Town and small, private family plots, are an important and personal link. Forty-four cemeteries are scattered throughout Pittsfield: <sup>8, 18, 34, 35</sup>

CEMETERIES	Owner	Parcel Number / Location
Old Meeting House Cemetery	Town	off South Main Street
Floral Park Cemetery	Town	High Street
James Cemetery		Ingalls Road
Ring Cemetery		Ring Road
Mt. Calvary Cemetery	Cath Diocese	Norris Road
Green Cemetery		Upper City Road

Mansfield-Potter Cemetery		Upper City Road, east of Green Cemetery
Drake-Eaton Cemetery		Norris Road, by its intersection with Eaton Road
Osborn Cemetery		Siel Road
Blake Cemetery		East of the Siel Road and Daroska Road intersection
Brown Cemetery		White Road
Shaw Cemetery		Range Road, just south of the Barnstead town line
Marston Cemetery		Webster Mills Road
Moody Cemetery		Webster Mills Road, just north of its intersection with New Orchard Road
Yeaton Cemetery		off Webster Mills Road, at its intersection with Locke Rd
McInnis Cemetery		south of Dowboro Road
Sargent Cemetery		off Dowboro Road, south of Quail Ridge Road
Brown-James Cemetery		Dowboro Road, at its intersection with Prescott Road
Quaker Cemetery		top of Sunset Hill
Drake Cemetery		south of Governor's Road
Eaton Cemetery		at the intersection of Catamount and Governor's Roads
Harvey Cemetery		Mountain Road
Lane Cemetery		Mountain Road, east of Harvey Cemetery
Knowlton Cemetery		Mountain Road, by its intersection with Berry Pond Road
Hoague-Wesson Cemetery		Governor's Road
Joshua Berry Cemetery		south of Catamount Road
Berry Family Cemetery		Catamount Road
Merril Cemetery		off Catamount Drive
Edgerly Cemetery		off Thompson Road, by its intersection with Johnson Road
Pillsbury Cemetery		Thompson Road
Tucker Cemetery		Catamount Road, close to Northwood
Locke-Watson Cemetery		Catamount Road, east of Tucker Cemetery
Watson Cemetery		off Catamount Road, east of Watson
Fogg-Joy Cemetery		Catamount Road, by the Northwood town line
Brock Cemetery		North of Tilton Hill Road, along the Suncook River
Goss Cemetery		off Tilton Hill Road
Brock-Snell Cemetery		Blackery Road

Tilton-Watson Cemetery		by the intersection of Tilton Hill Road and True Road
True I Cemetery		off Tilton Hill Road
True II Cemetery		off Tilton Hill Road, east of True I Cemetery
Farmer Cemetery		off Clough Road, at its intersection with Thompson Road
Towle Cemetery		Clough Road
Davis-Greenleaf Cemetery		Jeness Pond Road, next to Northwood

**Identified Historical Resource Priorities**

Town officials and citizens have named the following general and specific historical and cultural resources as being important to the Town: <sup>18</sup>

-  Drake Field Park
-  cemeteries
-  Downtown area
-  abandoned railroad bed
-  Pittsfield’s Historic Trail
-  Scenic Theater
-  Suncook Dam site
-  Washington House land
-  Native American cave on Catamount Mountain
-  Yellow Block (Carroll Street Historical Park)
-  Old Pittsfield Fair Grounds

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Cemeteries
Second Priority	Cultural interest sites
Third Priority	Covered bridges
Fourth Priority	National Register of Historic Places
Fifth Priority	Archaeological sites

Surveys returned from Pittsfield indicated the following as historical and cultural resource priorities:

- Archaeological sites,

- Cemeteries,
- Cultural interest sites, and
- National Register of Historic Places.

The majority of respondents felt that the Town's ordinances and regulations did not adequately protect their historical and cultural resources. <sup>31</sup>

Specific comments <sup>31</sup>

☛ Enact appropriate ordinances. Also develop programs and purchase rights.



☛ **Ecological Resources**

NH Natural Heritage Inventory

One outstanding animal species has been located in Pittsfield since the 1930's and recorded in the NHI program's database. <sup>27</sup>

The Invertebrate mollusk Brook Floater (*Alasmidonta varicosa*) is listed in New Hampshire as threatened. Only one occurrence in Pittsfield has been recorded within the last twenty years.

Corridors

Corridors and greenways are typically used not only by people for recreation or transportation, but also by wildlife to travel from one habitat to another. Maintaining viable and undeveloped corridors ultimately measures the biological success of the animals, particularly larger mammals, within an area. The following corridors have been identified in Pittsfield: <sup>15, 18 19</sup>

The Suncook River corridor crosses into Pittsfield from Barnstead and runs southwest. In the southwest it forms the Chichester/Pittsfield boundary.

The arrival of the Concord & Montreal Railroad accompanied Pittsfield's industrial growth. The railroad corridor followed the contour of the Suncook River and was constructed to facilitate the transportation of goods to and from different Pittsfield industries. The railroad is no longer in use, but it is likely animal species use this corridor to facilitate their movement along the river.

Exemplary Natural Communities

Other special, undisturbed lands are essential for the biological diversity of plants and animals. The more bio-diversity found within an area, the more valuable and self-sustaining the community becomes from both ecological and economic perspectives. The following natural communities have been identified in Pittsfield: <sup>18</sup>

The Osborne Wildlife Management area is overseen by the NH Fish and Game Department. The area offers a resource-rich environment for many animal species. The Fish and Game Department monitors the area during hunting season.

The Suncook River also supports a variety of plant and animal species.

Cox Pond is located next to the Suncook River just north of the Pittsfield/Chichester border. It has been noted as a place of heron nesting.

A Black Gum swamp was identified within the Town. This unusual community hosts a variety of species. In particular, old Black Gum trees are exceedingly rare.

**Identified Ecological Resource Priorities**

Town officials and citizens have named the following ecological resources as being important to the Town: <sup>18</sup>

- ☛ Scenic vistas
- ☛ Scenic vistas from the top of Catamount Road
- ☛ Black Gum Swamp
- ☛ The Upper City Road vista
- ☛ Whites Pond watershed
- ☛ Suncook Valley Railroad Bed
- ☛ Vista from the cemetery on Mountain Road
- ☛ The fields and forests that side Tilton Hill Road and True Road
- ☛ all major bodies of water in Pittsfield

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Scenic vistas
Second Priority	Plant/tree communities (tied w/3rd)
Third Priority	Greenway corridors (tied w/2nd)
Fourth Priority	Riparian corridors
Fifth Priority	Biological diversity

Surveys returned from Pittsfield indicated the following as ecological resource priorities:

- Greenway corridors,
- Plant/tree communities, and
- Scenic vistas.

Half of the respondents felt that the Town's ordinances and regulations adequately protect their ecological resources, while half disagreed. <sup>31</sup>

Specific comments <sup>31</sup>

- ☛ Develop programs.



☛ **Geologic Resources**

Surficial Geology <sup>14</sup>

Pittsfield has a diverse geologic base. Desirable subsoil conditions prevail in the river valley basin, but soil conditions become less desirable as one moves further from the river. Mica mines, ledges, caves, and hills are found throughout the Town. Drumlins are located in the northwest, where boulders and clay subsoils predominate. Gravel deposits have been noted off of Tan Road, close to Blake Pond, and off South Main Street.

Additional and perhaps more recognizable geologic formations are mountains and hills: <sup>14, 28</sup>

<b>MOUNTAINS AND HILLS</b>	<b>Elevation</b>
Catamount Mountain	1334'
Jeness Hill	840'
Leavitt Hill	700'
Nudds Hill	853'
Tilton Hill	1000'

Bedrock Geology <sup>14, 18</sup>

A Littleton Formation of schists and gneisses underlies most of Pittsfield. Pegmatite is scattered through out the region with a small concentration in the land north of Whites Pond. Grey gneiss lies in the bedrock in the Town's northwest territory, and the bedrock becomes shallow east of the Suncook River.

***Identified Geological Resource Priorities***

Town officials and citizens have named the following geologic resources as being important to the Town: <sup>18</sup>

- ☛ aquifers
- ☛ fractures
- ☛ Catamount Mountain
- ☛ Mica mine by the Old Railroad Bed
- ☛ the gravel deposits located off of South Main Street and Tan Road

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Mountains and hills
Second Priority	Soils identification
Third Priority	Sand and gravel deposits
Fourth Priority	Bluffs
Fifth Priority	Gorges

Surveys returned from Pittsfield indicated the following as geologic resource priorities:

- Mountains and hills,
- Sand and gravel deposits, and
- Soils identification.

Half of respondents felt that the Town’s ordinances and regulations adequately protect their geologic resources, while half disagreed. <sup>31</sup>

Specific comments <sup>31</sup>

- ☒ Improve the current ordinance, inspect sites, and monitor activities



**Recreational Resources**

A variety of recreational opportunities and resources exist in Pittsfield that are closely associated with the previous resources stated earlier in this narrative. In addition, there are several others deserving of attention: <sup>18, 29, 30, 34</sup>

PUBLIC & PRIVATE RECREATION	Type	Location	Acreage / Miles
Veterans Memorial Park	public	Village center	1 acre
Sargent Town Forest	public	off of Catamount Road (Route 107)	5 acres
Drake Field	public	Along the Suncook River, in the center of the town	7 acres
Glen & Glade Campground	private	on Jenness Pond	50 acres
Pittsfield Elementary School playground	public	Bow Street	
Pittsfield Middle High School grounds	public	Oneida Street	10 acres

Forrest B. Argue Pool	public	off of Catamount, near White's Pond	1 acre
Pittsfield Youth Baseball Field	public	off of Tilton Hill Road	59 acres
Osborne Wildlife Management	public	off Range Road	230 acres
Dustin Barker Town Forest	public	south off Loudon Road, west of Ingalls Road	41 acres
Eaton Pond	public	Route 107	
Suncook River	public	Route 107	
Jeness Pond Water Area	public	off Route 107	1 acre

**Identified Recreational Resource Priorities**

Town officials and citizens have named the following recreational resources as being important to the Town: <sup>18</sup>

- ☒ Boat Launch on Eaton Pond
- ☒ The Hiking and Biking trails that follow the Old Rail Road Bed beside the Suncook River, accessible from Dowboro Road.
- ☒ Boat Launch on Whites Pond
- ☒ Boat Launch on Berry Pond
- ☒ Community Center
- ☒ Forest B Argue Town Pool

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Recreational trails
Second Priority	Canoe/boat access
Third Priority	Outdoor sporting fields
Fourth Priority	Picnic areas and playgrounds
Fifth Priority	Beach access

Surveys returned from Pittsfield indicated the following as recreational resource priorities:

- Canoe/boat access,
- Kiosks, shelters, and boardwalks,
- Outdoor sporting fields, and
- Picnic areas and playgrounds.

Specific comments <sup>31</sup>

- ☒ We need greater local and state cooperation.



**Other Identified Resource**

**Priorities**

Town officials and citizens have named the following other resources as being important to the Town:<sup>18</sup>

- ↙ stone walls
  - ↙ old growth trees
  - ↙ Academy Building
  - ↙ Congregational Church
  - ↙ Town Clock
  - ↙ Library
  - ↙ Police Station building
  - ↙ scenic views
  - ↙ open space
  - ↙ snowmobile
- trails

***ACTIVE RESOURCE PRESERVATION COMMITTEES***

In order to more adequately protect these finite natural and historical resources, Pittsfield has revived its Conservation Commission to oversee environmental activities. In 1999, Pittsfield instituted a Heritage Commission to oversee historical resources within the Town.

***Natural Resources Committee and Conservation Commission***

Pittsfield reconstituted its Conservation Commission in 1998. This 5-member Commission will be meeting with the Natural Resources Committee to help preserve Pittsfield’s natural resources. The Natural Resources Committee, comprised of around 10 members, has been conducting inventories of the various resources around Town and has been assisting the Master Plan Committee with the update of the Master Plan.

***Historical Society***

A private Historical Society also exists to help protect Pittsfield’s heritage. The Society has recently been working on their “Wall of Fame,” a project erected to recognize a collection of outstanding Pittsfield citizens and their contributions to the history of the Town. The Historical Society has also created a committee to oversee and maintain the Town’s Historic Trail. In addition, they have completed a study which located and identified all of Pittsfield’s cemeteries.<sup>32</sup>

***ADDITIONAL SURVEY FINDINGS***

The following results have been also compiled from Pittsfield's responses to the natural, cultural, and historical resources survey: <sup>31, 34</sup>

*Conservation Activities Undertaken Within the Last Three (3) Years*

Accepted 106 acres from Gladys A. Kimball as a conservation easement.

*Conservation Activities Planned or Anticipated Within the Following Three (3) Years*

✧ proposal of a cemetery easement

✧ aquifer protection

*Essential Factors to Pittsfield's "Quality of Life"*

 open space

 citizen involvement

REFERENCES

- 1 - *CNHRPC: Historical Overview, 1976*
- 2 - *CNHRPC Regional Master Plan: Land Use Element, 1991*
- 3 - *US Census STF1A and STF3A, 1970, 1980, & 1990*
- 4 - *NH Office of State Planning: Current Estimates and Trends in NH's Housing Supply 1996, 1997*
- 5 - *NH Office of State Planning: Population Estimates of NH Cities and Towns (1997), 1998*
- 6 - *Pittsfield Zoning Ordinance, 1998*
- 7 - *Town Officials/Employees, 1998*
- 8 - *Pittsfield Town Annual Report, 1997*
- 9 - *Pittsfield Site Plan Review Regulations, 1998*
- 10 - *NH Department of Environmental Services, Water Resources Division, 1998*
- 11 - *NH Fish and Game: Biological Survey of the Lakes and Ponds in Survey Report 8c, 1970*
- 12 - *CNHRPC: Natural Resources Inventory, 1974*
- 13 - *Inventory of Merrimack County Lakes and Ponds, 1968*
- 14 - *(Reserved)*
- 15 - *NH Geographically Referenced and Information Transfer (GRANIT) System, 1998*
- 16 - *US Geological Survey (Bow, NH): Bedrock Geology Mapping, 1998*
- 17 - *US Fish and Wildlife Service: National Wetlands Inventory, 1986-1990*
- 18 - *Town Officials (anecdotal), 1998*
- 19 - *NH Office of State Planning: Comprehensive Statewide Trails Study, 1997*
- 20 - *Society for the Protection of NH Forests, 1998*
- 21 - *LCIP Final Report, 1993*
- 22 - *State of NH: Real Property Summary, 1995*
- 23 - *(reserved)*
- 24 - *NH Division of Historical Resources: Historical New Hampshire, 1990*
- 25 - *NH Division of Historical Resources: Historical Markers, 1989*
- 26 - *NH Department of Transportation: Covered Bridges of the Past, 1994*
- 27 - *NH Department of Revenue and Economic Development: NH Natural Heritage Inventory, 1998*
- 28 - *CNHRPC: Open Space Plan, 1980*
- 29 - *NH Office of State Planning: Recreation Plan, 1998*
- 30 - *Visit NH Webpage: Merrimack Valley Attractions, 1998*
- 31 - *Pittsfield Survey Results, 1998*
- 32 - *The Suncook Valley Sun, Wednesday, April 8, 1998*
- 33 - *Merrimack County Conservation District: Inventory of Soil Erosion and Agricultural Waste, 1979*
- 34 - *1999 Municipal Profile Update*
- 35 - *Historical Society, 1999*

**SALISBURY**

About Salisbury.....	
Member of CNHRPC	✓
Surveys Mailed	16
Surveys Received for Tallying	2
REPP Meeting Participation	✓
Profile Review & Comment by Town	X
1999 Update	✓

**Historical Profile**

Salisbury was originally granted in 1733 under the name of Bakers Town. Although the Town was laid out on paper in 1738, no homesteads were built until 1752 when a Masonic grant claimed the region. In 1768, Governor Wentworth incorporated the Town and changed its name to Salisbury. During the early 1800s, the Fourth NH Turnpike by-passed the Town, making it an easily accessed agricultural community. Industries sprung up along Salisbury’s rivers, and a few years later, the Town had three or four active trade centers. Unfortunately, the 1800s also brought less beneficial changes to Salisbury too. The new industrial Town of Franklin claimed Salisbury’s land along the Merrimack River, and Salisbury lost many of its most successful industries. At about the same time, the “railroad craze” cut back on the amount of traffic traveling along the Fourth NH Turnpike, and Salisbury became the small, rural community that it is today. Despite its industrial losses, Salisbury is proud of its historical roots and its natural setting. Daniel Webster, the famous NH statesman, was native to the original Town of Salisbury, and the Town continues to link its own heritage to him and his family. Scenic stone walls and old colonial houses spot the Town’s country side, offering pleasant views of rural neighborhoods. <sup>1, 14</sup>

**Present-Day Profile**

The area of Salisbury is 25,344 acres, or 39.6 square miles. The Town comprises 4.9% of the CNHRPC area. <sup>2</sup>

Over the last twenty-seven years, Salisbury’s population has grown by 91% while the number of housing units has increased by 52%: <sup>3, 4, 5</sup>

GROWTH	Population	Net Change		Housing Units	Net Change	
		#	%		#	%
1970 (US Census)	589	na	na	301	na	na
1980 (US Census)	781	+ 192	+ 32.6	355	+ 54	+ 17.9
1990 (US Census)	1061	+ 280	+ 35.9	422	+ 67	+ 18.9
1997 Population & 1996 Housing (NHOSP)	1125	+ 64	+ 6.3	456	+ 34	+ 8.1
<b>TOTAL CHANGE FROM 1970 - 1997</b>		+ 536	<b>+ 91.0%</b>		+ 155	<b>+ 51.5%</b>

In an effort to control its growth, while protecting its resources in an economically viable manner, the Town has adopted a number of land use controls to facilitate the conservation process: <sup>6</sup>

<b>Town Zoning Districts</b>	<b>Town-Adopted Resource &amp; Conservation Ordinances</b>
Residential	Excavation Regulations
Retail Village	
Agricultural	

Non-regulatory measures for protecting Salisbury’s resources include the following: <sup>7, 8, 9</sup>

<b>Town Master Plan Elements</b>	<b>Town Conservation Plans, Reports and Studies</b>
Goals and Objectives Element (1991)	Blackwater Project Master Plan (1997)
Housing, Population, and Income Element (1991)	
Transportation Element (1991)	
Public Utilities Element (1991)	
Municipal Facilities Element (1991)	
Existing and Future Land Use Element (1991)	
Conservation and Preservation (1991)	
Recreation Element (1991)	



## **TOWN RESOURCES**

### **Water Resources**

#### Water Supplies

The Town of Salisbury has no public water or sewer system. Its residents obtain their drinking water solely from private wells.

Between 1983 and 1997, the NHDES has issued 64 well permits to residents of Salisbury. They are scattered throughout the Town, but two significant clusters occur along Hensmith Road (12) and South Road (7). These new well locations have been mapped by NHDES.<sup>10, 14</sup>

#### Ponds<sup>11, 12, 13, 14, 33</sup>

Stirrup Iron Pond has an area of less than five acres.

Wilder Pond has an approximate area of eight acres and an average depth of five feet. It is located in the northwest corner of the Town.

Tucker Pond is 83 acres in size. It serves as a tributary to Knight Brook.

Blackwater Bay, sometimes called the Bay of Andover, is 68 acres in area. It serves as a tributary to the Blackwater River.

Greenough Pond and marsh lie east of the Blackwater River

Duck Pond is a small pond located in the southwest corner of the Town by the Warner town line.

Shaw Mill Pond is located on Stirrup Iron Brook just west of Route 127.

#### Rivers<sup>11, 12, 13, 14</sup>

The Blackwater River runs through Salisbury. In the north, the river flows out of Blackwater Bay. In the south, it crosses the Webster town line. The Blackwater River forms part of the Blackwater Dam and Reservoir system. It is a federally owned area, and most of the river is surrounded by conservation lands.

#### Brooks<sup>11, 12, 13, 14, 33</sup>

Beaverdam Brook flows out of a small unnamed pond between Lovering Hill and Salisbury Heights and travels east until becomes the Boscawen-Webster town line.

Mill Brook runs west out of Blackwater River.

Bradley Brook is located in the northwest corner of Salisbury.

Punch Brook flows in the northeastern part of Town.

Stirrup Iron Brook flows from bogs west of Searles Hill east through the New Hampshire Forest Nursery area to the Merrimack River.

#### Hydric Soils

Out of the total land acreage of Salisbury (25,344), 9.8% is comprised of hydric soils: <sup>14, 32</sup>

<b>HYDRIC SOILS</b>	<b>Acreage</b>	<b>Total Percentage of Town</b>
Poorly Drained	1390	5.5
Very Poorly Drained - organic base	836	3.3
Very Poorly Drained - mineral base	260	1.0
Marsh	0	0
<b>TOTALS</b>	<b>2486</b>	<b>9.8</b>

#### Watersheds

Approximately ½ of Salisbury lies within the Blackwater River watershed. The rest of the Town is divided between three other watersheds: the Warner River watershed underlies a small area in the Town's southwest corner, the Merrimack River watershed underlies the Town's eastern third, and the Contoocook River watershed underlies a small central strip of land. <sup>10, 12</sup>

#### Aquifers

A stratified drift aquifer underlies the land surrounding the Blackwater River. The aquifer underlying Blackwater Bay by the Andover town line is a medium density aquifer composed of coarse sand and gravel. A high potential aquifer of very coarse high-yield sand and gravel underlies part of the river also. The largest portion of the aquifer is composed of fine sand, silt, and clay, giving Salisbury a predominately low-yield aquifer base. <sup>16</sup>

#### Wetlands

Wetlands inventoried, field-checked, and mapped by the US Fish and Wildlife Service between 1986 and 1990 dot the entire Town. Large areas of mapped wetlands which do not co-occur with ponds are found along the Blackwater River and surrounding Greenough Pond. <sup>17</sup>

#### **Identified Water Resource Priorities**

Town officials and volunteers have named the following water resources as being particularly important to the Town: <sup>18</sup>

- ☞ Stirrup Iron Brook
- ☞ bogs and wetlands

#### **Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Rivers and streams
Second Priority	Aquifers
Third Priority	Lakes and ponds
Fourth Priority	Designated prime wetlands
Fifth Priority	Watersheds

Surveys returned from Salisbury indicated the following as water resource priorities:

- Aquifers,
- Floodplains,
- Other wetlands,
- Rivers and streams, and
- Shorelands.

Half of the respondents felt that Salisbury’s ordinances and regulations do adequately protect their water resources, while half felt that they do not. <sup>31</sup>

Specific comments included: <sup>31</sup>

- ✿ We need more knowledge regarding the protection of aquifers.
- ✿ A 2-acre minimum lot size would be the most efficient regulation to protect our resources.
- ✿ Water resources are not mentioned in the zoning ordinance.



✿ **Land and Forestry Resources**

The total number of acres under conservation was calculated to be approximately 20% of the entire Town. The following table breaks down the components: <sup>8, 20, 21, 22, 33</sup>

CONSERVATION LANDS	Held by	Acres
Agricultural Land and Woodland	NH DA	261
Benjamin Shaw Lot	Town	66
Blackwater Reservoir (portion in Salisbury)	US Army Corps	2387
Community House and fields	Town	1
Daniel Webster Birthplace Historic Site	Town	147
Higgs easement	Town	90
Kearsarge Mt. State Park (portion in Salisbury)	NH DRED	375
NH Forest Nursery (portion in Salisbury)	NH DRED	452

Reiner Woodland Conservancy	Town	849
Salisbury Elementary School Grounds	Town	3
Sanborn Agricultural Preserve	NH DA	261
Woody Glen	private	143
Woodlot at corner of Old Turnpike and Old Coach Road	Town	1
<b>TOTAL ACREAGE PROTECTED</b>		<b>5036</b>

In addition, approximately 17,097 acres, or 67% of the Town’s total area, were in current use as of December 31, 1998.<sup>33</sup>

In 1998, Salisbury did not support a land use change tax allocation to be directed to the Conservation Fund for additional land acquisition.<sup>23</sup>

**Identified Land & Forestry Resource Priorities**

Town officials and volunteers have named the following land and forestry resources as being particularly important to the Town:<sup>18</sup>

- ✦ Center Rangeway (west to Warner town line)
- ✦ South Rangeway (Quimby Road)
- ✦ Blackwater Flood Control Area
- ✦ Mt. Kearsarge State Park
- ✦ NH State Forest Nursery

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Open space
Second Priority	Agricultural land
Third Priority	Conservation easements
Fourth Priority	Town parks and forests
Fifth Priority	Deeded conservation lands

Surveys returned from Salisbury indicated the following as land and forestry resource priorities:

- Agricultural land,
- Open space,
- Orchards, and
- State parks and forests.

Half of the respondents felt that the Town’s ordinances and regulations adequately protect their land and forestry resources, while half disagreed. <sup>31</sup>

Specific comments <sup>31</sup>

- ♣ We should make State parks & forests more accessible to the public. We could also lower user fees for NH residents (we are already paying for them through removal from our tax base).
- ♣ There is no reference to land & forestry in our regulations. Public support is needed.
- ♣ The federal floodplain is very important.



**Historical and Cultural Resources**

National Register of Historic Places

Salisbury has one exemplary site located on the National Register. It was nominated and listed in 1975. No additional regulative restrictions are placed upon those properties which are listed on the National Register, but instead a listing in the Register recognizes the significance of and encourages the stewardship of the property: <sup>1, 24</sup>

NATIONAL REGISTER OF HISTORIC PLACES	Date Listed	Location	Significance/Description
Salisbury Academy Building	5/75	Junction of NH Route 127 and US Route 4	The Academy Building now houses Salisbury’s Town Offices

New Hampshire Historical Markers

These markers stand at places of great historical significance to the State of New Hampshire. Some of these places contain tangible reminders of the past, while others mark the locations of where structures once stood or a historical event took place. Salisbury currently has no historical markers listed with the New Hampshire Division of Historical Resources. <sup>25</sup>

Local markers, or the actual remnants of the structures themselves, indicate the sites of various other, yet not less important, historic landmarks and events: <sup>1, 8, 18</sup>



Salisbury’s earliest settlers made their home in the southeast corner of Town in the Searles Hill area. Old cellar holes, stone foundations, and walls remain where the first homesteads were constructed.

- 🏠 The Noyes House is one of Salisbury's oldest and most elegant houses. It has had many local prominent and influential owners including one of Daniel Webster's relatives.
- 🏠 The Old Cemetery, located off of Route 127 near the South Road Meeting House, features gravestones from the Revolutionary War.
- 🏠 The South Road Meeting House holds a wealth of Salisbury history. It was built on Searles Hill in 1768, and it was there that Daniel Webster was baptized. The Meeting House was rebuilt in 1790 on a parcel of land donated by Captain John Webster. The bell that hangs in the house is believed to be the oldest bell in New Hampshire. The gallery clock also has an interesting history; it was found on Cape Cod and had to be returned to the Meeting House in 1959. The pewter Communion Service, made of early pewter and used at the christening of Daniel Webster, is the most valuable and historic possession in the house. The South Bend Meeting House now stands at the intersection of Route 127 and Route 4.
- 🏠 The Bean House is another fine example of Salisbury architecture. Joseph Bean was one of the first settlers of Salisbury, and he built his first house on Calef Hill. He later disassembled that house and built a larger one on the west side of the Fourth NH Turnpike. When the house was restored by the Lassonde family, they discovered that the building's primary beams had been numbered, suggesting that they were the original Calef Hill House beams, carefully kept and reused when the larger house had been constructed.
- 🏠 The Williams House was built in 1792 by Thomas and Eliphalet Williams. It served as a house, meeting hall, and village store all at once. It has been said that the woodworking in the house was "the finest" around. Although the house has been remodeled extensively, it retains its historic aura and still incorporates space to run a family business. It stands across from the Salisbury Town Hall on Route 4.
- 🏠 Salisbury's finest Federal style house is the Green House, built in 1812 by Josiah Green and sold to Isaac Bailey a few years later. The Bailey family kept the house for many years, calling it "Poplars" and using it as a summer home. One of its finest attributes is the center chimney which serves five different fireplaces. It was recently turned into a year-round residence.
- 🏠 Next door to the Green House on Route 4 is the Pettingill House, sometimes called Lt. Pettingill's Mansion, a three-storied red-brick house built in 1816. It is believed that the bricks were made at the site of the house. At one time, the house was going to be used as a boarding house for the New London Institute (the present Colby-Sawyer College).
- 🏠 Construction of the Old Baptist Meeting House was completed in 1794. It served as a Baptist meeting place for many years as well the site of the Salisbury Old Home Day festivities. It is now the property of the Salisbury Historical Society.
- 🏠 Salisbury still uses the white frame Town Hall that the Town built during the 1700's.

Covered Bridges

Covered bridges once played an integral part of the transportation network of the 19th century. Today, they are recognized for their beauty and uniqueness. Although Salisbury no longer has standing covered bridges, one once existed: <sup>26</sup>

COVERED BRIDGE NAME/LOCATION	Date Built	Date Gone
Peter's	1883	1934

### Cemeteries

As do many other small Central Region towns, Salisbury has a rich heritage and a strong connection to its past. Cemeteries, both Town and small, private family plots, are an important and personal link. There are five Town cemeteries in Salisbury. Two of them are listed below: <sup>8,</sup>

CEMETERIES	Owner	Parcel Number / Location
Bog Road Cemetery	Town	off Bog Road
Maplewood Cemetery	Town	East off Old Turnpike Road (Route 4)
Oak Hill Cemetery	Town	East off of Oak Hill Road
Cemetery on West Salisbury Road	Town	East off of West Salisbury Road

### *Identified Historical Resource Priorities*

Town officials and volunteers have named the following general and specific historical and cultural resources as being particularly important to the Town: <sup>18</sup>

-  Town Hall and Library
-  Historical Society buildings
-  Town Office building
-  Pingree Bridge

### *Survey Findings*

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Cemeteries
Second Priority	Cultural interest sites
Third Priority	Covered bridges
Fourth Priority	National Register of Historic Places
Fifth Priority	Archaeological sites

Surveys returned from Salisbury indicated the following as historical and cultural resource

priorities:

- Cemeteries,
- Mill sites, and
- Unique stone walls.

All of respondents felt that the Town's ordinances and regulations did not adequately protect their historical and cultural resources.<sup>31</sup>

*Specific comments*<sup>31</sup>

- We should look into establishing a designated Historic District and/or specific sites.
- Colonial Homes are important.
- There is no reference to the protection of historic or cultural resources in our present regulations. Public interest is needed.



 **Ecological Resources**

*NH Natural Heritage Inventory*

Several outstanding animal species have been located in Salisbury since the 1930's as well as three outstanding natural communities. They have been recorded by the NHI program.<sup>27</sup>

Purple Martin (*Progne subis*) is threatened in NH, but not listed as such federally or globally. One location in Salisbury has reported this bird within the last twenty years.

The American Bittern (*Botaurus lentiginosus*) is a bird that has been found at only two locations in the State within the last twenty years, one of them in Salisbury.

The invertebrate mollusk Brook Floater (*Alasmidonta varicosa*) is listed in the State as endangered. Four occurrences in Salisbury within the last 20 years have been recorded.

The vertebrate Blanding's Turtle (*Emydoidea blandingii*), not a native species to New Hampshire, has been sighted in Salisbury once within the last 20 years.

The Wood Turtle (*Clemmys insculpta*) has been sighted in Salisbury at one location within the last 20 years. Only three other NH locations have reported this reptile.

A natural community valued as very high in importance is the terrestrial community Floodplain Forest. The state has only twenty-three other such communities.

Another important natural community located in Salisbury is the palustrine community of Level Bog. Only 18 other communities have been located in NH within the last 20 years.

The Acidic Level Fen is a palustrine community that has been found at one location in Salisbury. These peatlands contain higher nutrients than bogs, allowing for the greater proliferation of plant

species unique to these environments.

### Corridors

Corridors and greenways are typically used not only by people for recreation or transportation, but also by wildlife to travel from one habitat to another. Maintaining viable and undeveloped corridors ultimately measures the biological success of the animals, particularly larger mammals, within an area. The following corridors have been identified in Salisbury: <sup>15, 18 19</sup>

A large riparian corridor is located along the Blackwater River which flows through the middle of the Town. Much of the river is surrounded by conservation land, making it an especially good environment for wildlife travel.

### Exemplary Natural Communities

Other special, undisturbed lands are essential for the biological diversity of plants and animals. The more bio-diversity found within an area, the more valuable and self-sustaining the community becomes from both ecological and economic perspectives. The following natural communities have been identified in Salisbury: <sup>18</sup>

Blackwater River and the lands surrounding it, especially in the Blackwater Flood Control area, offer an important habitat for many plant and animal species. It supports many wetland species including plants, birds (heron), and fish.

Greenough Pond and the marsh surrounding it also support a wide variety of plants and animals.

The Mt. Kearsarge State Park and Wildlife Management Area is located in the northwest corner of the Town and extends into Warner and Andover.

### Scenic Roads and Vistas <sup>14</sup>

Searles Hill Road winds by the site of the original settlement of Salisbury and offers pleasant views of the area.

Montgomery Road is a wonderful old road flanked by woods. It passes the old stone culvert bridge.

Heath Road and Lovering Hill Road are country roads that feature views of old stone walls, woods, and cellar holes.

Center Rangeway-west and South Rangeway offer seasonal views of woods, wildlife, and scenic stone walls.

Plains Road follows the east side of the Blackwater Flood Control area.

Beech Hill Road offers seasonal views and lovely wooded groves.

The Robie/New Road Loop passes by the old stone culvert bridge. It cuts through a variety of environments including woods, bogs, old pastures, and hay fields. It provides scenic views and

passes by Daniel Webster's birthplace.

### ***Identified Ecological Resource Priorities***

Town officials and volunteers have named the following ecological resources as being particularly important to the Town: <sup>18</sup>

- ☛ Stirrup Iron Brook
- ☛ bogs and wetlands
- ☛ Center Rangeway-west land
- ☛ South Rangeway land
- ☛ Plains Road
- ☛ Bradley Lake Road

### ***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Scenic vistas
Second Priority	Plant/tree communities (tied w/3rd)
Third Priority	Greenway corridors (tied w/2nd)
Fourth Priority	Riparian corridors
Fifth Priority	Biological diversity

Surveys returned from Salisbury indicated the following as ecological resource priorities:

- Biological diversity,
- Deeryards,
- Greenway corridors,
- Plant communities,
- Riparian corridors, and
- Scenic vistas.

All of the respondents felt that the Town's ordinances and regulations do not adequately protect their ecological resources. <sup>31</sup>

### ***Specific comments*** <sup>31</sup>

- ☛ Beaver bogs are important.
- ☛ There is no reference to the regulating of ecological resources in our current ordinances. Public interest is needed.



## ☛ Geologic Resources

### Surficial Geology

Stratified drift outwash plains and isolated organic deposits underlie the land surrounding the Blackwater River. Gravel and sand deposits are found in scattered kames and kame terraces, and a few drumlins are found throughout the Town, one of the largest in the Town's northeastern quadrant.<sup>12</sup>

Additional and perhaps more recognizable geologic formations are mountains and hills:<sup>14, 28</sup>

<b>MOUNTAINS AND HILLS</b>	<b>Elevation</b>
Beech Hill	1400'
Boston Hill	960'
Morey Hill	1440'
Raccoon Hill	1260'
Ragged Mountain	2240'
Searles Hill	1040'
Taunton Hill	1160'

### Bedrock Geology

Salisbury's northern territories are underlain by the Littleton Formation comprised of Undifferentiated Schists and Gneisses. This bedrock also extends into the southwestern corner of the Town. An unnamed pluton composed of Granodiorite-Biotite Quartz Monzonite underlies the Blackwater River in the south-central part of Town as well as a strip of land along the Town's western border. A patch of Kinsman Quartz Monzonite is found in the region extending roughly from the Warner town line north beyond Scribner's Corner, west to Sawyer Hill, and east to Brook Road.<sup>14, 18</sup>

### ***Identified Geological Resource Priorities***

The 1980 CNHRPC Open Space Plan named the following geologic resources as being particularly important to the Town:<sup>18</sup>

- ☛ Old Lead Mine

- ✘ Stirrup Iron Rock Formation
- ✘ Corser Cliffs - lead and graphite mine
- ✘ Searles Hill
- ✘ Raccoon Hill

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Mountains and hills
Second Priority	Soils identification
Third Priority	Sand and gravel deposits
Fourth Priority	Bluffs
Fifth Priority	Gorges

Surveys returned from Salisbury indicated the following as geologic resource priorities:

- Mining sites,
- Mountains and hills,
- Sand and gravel deposits, and
- Soils identification.

All of respondents felt that the Town’s ordinances and regulations did not adequately protect their geologic resources. <sup>31</sup>

Specific comments <sup>31</sup>

- ✘ These regulations are not referred to in our current ordinances. We need public support.





**Recreational Resources**

A variety of recreational opportunities and resources exist in Salisbury that are closely associated with the previous resources stated earlier in this narrative. In addition, there are several others deserving of attention: <sup>18, 29, 30</sup>

<b>PUBLIC &amp; PRIVATE RECREATION</b>	<b>Type</b>	<b>Location</b>	<b>Acreage / Miles</b>
Salisbury Elementary School Playground	public	east off of Route 4	4 acres
Blackwater Reservoir Natural Area	Federal	by the Blackwater River	2388 acres
Blackwater River Hiking Trails	Federal	along the Blackwater River	8 miles
Kearsarge Mountain State Park	public	Northwest corner of town	396 acres
State Forest Nursery	public	Southeast corner of town	442 acres
Woody Glen Snow Ski Area	private	off Raccoon Hill Road	143 acres
Community House and Fields	public	east off of Route 4	1 acre

**Identified Recreational Resource Priorities**

Town officials and volunteers have named the following recreational resources as being particularly important to the Town: <sup>18</sup>

- baseball fields
- Historical Society
- Library
- Sunapee-Kearsarge-Ragged Greenway (SKR) trail
- Salisbury Elementary School

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Recreational trails
Second Priority	Canoe/boat access
Third Priority	Outdoor sporting fields
Fourth Priority	Picnic areas and playgrounds
Fifth Priority	Beach access

Surveys returned from Salisbury indicated the following as recreational resource priorities:

- Beach access,
- Canoe/boat access,
- Outdoor sporting fields, and
- Recreational trails.

*Specific comments*<sup>31</sup>

- ☒ Class VI roads and ski areas are also important.
- ☒ The Town should acquire property along Blackwater River for public beach access.
- ☒ We do not have beach or canoe/boat access yet, but it is good that our sporting field is protected.



**Other Identified Resource Priorities**

Town officials and volunteers have named the following other resources as being particularly important to the Town:<sup>18</sup>



- We need to protect large tracts of open land that are currently being preserved by the integrity of the land owner and not by any official regulation.

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***ACTIVE RESOURCE PRESERVATION COMMITTEES***

In order to more adequately protect these finite natural and historical resources, Salisbury has established both a Conservation Commission and a Historical Society.

*Conservation Commission*

Recent activities of the Conservation Commission include: the monitoring of wetland permits for logging operations; creating plans for the laying out of new nature trails; and the organizing of “Walks about Town,” eight walks that lead people through scenic Salisbury. One interesting conservation related project was the effective subdivision of Salisbury Farms. This 535-acre parcel of land was divided into 11 lots in a way that restricted further subdivisions while protecting the area’s fields and woods. This technique is often referred to as open space development, or cluster development.<sup>8</sup>

*Historical Society*

The Salisbury Historical Society helps to protect the Town’s heritage while fostering the Town’s future growth. The society served as a co-sponsor for Old Home Days, organizing a craft fair and helping with the parade. It helped to fund the Artist-in-Residence at the elementary school, and provided a scholarship prize for three high school students. The Society continues to archive and care for many documents and artifacts.<sup>8</sup>

**ADDITIONAL SURVEY FINDINGS**

The following results have been also compiled from Salisbury’s responses to the natural, cultural, and historical resources survey: <sup>31, 33</sup>

Conservation Activities Undertaken Within the Last Three (3) Years

- building public education and support of conservation issues
- the preservation of Class VI Roads

Conservation Activities Planned or Anticipated Within the Following Three (3) Years

- ✧ securing development easements along the Blackwater River and getting rights to create a swimming spot
- ✧ working to designate canoe access points along the Blackwater River
- ✧ will work with KSR Greenway Coalition to acquire permission from private landowners and the State of New Hampshire to build a trail on the east side of Mount Kearsarge from the “Toll House” area, crossing over the Center Rangeway and along the old “Lead Mine” road into Andover.
- ✧ clear and mark a walking trail along the old Center Rangeway from Buckhorn Road to the Warner town line.
- ✧ establish an educational nature trail on donated forest land within walking distance from the school.

Essential Factors to Salisbury’s “Quality of Life”

- ✧ the Town’s quiet, rural character
- ✧ low taxes
- ✧ helpful townspeople
- ✧ few posted signs on large parcels
- ✧ clean air and water
- ✧ community pride

REFERENCES

- 1 - *CNHRPC: Historical Overview, 1976*
- 2 - *CNHRPC Regional Master Plan: Land Use Element, 1991*
- 3 - *US Census STF1A and STF3A, 1970, 1980, & 1990*
- 4 - *NH Office of State Planning: Current Estimates and Trends in NH's Housing Supply 1996, 1997*
- 5 - *NH Office of State Planning: Population Estimates of NH Cities and Towns (1997), 1998*
- 6 - *Salisbury Zoning Ordinance, 1998*
- 7 - *Town Officials/Employees, 1998*
- 8 - *Salisbury Town Annual Report, 1997*
- 9 - *(reserved)*
- 10 - *NH Department of Environmental Services, Water Resources Division, 1998*
- 11 - *NH Fish and Game: Biological Survey of the Lakes and Ponds in Survey Report 8c, 1970*
- 12 - *CNHRPC: Natural Resources Inventory, 1974*
- 13 - *Inventory of Muramic County Lakes and Ponds, 1968*
- 14 - *Salisbury Master Plan, 1991*
- 15 - *NH Geographically Referenced and Information Transfer (GRANIT) System, 1998*
- 16 - *US Geological Survey (Bow, NH): Bedrock Geology Mapping, 1998*
- 17 - *US Fish and Wildlife Service: National Wetlands Inventory, 1986-1990*
- 18 - *Town Officials (anecdotal), 1998*
- 19 - *NH Office of State Planning: Comprehensive Statewide Trails Study, 1997*
- 20 - *Society for the Protection of NH Forests, 1998*
- 21 - *LCIP Final Report, 1993*
- 22 - *State of NH: Real Property Summary, 1995*
- 23 - *NH Association of Conservation Commissions, 1998*
- 24 - *NH Division of Historical Resources: Historical New Hampshire, 1990*
- 25 - *NH Division of Historical Resources: Historical Markers, 1989*
- 26 - *NH Department of Transportation: Covered Bridges of the Past, 1994*
- 27 - *NH Department of Revenue and Economic Development: NH Natural Heritage Inventory, 1998*
- 28 - *CNHRPC: Open Space Plan, 1980*
- 29 - *NH Office of State Planning: Recreation Plan, 1997*
- 30 - *(reserved)*
- 31 - *Salisbury Survey Results, 1998*
- 32 - *Merrimack County Conservation District: Inventory of Soil Erosion and Agricultural Waste, 1979*
- 33 - *1999 Municipal Profile Update*

**SUTTON**

About Sutton.....	
Member of CNHRPC	✓
Surveys Mailed	12
Surveys Received for Tallying	2
REPP Meeting Participation	X
Profile Review & Comment by Town	X
1999 Update	✓

**Historical Profile**

No brief historical profile of Sutton is available.

**Present-Day Profile**

The area of Sutton is 27,456 acres, or 42.9 square miles. The Town comprises 5.3% of the CNHRPC area. <sup>2</sup>

Over the last twenty-seven years, Sutton’s population has grown by 132% while the number of housing units has increased by 72%: <sup>3, 4, 5</sup>

GROWTH	Population	Net Change		Housing Units	Net Change	
		#	%		#	%
1970 (US Census)	642	na	na	473	na	na
1980 (US Census)	1091	+ 449	+ 69.9	660	+ 187	+ 39.5
1990 (US Census)	1457	+ 366	+ 33.5	776	+ 116	+ 17.8
1997 Population & 1996 Housing (NHOSP)	1489	+ 32	+ 2.2	815	+ 39	+ 5.0
<b>TOTAL CHANGE FROM 1970 - 1997</b>		+ 847	+ 131.9%		+ 342	+ 72.3%

In an effort to control its growth, while protecting its resources in an economically viable manner, the Town has adopted a number of land use controls to facilitate the conservation process: <sup>6</sup>

Town Zoning Districts	Town-Adopted Resource & Conservation Ordinances
Residential	Floodplain Development Ordinance
Rural/Agricultural	Cluster Development Ordinance

Non-regulatory measures for protecting Sutton’s resources include the following: <sup>7, 8, 9</sup>

<b>Town Master Plan Elements</b>	<b>Town Conservation Plans, Reports and Studies</b>
Goals and Objectives (1988)	An Assessment of Wetlands Management and Sediment Phosphorus Inactivation, Kezar Lake, New Hampshire (1989)
Development of Land (1988)	An Inventory and Assessment of Wetlands in the Town of Sutton, New Hampshire (1996)
Conservation and Preservation (1988)	
Town Services (1988)	



## **TOWN RESOURCES**



### **Water Resources**

#### Water Supplies

The Town of Sutton does not have any public water supplies. The Town's population is concentrated in a way that neither facilitates nor necessitates a central water supply. Instead, individual wells bring water to Sutton's households.

Between 1983 and 1997, the NHDES has issued 87 well permits to residents of Sutton. Large groups of them are located on Route 114 (16) and Shaker Road (15). These new well locations have been mapped by NHDES.<sup>10</sup>

#### Ponds<sup>11, 12, 13, 14, 34</sup>

Lock Lyndon Reservoir shares its shores with both Newbury and Sutton. This 127-acre pond has an average depth of 12 feet.

Kezar Lake is the second largest water body found in Sutton with an area of 143 acres. It lies in north-central Sutton and has a maximum sounded depth of 25 feet. Wadleigh State park provides access to Kezar Lake with facilities for swimming, picnicking, fishing, boating, and playfields.

Gile Pond is a 57-acre natural pond that is located near Kezar Lake, south of North Sutton Village. Shadow Hill State Forest borders the east side of this pond.

Blaisdell Lake is located in the southwestern corner of Sutton near Bradford. It is the largest lake located in Sutton with an area of 158 acres and an average depth of 21 feet. It is used extensively for recreational activities, and many summer residences are located along its shores.

Russell Pond is a small 15-acre pond with an average depth of six feet. It is located upstream from Blaisdell Lake.

Billings Pond is a small pond of about 20 acres and is connected by a small stream to Blaisdell Lake.

Palmer Pond is located off Kearsarge Gore Road in the southeastern quadrant of Sutton.

Cornelius Pond is located between Green Hill and the Dresser Hills in southeastern Sutton. This pond is overgrown with aquatic plants and is rapidly becoming a bog.

#### Rivers<sup>11, 12, 13, 14, 34</sup>

The primary source of the Lane River is the outflow of Kezar Lake. The river flows south through several wetlands including the Town Forest and Wetland, the marsh along the river south of Pressy Bridge, and the Sutton Mills Marsh and the marsh along Roby Road near the Warner town line and merges with the Warner River at the Sutton/Warner town line. The Lane River watershed includes the Kezar Lake watershed.

Brooks <sup>11, 12, 13, 14, 34</sup>

Cascade Brook flows from the slopes of Mount Kearsarge in Sutton into Wilmot. The brook then travels south and disperses into the Cascade Marsh, a man-made result of damming Cascade Brook. Cascade Brook is a tributary of the Blackwater River.

King's Brook flows south from northwest Sutton beginning near the Sutton/Newbury border. King's Brook joins the Lane River in Sutton Mills.

Crate Brook flows from the eastern slope of Fells Hill and joins the Lane River in Sutton Mills.

Thistle Brook flows westerly from Gile Pond through a marsh east and west of Route 114 and merges with the Lane River.

The source of Stevens Brook is Shingle Mills Marsh east of North Road and on both sides of Kearsarge Valley Road. Stevens Brook flows south through another marsh, between North Road and Interstate 89 and in south Sutton crosses the boundary into Warner and merges with the Warner River.

Lyon Brook flows south and is the major inflow to Kezar lake via a marsh called Maple Leaf Golf Course. The source of Lyon Brook is on the highest hilltop in New London.

Clark Pond Brook drains a significant area of New London, flows south and converges with Lyon Brook in Sutton upstream of Chadwick Meadow, a wetland owned by the New Hampshire Fish and Game Department.

King Hill Brook drains the eastern slope of King's Hill and flows into Kezar Lake via a marsh called Maple Leaf Golf Course.

Hydric Soils

Out of the total land acreage of Sutton (27,456), 11% is comprised of hydric soils: <sup>14, 33</sup>

<b>HYDRIC SOILS</b>	<b>Acreage</b>	<b>Total Percentage of Town</b>
Poorly Drained	1542	5.6
Very Poorly Drained - organic base	1040	3.8
Very Poorly Drained - mineral base	324	1.2
Marsh	108	.4
<b>TOTALS</b>	<b>3014</b>	<b>11.0%</b>

Watersheds

Most of Sutton lies inside the Merrimack River principal drainage basin and the Contoocook River sub-basin. In the northwest corner of Sutton, the western face of King's Hill drains into Lake Sunapee (part of the Connecticut River principal drainage basin). The Blackwater River sub-watershed drains the northeastern section of the Town, and the Warner River sub-watershed drains the rest. <sup>10, 14</sup>

Aquifers

The largest stratified drift aquifer in Sutton is found in the eastern part of Town between Cascade Marsh and Stevens Brook. Unfortunately, its shape and location do not make it a prime candidate for a water supply. A high-yield stratified drift aquifer is located near North Sutton Village by Kezar Lake. A small aquifer also lies just south of Chalk Pond Road by the Sutton-Newbury town line.<sup>14, 16</sup>

Wetlands

Wetlands inventoried, field-checked, and mapped by the US Fish and Wildlife Service between 1986 and 1990 dot the entire Town. Large areas of wetlands occur in the eastern part of Town, adjacent to Cascade Brook and Stevens Brook. The Lane River, Lyon Brook, Crate Brook, and King’s Brook are also bordered by occasional wetlands, the most extensive of which lie between Kezar Lake and Gile Pond. Another extensive wetland area stretches along the east side of Route 114 in North Sutton. Wetlands also run beside Meeting Hill Road and Eaton Grange Road, and along the west side of Route 114 as it heads south. In cooperation with the University of New Hampshire Department of Natural Resources, the Sutton Conservation Commission has studied seventeen significant wetlands in Sutton.<sup>14, 34, 35</sup>

**Identified Water Resource Priorities**

Town officials and volunteers have named the following water resources as being particularly important to the Town:<sup>14, 18</sup>

-  Kezar Lake and the brooks and streams inside the Kezar Lake watershed
-  wetlands
-  aquifers
-  rivers and streams
-  lakes and lake shores

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Rivers and streams
Second Priority	Aquifers
Third Priority	Lakes and ponds
Fourth Priority	Designated prime wetlands
Fifth Priority	Watersheds

Surveys returned from Sutton indicated the following as water resource priorities:

- Lakes and ponds,
- Other wetlands,
- Rivers and streams,
- Shorelands, and
- Watersheds.

Half of the respondents felt that the Town's ordinances and regulations adequately protect their water resources, while half disagreed. <sup>31</sup>

Specific comments included: <sup>31</sup>

- ✦ Large buffer zones should be placed along all riparian corridor.



### ✦ Land and Forestry Resources

The total number of acres under conservation was calculated to be approximately 7% of the entire Town. The following table breaks down the components: <sup>8, 20, 21, 22, 34</sup>

CONSERVATION LANDS	Held by	Acres
Aquaville Wetland	Town	31
Billings Pond Island	NH DRED	1
Bing easement	SPNHF	247
Bristol easement	SPNHF	252
Cascade Marsh Easement	NH F&G	118
Cascade Marsh WMA	NH F&G	327
Chadwick Meadows WMA	NH F&G	100
Stevens Brook - Cloues Natural Area	Town	24
Emerson easement	ASLPT	32
Enroth easement	ASLPT	39
Kearsarge Regional High	KRSD	80
Keith #1 easement	SPNHF	52
Keith #2 easement	SPNHF	57
Keith #3 easement	SPNHF	2
King Hill Reservation	Town	441
Loon Island	NH DRED	1

Mildred T Leffert Natural Area	Town	5
Rest Area	NH DOT	1
Settler's Oven	Town	1
Seymour Property	Town	4
Shadow Hill State Forest	NH DRED	34
Sprout Lot	Town	4
Sutton Pines	SPNHF	4
Sutton Town Forest & Wetland	Town	75
Sutton Elementary School	Town	1
Wadleigh State Park	NH DRED	43
Warner Town Forest (small portion in Sutton)	Warner	0
<b>TOTAL ACREAGE PROTECTED</b>		<b>1986</b>

In addition, approximately 18,554 acres, or 68% of the Town's total area, were in current use as of December 31, 1998.<sup>34</sup>

In 1998, Sutton supported a 25% land use change tax allocation, with no cap, to be directed to the Conservation Fund for additional land acquisition.<sup>23</sup>

**Identified Land & Forestry Resource Priorities**

Town officials and volunteers have named the following land and forestry resources as being particularly important to the Town:<sup>18, 32</sup>

- ♣ Town forests and wetlands
- ♣ Lefferts Town Natural Area

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Open space
Second Priority	Agricultural land
Third Priority	Conservation easements
Fourth Priority	Town parks and forests
Fifth Priority	Deeded conservation lands

Surveys returned from Sutton indicated the following as land and forestry resource priorities:

- Agricultural land,
- Conservation easements,
- Deeded conservation land,
- State parks, and
- Town parks.

Half of the respondents felt that the Town's ordinances and regulations adequately protect their land and forestry resources, while half disagreed. <sup>31</sup>

Specific comments <sup>31</sup>

- ✦ Private forests are also very important
- ✦ Current use is valuable it needs more funded/non-lapsing land protection
- ✦ Conservation is not keeping pace with development



## **Historical and Cultural Resources**

### National Register of Historic Places

Sutton has no exemplary sites located on the National Register. No additional regulative restrictions are placed upon those properties which are listed on the National Register, but instead a listing in the Register recognizes the significance of and encourages the stewardship of the property. <sup>1, 24</sup>

### New Hampshire Historical Markers

These markers stand at places of great historical significance to the State of New Hampshire. Some of these places contain tangible reminders of the past, while others mark the locations of where structures once stood or of where a historical event took place.

John Sargent Pillsbury is remembered for his distinguished service as Governor of Minnesota and his outstanding career as an entrepreneur with a marker near the place of his birth. He, his brother and his nephew started the Pillsbury Flour Milling business around 1855 in Minneapolis. He was elected three times the governor of Minnesota and had a illustrious career as a public official, and is today remembered as a pioneer of the baking industry. <sup>25</sup>

Local markers, or the actual remnants of the structures themselves, indicate the sites of various other, yet not less important, historic landmarks and events: <sup>1, 8, 18, 34</sup>

 A marker has been placed at the Muster Field Farm Museum to commemorate the historic Harvey Homestead, the home of a 19th century governor of New Hampshire.

 An historic marker is located at Smiley Grove, North Sutton that commemorates the many summer camps and hotels were located along Keyser Street adjacent to Kezar Lake.

-  An historic marker resides in front of the Sutton Free Library, Sutton Mills, to commemorate the many mills using water power from the Lane River.
-  A marker is located adjacent to the East Sutton Cemetery on East Sutton Lane to commemorate the Province Road, an 18th century road, perhaps the first in Sutton.
-  A marker is located on the South Sutton Green that commemorates John Sargent Pillsbury, a famous 19th century Sutton resident.
-  Through an interaction with Town residents, the following 21 cornerstones of Sutton were identified: South Sutton Village, Sutton Mills Village, North Sutton Village, Eaton Grange, Muster Field Farm - Harvey Homestead, Wadleigh Homestead, Schoolhouses and Sites, Settlers' Oven, Indian Fireplace, Jones Gristmill, Town Pound, King Hill Quarry, Palmer Town/Sutton Gore, Scenic Roads (Blaisdell Hill, Corporation Hill, Harvey, Hominy Pot, North, Penacook, Shadow Hill, Wadleigh, Wadleigh Hill), Scenic High Places (Meetinghouse Hill, King Hill, Dresser Hill, Dodge Hill), The Pinnacle, Old Home Day - event, Fourth of July Parade - event, Muster Field Farm Day - event, Icing Day - event, and Children's Christmas - event.

Covered Bridges

Covered bridges once played an integral part of the transportation network of the 19th century. Today, they are recognized for their beauty and uniqueness. There are no records or remnants of any covered bridges in Sutton.<sup>26</sup>

Cemeteries

As do many other small Central Region towns, Sutton has a rich heritage and a strong connection to its past. Cemeteries, both Town and small, private family plots, are an important and personal link:<sup>8, 18</sup>

CEMETERIES	Owner	Parcel Number / Location
North Sutton Cemetery	Town	off Route 114, by Kezar Lake
Gore - Palmertown Cemetery		off Kearsarge Gore Road
Sutton Mills Cemetery		Sutton Mills, off Village Road
Millwoods Cemetery		between the Lane River and Dump Road
Old South Cemetery		off Meeting House Road
East Sutton Cemetery		southeastern Sutton, off East Sutton Lane

**Identified Historical Resource Priorities**

Town officials and volunteers have named the following general and specific historical and cultural resources as being particularly important to the Town: <sup>18</sup>

 cemeteries

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Cemeteries
Second Priority	Cultural interest sites
Third Priority	Covered bridges
Fourth Priority	National Register of Historic Places
Fifth Priority	Archaeological sites

Surveys returned from Sutton indicated the following as historical and cultural resource priorities:

- Cemeteries,
- Covered bridges,
- Cultural interest sites,
- National Register of Historic Places, and
- Unique cellar holes.

The majority of respondents felt that the Town's ordinances and regulations did not adequately protect their historical and cultural resources. <sup>31</sup>

**Specific comments** <sup>31</sup>

-  Old buildings and houses are important and should be preserved
-  Historic districts are often very efficient at preservation and protection



## **Ecological Resources**

### NH Natural Heritage Inventory

Several outstanding plant and animal species have been located in Sutton since the 1930's as well as one outstanding natural community and recorded NHI program's database.<sup>27, 34</sup>

An ecologically significant stand of Atlantic White Cedar (*Chamaecyparis thyoides*) (AWC) is located in Sutton in Ring Brook Marsh off Chalk Pond Road. While it was studied earlier, the Sutton AWC stand is identified by Sperduto and Ritter, 1994, page 37, as the most inland position of AWC in New Hampshire and close to the known northern and western limits for AWC in the state. Core samples place the age of the oldest trees at about 150 years. This AWC stand is on private property. The owner has been contacted by the Sutton Conservation Commission to make them aware of the ecological significance and if at all feasible this land should be managed to preserve this ecological resource with conservation as a goal.<sup>36</sup>

Ciliated Willow-Herb (*Epilobium cilatum*) is known to exist at only one location in the State, in the Town of Sutton. The species of plant is threatened in the State of New Hampshire.

A natural community valued as extremely high in importance is the Southern New England Acidic Seepage Swamp. While 17 of these precious swamps exist in the State, the location once found in Sutton no longer present.

A Great Blue Heron Rookery (*Ardea herodias*) is found in Sutton and at 32 other recorded locations around the State.

Least Bittern (*Ixobrychus exilis*) has been reported at one location in Sutton. Only one other town in New Hampshire has reported the bird.

The Northern Harrier (*Circus cyaneus*) is listed as threatened in the State of New Hampshire. There is only one recorded site in Sutton and 25 others across the entire State.

Pied-Billed Grebe (*Podilymbus podiceps*) is listed as endangered in the State of the New Hampshire, but not Federally or globally. This rare bird has one known location in Sutton and only nine others throughout the rest of the State.

### Corridors

Corridors and greenways are typically used not only by people for recreation or transportation, but also by wildlife to travel from one habitat to another. Maintaining viable and undeveloped corridors ultimately measures the biological success of the animals, particularly larger mammals, within an area. The following corridors have been identified in Sutton:<sup>15, 18 19</sup>

A riparian corridor follows the Lane River in the south-central part of Sutton. In the south, Robie Road runs along the River's eastern banks.

### Exemplary Natural Communities

Other special, undisturbed lands are essential for the biological diversity of plants and animals.

The more bio-diversity found within an area, the more valuable and self-sustaining the community becomes from both ecological and economic perspectives. The following natural communities have been identified in Sutton: <sup>18</sup>

The Cascade Marsh Wildlife Management Area, located in Sutton’s northeastern quadrant, is a 300+ acre natural area comprised of donated conservation lands. The NH Fish and Game Department oversees the area’s management.

Scenic Roads and Vistas

Sutton has ten scenic roads that have been so designated over the years by vote of Town Meeting consistent with New Hampshire Statutes, in order to preserve the beauty and historic nature of the trees, views, and stone walls. <sup>34</sup>

**Identified Ecological Resource Priorities**

Town officials and volunteers have named the following ecological resources as being particularly important to the Town: <sup>18</sup>

- ☛ Lefferts Town Natural Area

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Scenic vistas
Second Priority	Plant/tree communities (tied w/3rd)
Third Priority	Greenway corridors (tied w/2nd)
Fourth Priority	Riparian corridors
Fifth Priority	Biological diversity

Surveys returned from Sutton indicated the following as ecological resource priorities:

- Animal communities,
- Biological diversity,
- Plant/tree communities,
- Riparian corridors, and
- Scenic vistas.

Half of the respondents felt that the Town’s ordinances and regulations adequately protect their ecological resources, while half disagreed. <sup>31</sup>

Specific comments <sup>31</sup>

- ☛ Riparian corridors are of particular importance
- ☛ Need to protect vernal pools and 4th order streams



☛ **Geologic Resources**

Surficial Geology

A wide range of elevation, from 440' at the southeast corner of Town to 1880' at the summit of King's Hill, can be found in Sutton. More than half of the land area is above 1000', and much of the Town is covered with slopes exceeding 25%. <sup>14, 28</sup>

The following geologic formations are hills found in Sutton: <sup>14, 28</sup>

<b>MOUNTAINS AND HILLS</b>	<b>Elevation</b>
Hedgehog Hill	1200'
Wright Hill	1180'
Nelson Hill	1140'
Burpee Hill	1100'
The Pinnacle	1240'
Meetinghouse Hill	1360'
Fellows Hill	1660'
Dresser Hill	1300'
Dodge Hill	1180'
King's Hill	1880'
Rowell Hill	1260'
Wadleigh Hill	1160'

***Identified Geological Resource Priorities***

Town officials and volunteers have named the following geologic resources as being particularly important to the Town: <sup>18</sup>

- ☛ no specific resources have been identified

### Survey Findings

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Mountains and hills
Second Priority	Soils identification
Third Priority	Sand and gravel deposits
Fourth Priority	Bluffs
Fifth Priority	Gorges

Surveys returned from Sutton indicated the following as geologic resource priorities:

- Caves,
- Eskers, kames, and drumlins,
- Gorges,
- Mountains and hills, and
- Soils identification.

Half of the respondents felt that the Town's ordinances and regulations did not adequately protect their geologic resources, while half disagreed. <sup>31</sup>

#### Specific comments <sup>31</sup>

- ✂ Bat habitats should be preserved including caves, talus slopes, etc.
- ✂ Cliffs and bluffs should also be preserved.



### **Recreational Resources**

A variety of recreational opportunities and resources exist in Sutton that are closely associated with the previous resources stated earlier in this narrative. In addition, there are several others deserving of attention: <sup>18, 29, 30</sup>

PUBLIC & PRIVATE RECREATION	Type	Location	Acreage / Miles
Muster Field Farm Museum/Harvey Homestead	private	north of Kezar Lake off Harvey Road	280 acres
Smiley Grove	private	off Route 114, by Kezar Lake	
Camp Wabasso	private	Lake Blaisdell	200 acres

Kearsarge Regional High	public	off North Road	80 acres
Sutton Elementary School	public		1 acre
Cascade Marsh	public	northeastern corner of Town	135 acres
Chadwick Meadows WMA	public	north central Sutton	100 acres
Shadow Hills State Forest	public	central Sutton	34 acres
Mildred T. Leffert Natural Area	public		5 acres
Sutton Town Forest and Wetlands	public		75 acres
Stevens Brook - Cloues Natural Area	public	eastern Sutton along Interstate 89	24 acres
Sutton Pines	public		4 acres
Picnic/Rest area	public	off Interstate 89 - central Sutton	
Wadleigh State Park	public	south shore of Kezar Lake, off Penacook Road	43 acres
Country Club of New Hampshire Inc.	private	off Kearsarge Valley Road	434 acres
Quarry Walk (trail)	private	near Stone House Road in northwest Sutton	1 mile
Stone House Road (trail)			2 miles
King Hill Road (trail)	public	along King Hill Brook	2 miles
Poor Farm Road (trail)	public	connects Baker Hill and King Hill Roads	2 miles
Muster Field Walk (trail)	public	loop including Harvey Road, Lover's Lane, Hominy Pot Road, Keyser Street, Muster Field Farm Museum	2 miles
Cotton Road (trail)	public	Cascade Marsh	1 mile
Kezar Lake Walk (trail)	public	around Kezar Lake	3 miles
Kearsarge Valley Trail	public	Wadleigh State Park, Town Forest and wetlands, Shadow State Forest, private lands	4 miles
Wadleigh Hill Road/ Corporation Hill Road (trail)	public	Wadleigh State Park, Town Forest, historic sites	2 miles
Primeval Pines Walk (trail)	public	off Whiskey Pine Road	1 mile
Link Trail	public	connects Kearsarge Valley Trail and Lincoln Trail	1 mile
Pound Road (trail)	public	off Route 114	2 miles
Lincoln Trail	public	runs between Kearsarge Regional High school and Rollins State Park	5 miles
Meeting House Road (trail)	public	South Sutton Common	1 mile
Eaton Grange Road (trail)	public		4 miles
Kearsarge Gore Road (trail)	public	branches northeast off North Road, crosses the Warner town line	2 miles

Dodge Hill (trail)	public	roads on Dodge Hill, southwestern Sutton	5 miles
Bum Carter Road (trail)	public	east of Blaisdell Lake	1 mile
Blaisdell Hill Walk (trail)	public	loop, Camp Kemah Road, Blaisdell Farm Road, and Blaisdell Hill Road	2 miles
Gile Road (trail)	public	Gile Pond	1 mile
King Hill Reservation	public	off Hominy Pot and King Hill Roads	441 acres

**Identified Recreational Resource Priorities**

Town officials and volunteers have named the following recreational resources as being particularly important to the Town: <sup>18</sup>

 no specific resources were identified

**Survey Findings**

The following table documents the general resource priorities of those who returned surveys from the Town of Sutton. Although the results are not statistically significant, they do give an indication of what is most important to the community. The responses are compared with the general resource priorities of other communities’ respondents in the CNHRPC Region: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Recreational trails
Second Priority	Canoe/boat access
Third Priority	Outdoor sporting fields
Fourth Priority	Picnic areas and playgrounds
Fifth Priority	Beach access

Surveys returned from Sutton indicated the following as recreational resource priorities:

- Beach access,
- Canoe/boat access,
- Outdoor sporting fields,
- Picnic areas and playgrounds, and
- Recreational trails.

Specific comments <sup>31</sup>

 Public access to undeveloped lands is overdone - some should remain untouched by the public.



**Other Identified Resource**

**Priorities**



Town officials and volunteers have named the following other resource as being particularly important to the Town: <sup>18</sup>

✍ citizen education on zoning on planning is essential

**ACTIVE**  **RESOURCE**  
**PRESERVATION COMMITTEES**

In order to more adequately protect these finite natural and historical resources, Sutton has established a Conservation Commission.

*Conservation Commission*

The very active Conservation Commission has been involved in a great number of activities, including: monitoring dredge and fill applications; examination of intent to cut wood applications from the perspective of potential wetland impacts; inspection of Town properties under conservation commission management; coordination of the planting of a crabapple tree; roadside clean-up; maintenance and further development of walking trails; published “A Guide to Public Recreation Sites”; participation in the Sunapee-Ragged-Kearsarge Greenway coalition; continuing activities of the joint Sutton-New London Kezar Lake Watershed Committee; with the help of UNH, studied seven wetlands; assessed property and recommended to selectmen how it should be protected, and several more activities.



### ***ADDITIONAL SURVEY FINDINGS***

The following results have been also compiled from Sutton's responses to the natural, cultural, and historical resources survey: <sup>31</sup>

#### *Conservation Activities Undertaken Within the Last Three (3) Years*

- building preservation through adaptive use
- wetland conservation through setback provisions
- ecological inventory and management plans
- wildlife inventory

#### *Conservation Activities Planned or Anticipated Within the Following Three (3) Years*

- ✱ teach/reach 2500-5000 NH residents through SPNHF Outreach Programs which will be conducted statewide

#### *Essential Factors to Sutton's "Quality of Life"*

- ☪ sparse development
- ☪ clean air and water
- ☪ forest preservation and growth control
- ☪ maintaining the Town's rural character through open space preservation
- ☪ provide land conservation economic incentives to land owners
- ☪ control the Current Use taxation program

REFERENCES

- 1 - CNHRPC: *Historical Overview*, 1976
- 2 - CNHRPC *Regional Master Plan: Land Use Element*, 1991
- 3 - US Census STF1A and STF3A, 1970, 1980, & 1990
- 4 - NH Office of State Planning: *Current Estimates and Trends in NH's Housing Supply 1996, 1997*
- 5 - NH Office of State Planning: *Population Estimates of NH Cities and Towns (1997), 1998*
- 6 - Sutton *Zoning Ordinance*, 1994
- 7 - *Town Officials/Employees*, 1998
- 8 - Sutton *Town Annual Report*, 1997
- 9 - Sutton *Site Plan Review Regulations*, 1991
- 10 - NH Department of Environmental Services, *Water Resources Division*, 1998
- 11 - NH Fish and Game: *Biological Survey of the Lakes and Ponds in Survey Report 8c*, 1970
- 12 - CNHRPC: *Natural Resources Inventory*, 1974
- 13 - *Inventory of Merrimack County Lakes and Ponds*, 1968
- 14 - Sutton *Master Plan: Land Use Element*, 1988
- 15 - NH *Geographically Referenced and Information Transfer (GRANIT) System*, 1998
- 16 - US Geological Survey (Bow, NH): *Bedrock Geology Mapping*, 1998
- 17 - US Fish and Wildlife Service: *National Wetlands Inventory, 1986-1990*
- 18 - *Town Officials (anecdotal)*, 1998
- 19 - NH Office of State Planning: *Comprehensive Statewide Trails Study*, 1997
- 20 - *Society for the Protection of NH Forests*, 1998
- 21 - *LCIP Final Report*, 1993
- 22 - State of NH: *Real Property Summary*, 1995
- 23 - NH Association of Conservation Commissions, 1998
- 24 - NH Division of Historical Resources: *Historical New Hampshire*, 1990
- 25 - NH Division of Historical Resources: *Historical Markers*, 1989
- 26 - NH Department of Transportation: *Covered Bridges of the Past*, 1994
- 27 - NH Department of Revenue and Economic Development: *NH Natural Heritage Inventory*, 1998
- 28 - CNHRPC: *Open Space Plan*, 1980
- 29 - NH Office of State Planning: *Recreation Plan*, 1998
- 30 - Visit NH Webpage: *Merrimack Valley Attractions*, 1998
- 31 - Sutton *Survey Results*, 1998
- 32 - *A Guide to Public Recreation Sites Points of Interest Trails and Interesting Walks*, 1996
- 33 - Merrimack County Conservation District: *Inventory of Soil Erosion and Agricultural Waste*, 1979
- 34 - 1999 *Municipal Profile Update*

**WARNER**

About Warner.....	
Member of CNHRPC	✓
Surveys Mailed	18
Surveys Received for Tallying	5
REPP Meeting Participation	✓
Profile Review & Comment by Town	X
1999 Update	X

**Historical Profile**

Warner was granted by the General Court of Massachusetts in 1735 under the name of Township "Number One." In 1773, New Hampshire granted the region to some settlers from Rye, and one year later Governor Wentworth incorporated the Town. Transportation played a large part in Warner's growth. During the 1820's, donations from wealthy Warner residents provided for the building of new roads. These less hilly routes became well-traveled stage lines, and people traveling throughout New England passed through Warner everyday. In 1849, the railroad arrived, and the Town's reputation as a travel-stop was again enhanced. Agriculture, small industry, and tourism were also important to Warner's development. Today, as Interstate 93 bisects the Town, Mount Kearsarge and its majestic vistas continue to bring visitors to the area.<sup>1</sup>

**Present-Day Profile**

The area of Warner is 35,392 acres, or 55.3 square miles. The Town comprises 6.9% of the CNHRPC area.<sup>2</sup>

Over the last twenty-seven years, Warner's population has grown by 71% while the number of housing units has increased by 56%:<sup>3, 4, 5</sup>

GROWTH	Population	Net Change		Housing Units	Net Change	
		#	%		#	%
1970 (US Census)	1,441	na	na	720	na	na
1980 (US Census)	1,963	+ 522	+ 36.2	899	+ 179	+ 24.9
1990 (US Census)	2,250	+ 287	+ 14.6	1,039	+ 140	+ 15.6
1997 Population & 1996 Housing (NHOSP)	2,460	+ 210	+ 9.3	1,122	+ 83	+ 8.0
<b>TOTAL CHANGE FROM 1970 - 1997</b>		+ 1019	<b>+ 70.7%</b>		+ 402	<b>+ 55.8%</b>

In an effort to control its growth, while protecting its resources in an economically viable manner, the Town has adopted a number of land use controls to facilitate the conservation process:<sup>6</sup>

<b>Town Zoning Districts</b>	<b>Town-Adopted Resource &amp; Conservation Ordinances</b>
Village Residential District (1992)	Telecommunications Ordinance
Medium Density Residential District (1992)	
Low Density Residential District (1992)	
Open Conservation District (1992)	
Open Recreation District (1992)	
Business District (1992)	
Commercial District (1992)	

Non-regulatory measures for protecting Warner's resources include the following: <sup>7, 8, 9</sup>

<b>Town Master Plan Elements</b>	<b>Town Conservation Plans, Reports and Studies</b>
Goals and Objectives (1989)	Willow Brook Watershed Study
History Element (1989)	
Population and Economics Element (1989)	
Land Use Element (1989)	
Housing Element (1989)	
Transportation Element (1989)	
Community Facilities and Services Element (1989)	
Utilities Element (1989)	

In 1999, the Warner Master Plan Committee will have completed the update to its Master Plan.



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## **TOWN RESOURCES**

### **☞ Water Resources**

#### Water Supplies

The Silver Brook Reservoir supplies the Town of Warner with its public drinking water. Silver Brook flows between the Mink Hills and Waldron Hill in the south central part of the Town.

Between 1983 and 1997, the NHDES has issued 65 well permits to residents of Warner. These new well locations have been mapped by NHDES.<sup>10</sup>

#### Ponds<sup>11, 12, 13, 14</sup>

Bagley Pond, located in the northeast corner of Warner, has an area of 19 acres and an average depth of nine feet. It serves as a tributary to Frazier Brook.

Bear Pond is a 49-acre natural pond that has been raised by damming. It provides drinking water for the villages of Hopkinton and Contoocook.

Cunningham Pond is located in the southwest corner of Warner by the Chandler State Forest. This 22-acre body of water is the source of Warner Brook.

Tom Pond is located in the southeastern corner of Warner, west of the Warner River and north of Pleasant Pond. It is approximately 31 acres in size and is sometimes called Diamond Lake.

Pleasant Pond is 16 acres in size. It is located just north of the Hopkinton-Warner border, beside Tom Pond.

Simmons Pond is a natural pond found north of Melvin Mills in the northwest section of Town. The pond is 16 acres in size and has an average depth of 18 feet. It serves as a tributary to the Warner River.

Mud Pond is a small 3.5-acre pond that lies along the Warner-Webster town line. It flows into Schoodac Brook.

#### Rivers<sup>11, 12, 13, 14</sup>

The Warner River originates in Bradford and flows south-easterly for a total of 22 miles, 13.8 of which lie inside the Town of Warner. The river cuts diagonally through the center of Town, crosses into Webster, and flows east until it joins the Contoocook River in Hopkinton. Most of the river's drainage area also lies within Warner (80%).

#### Brooks<sup>11, 12, 13, 14</sup>

Willow Brook crosses into Warner from Salisbury. Willow Brook and its watershed are the recent focus of study for the Conservation Commission.

Frazier Brook flows out of Bagley Pond.

Schoodac Brook runs northeast of the Warner River.

Ballard Brook is located in southern Warner.

Meadow Brook flows through the northern panhandle of Warner.

French Brook also runs alongside Rollins State Park in the northern panhandle of Warner.

Silver Brook meets the Warner River close to the Village Center.

Stevens Brook enters Warner from Sutton and flows into the Warner River.

Warner Brook flows out of Cunningham Pond.

Hydric Soils

Out of the total land acreage of Warner (35,392), 6.8% is comprised of hydric soils: <sup>14, 32</sup>

<b>HYDRIC SOILS</b>	<b>Acreage</b>	<b>Total Percentage of Town</b>
Poorly Drained	1,375	3.9
Very Poorly Drained - organic base	594	1.7
Very Poorly Drained - mineral base	348	1.0
Marsh	82	0.2
<b>TOTALS</b>	<b>2,399</b>	<b>6.8%</b>

Watersheds

Warner lies almost entirely within the Warner River watershed. Other less predominant watersheds drain the rest of the Town. The Silver Brook watershed underlies a small section of Town just south of the Warner River. The tip of Warner's northern panhandle lies in the Blackwater River watershed which drains off the southeast side of Mt. Kearsarge, and the Contoocook River watershed drains a small southern section of Town via Amey Brook and Warner Brook.

Of significant note, the Conservation Commission has been engaging in a detailed inventory of the Willow Brook sub-watershed for analysis of a potential future public water supply. <sup>10, 14, 18</sup>

Aquifers

Warner's largest potential aquifer underlies the southeastern corner of Town; a few smaller pockets underlie other parts of Town. <sup>14, 16</sup>

Wetlands

Wetlands inventoried, field-checked, and mapped by the US Fish and Wildlife Service between 1986 and 1990 dot the entire Town. Areas of mapped wetlands which do not co-occur with ponds are found just south of Mud Pond, along Schoodac Brook, and along the Warner River in the Town's southeastern corner. <sup>17</sup>

**Identified Water Resource Priorities**

Town officials and volunteers have named the following water resources as being particularly important to the Town: <sup>18</sup>

- ☛ Willow Brook and the Willow Brook watershed
- ☛ Stevens Brook
- ☛ Black Gum Swamp
- ☛ Bagley Pond
- ☛ Simmons Pond
- ☛ Warner River
- ☛ Tory Meadow Pond
- ☛ Schoodac and Frazier Brooks

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Rivers and streams
Second Priority	Aquifers
Third Priority	Lakes and ponds
Fourth Priority	Designated prime wetlands
Fifth Priority	Watersheds

Surveys returned from Warner indicated the following as water resource priorities:

- Aquifers,
- Designated prime wetlands,
- Lakes and ponds,
- Rivers and streams, and
- Watersheds.

The majority of the respondents felt that the Town’s ordinances and regulations do not adequately protect their water resources. <sup>31</sup>

Specific comments included: <sup>31</sup>

- ☛ We need to change our zoning to better protect the Warner River, floodplains, and wetlands. We should also encourage easements and current use, and we need regulations to protect the Town from excessive developing.
- ☛ The ordinances protecting Warner’s wetlands are the most effective.
- ☛ We need greater setback requirements. Watersheds and aquifers are critical to groundwater supplies.



**🌲 Land and Forestry Resources**

The total number of acres under conservation was calculated to be approximately 25% of the entire Town. The following table breaks down the components: <sup>8, 20, 21, 22</sup>

CONSERVATION LANDS	Held by	Acres
Ashendon State Forest	NH DRED	168
Bagley Athletic Fields	Town	20
Bagely/Stillman Clark Parcel	Town	39
Carroll State Forest	NH DRED	29
Carter easement	Town	34
Chandler Reservation	Town	1440
Contoocook River Precinct Land	Town	169
Davisville State Forest	NH DRED	19
Gilmore State Forest	NH DRED	37
Harriman Chandler State Forest	NH DRED	395
Hill Tract #1	Town	64
Hill Tract #2	Town	8
Hill Tract #3	Town	1
Hill Tract #4	Town	2
Jellome Woods	SPNHF	48
Kumin easement	Town	108
Mount Kearsarge State Forest	NH DRED	3991
Mount Kearsarge State Forest (Goodnow)	NH DRED	660
Mount Kearsarge State Forest (Lowell)	NH DRED	316
Ordway Woods	Town	4
Royce Well Site	Town	7
School Street Park	Town	13
Scott/Ballou Lot	Town	40
Silver Lake Recreation Area	Town	12
Simonds School Grounds	Town	5
Simmons Pond Remote Access Facility	Town	17
Rollins State Park	NH DRED	118

Warner River Parcel	Town	4
Warner Town Forest	Town	906
Warner Town Beach on Silver Brook	Town	6
Warner Village Water District	Town	22
<b>TOTAL ACREAGE PROTECTED</b>		<b>8702</b>

In addition, approximately 22,481 acres, or 64% of the Town's total area, were in current use as of December 31, 1998.<sup>33</sup>

In 1998, Warner did not support a land use change tax allocation to be directed to the Conservation Fund for land acquisition.<sup>23</sup>

### ***Identified Land & Forestry Resource Priorities***

Town officials and volunteers have named the following land and forestry resources as being particularly important to the Town:<sup>18</sup>

- ✦ Warner Black Gum swamp
- ✦ the large unfragmented forest in the south and southwestern section of Warner
- ✦ Warner River Floodplain

### ***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Open space
Second Priority	Agricultural land
Third Priority	Conservation easements
Fourth Priority	Town parks and forests
Fifth Priority	Deeded conservation lands

Surveys returned from Warner indicated the following as land and forestry resource priorities:

- Agricultural land,
- Conservation easements,
- Deeded conservation lands,
- Open space, and
- Town parks and forests.

The majority of the respondents felt that the Town’s ordinances and regulations adequately protect their land and forestry resources.<sup>31</sup>

Specific comments<sup>31</sup>

- \* We need to educate the public on the benefits of open space and conservation easements.
- \* The Town should look into the establishment of a Conservation Capital Reserve Fund for the purchase of land and easements. We need to protect the Warner River, Meadow Marsh, Willow Brook, and Mt. Kearsarge.



**Historical and Cultural Resources**

National Register of Historic Places

Warner has two exemplary sites located on the National Register. One was nominated and listed in 1976. No additional regulative restrictions are placed upon those properties which are listed on the National Register, but instead a listing in the Register recognizes the significance of and encourages the stewardship of the property:<sup>1, 24</sup>

NATIONAL REGISTER OF HISTORIC PLACES	Date Listed	Location	Significance/Description
Dalton Covered Bridge	11/76	On Joppa Road, spanning the Warner River, South of Route 103	Classified as a long truss with auxiliary queenpost system. Built in 1853, it is one of the oldest standing covered bridges in use today.
Waterloo Bridge	Unk.	On New Market Road, west of Warner Village, spanning the Warner River	Classified as a town lattice truss.

New Hampshire Historical Markers

These markers stand at places of great historical significance to the State of New Hampshire. Some of these places contain tangible reminders of the past, while others mark the locations of where structures once stood or a historical event took place. Currently Warner has no historical markers listed with the New Hampshire Division of Historical Resources.<sup>25</sup>

Local markers, or the actual remnants of the structures themselves, indicate the sites of various other, yet not less important, historic landmarks and events:<sup>1, 8, 18</sup>

- \* The 80-foot long Warner-Bagley Bridge was built over the Warner River in 1800, two miles east of Warner Village. It was bypassed by a highway in 1933, and was used as a foot bridge until 1966 when it was removed and relocated to Ashland, New Hampshire.
- \* George A. Pillsbury was a resident of Warner from 1840-1852. His gift of \$16,000 funded the construction of the Pillsbury Free Library in 1862.

- 
 The Warner Parade Grounds were used for festivities before and during the Revolutionary War. The grounds also house one of the Town’s oldest cemeteries.
- 
 A marker commemorates the birth of Daniel Kimball, the first non-Native American child born in Warner (October 11, 1762).
- 
 Two quarries operated in Warner during the nineteenth century; the Line Ledge Quarry and the Soapstone Quarry.
- 
 The old cemetery at the Town Center contains many old graves with interesting epitaphs.
- 
 The 1849, white-frame Town Hall served as Warner’s political and social center for over 60 years. In 1910, the Town constructed its present Town Hall, moving the old building to Pumpkin Farm where it was converted into a cattle barn.
- 
 The Warner Hotel was the first frame structure built in Warner Village (1785). It was moved to Pumpkin Hill Road in 1909 to be used as a barn.
- 
 The Baptist Church was built by 22 local men in 1833.
- 
 The Methodist Meeting House was a white frame building built in the early 19th century. The Warner Historical Society now owns the property.
- 
 The United Church of Warner was built in 1819, also functioning as the Congregationalist Meeting House. In 1845, this white frame church was moved to its present location on Main Street.
- 
 Numerous railroad stations operated in Warner from the middle of the 19th century to the middle of the 20th century. Among them are the Warner Village Station, the Diamond Station, two Waterloo Stations, and the station at Roby’s Corner.

Covered Bridges

Covered bridges once played an integral part of the transportation network of the 19th century. Today, they are recognized for their beauty and uniqueness. Two covered bridges still stand in Warner. Twelve more existed at one time: <sup>26</sup>

COVERED BRIDGE NAME/LOCATION	Date Built	Date Gone
Dalton Bridge	1853	standing
Waterloo Bridge	rebuilt in 1857	standing
Bagley	1830's	unknown
Roby	unknown	unknown
Amesbury, Davisville	unknown	1936
Lower Village	unknown	1930

RR #128, Bagley	1850	1922
RR #133, Warner	1850	1922
RR #134, Davis	unknown	1926
RR #138, Roby's	1820	1911
RR #139, Eastman	unknown	1926
RR #140, Redington	1859	unknown
RR # 142, Rodgers	1850	1922
RR #143, Melvin Mills	1874	1922

***Cemeteries***

As do many other small Central Region towns, Warner has a rich heritage and a strong connection to its past. Cemeteries, both Town and small, private family plots, are an important and personal link: <sup>8, 18</sup>

<b>CEMETERIES</b>	<b>Owner</b>	<b>Parcel Number / Location</b>
Parade Ground Cemetery	Town	
Cemetery		by the Waterloo Bridge, along the Warner River
Cemetery		by French Brook
Cemetery		intersection of Pumpkin Hill and Mason Hill Roads
2 Cemeteries at the Village Center		Village Center

***Identified Historical Resource Priorities***

Town officials and volunteers have named the following general and specific historical and cultural resources as being particularly important to the Town: <sup>18</sup>

-  agriculture regions
-  lime kiln
-  masonless arch
-  Devil's Den cave
-  quarries
-  the summit of Mount Kearsarge

***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Cemeteries
Second Priority	Cultural interest sites
Third Priority	Covered bridges
Fourth Priority	National Register of Historic Places
Fifth Priority	Archaeological sites

Surveys returned from Warner indicated the following as historical and cultural resource priorities:

- Archaeological sites,
- Covered bridges,
- Cultural interest sites,
- Stone walls, and
- Unique cellar holes.

The majority of respondents felt that the Town's ordinances and regulations adequately protect their historical and cultural resources.<sup>31</sup>

Specific comments<sup>31</sup>

- Warner currently does nothing to protect stone structures.
- We need to increase public interest in historical sites, and use that interest to contribute to Warner's tourism.
- The Town is encouraging scenic road designations. The Historical Society is presently identifying cellar holes.



**Ecological Resources**

NH Natural Heritage Inventory

Several outstanding plant and animal species have been located in Warner since the 1930's as well as one outstanding natural community. Locations were recorded in the NHI database:<sup>27</sup>

Andrews Gentian (*Gentiana andrewsii*) is threatened in New Hampshire, but not listed as such federally or globally. Within the last twenty years only two locations within the State have reported harboring this plant. It is recorded that Warner once did also, but there have been no recent recordings.

The Ciliated Willow Herb (*Epilobium ciliatum*) is also threatened in the State. Warner harbored the species at one time but it has not been found recently. Within the last twenty years, only one location has been recorded in the State.

The Small Whorled Pogonia (*Isotria medeoloides*) is endangered in New Hampshire, and threatened throughout the rest of the United States. It is listed in the NHI as a species of “highest importance.” Forty-nine locations have been named in the State within the last 20 years, one in Warner.

The Abandoned Mine Bat (*Bat hibernaculum*) is a threatened mammal that has been found at one location in Warner within the last twenty years. Seven other locations were also named in New Hampshire.

Two New Hampshire locations were reported to house the rare mammal known as the Eastern Pipistrelle (*Pipistrellus subflavus*); one such location was reported in Warner.

The Columbine Duskywing (*Erynnis lucilius*) is an invertebrate that has been found at only two locations in New Hampshire during the last twenty years. Warner reported locations once also, but not in recent history.

The Blackgum/Red Maple Basin Swamp is a palustrine natural community that once was reported in Warner. In the last twenty years, only nine such communities have been located in the entire State.

### Corridors

Corridors and greenways are typically used not only by people for recreation or transportation, but also by wildlife to travel from one habitat to another. Maintaining viable and undeveloped corridors ultimately measures the biological success of the animals, particularly larger mammals, within an area. The following corridors have been identified in Warner: <sup>15, 18 19</sup>

The Warner River corridor cuts southeasterly through the center of Warner. Many of Warner’s village districts are located along this river, and Route 103 runs beside the waterway for most of its journey across Town. Despite these developments, this corridor can be assumed to provide protected access between different habitats.

The old railroad grade runs through the southern part of Warner. For a short while, it follows the Warner River, providing an additional travel corridor for many animals.

### Exemplary Natural Communities

Other special, undisturbed lands are essential for the biological diversity of plants and animals. The more bio-diversity found within an area, the more valuable and self-sustaining the community becomes from both ecological and economic perspectives. The following natural communities have been identified in Warner: <sup>18</sup>

Simmons Pond, located in the northwest corner of the Town, has been reported to have good potential for upland game species and water species. It harbors several pure hemlock stands.

A heron rookery has been sighted within Town.

Scenic Roads and Vistas

Beautiful scenic viewsheds abound from the summit of Mt. Kearsarge. Other ridge lines in the Mount Kearsarge State Park also provide scenic vistas.<sup>14</sup>

**Identified Ecological Resource Priorities**

Town officials and volunteers have named the following ecological resources as being particularly important to the Town:<sup>18</sup>

-  Mt. Kearsarge and its vistas
-  Black Gum Swamp

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Scenic vistas
Second Priority	Plant/tree communities (tied w/3rd)
Third Priority	Animal communities (tied w/2nd)
Fourth Priority	Riparian corridors
Fifth Priority	Biological diversity

Surveys returned from Warner indicated the following ecological resource priorities:

- Biological diversity,
- Greenways,
- Plant/tree communities,
- Riparian corridors, and
- Scenic vistas.

The majority of the respondents felt that the Town’s ordinances and regulations adequately protect their ecological resources.<sup>31</sup>

Specific comments<sup>31</sup>

-  Warner’s Master Plan update will address these issues by encouraging zoning changes.
-  We need river setbacks.



**Geologic Resources**

Surficial Geology

Sand and gravel deposits lie in kames and kames terraces along the Warner River. Stratified drift outwash plains are found along the river also, especially in the southeast section of Town, close to where the Warner River crosses into Webster. Flood Plain Alluvium from the Recent Period underlies a patch of land near this area also. Isolated drumlins are found in the eastern part of Town, a large one just north of Tory Meadow Pond.<sup>12, 14</sup>

Additional and perhaps more recognizable geologic formations are mountains and hills:<sup>14, 28</sup>

<b>MOUNTAINS AND HILLS</b>	<b>Elevation</b>
Bible Hill	1260'
Black Mountain	2560'
Burnt Hill	854'
Clark Hill	1160'
Couch Hill	1140'
Denny Hill	680'
Gage Hill	1760'
Little Mountain	2360'
Mount Kearsarge	2937'
Pumpkin Hill	940'
Stanley Hill	860'
Stewart's Peak	1780'
Tory Hill	820'
Waldron Hill	1040'

Bedrock Geology

Warner's bedrock is made up of a variety of types. The metamorphic bedrock underlying the Town is the Littleton Formation of undifferentiated schists and gneisses. This type is found in the Town's central and eastern regions as well as in part of the Town's northern panhandle. Warner's most predominant plutonic bedrock is composed of kinsman quartz Monzonite which covers the entire western half of Warner. A small patch of binary or Concord Granite (light grey or white) extends across the Warner-Bradford town line, and a pluton comprised of Ganodiorite-Biotite Quartz Monzonite is found in a small southern section of the Town.<sup>12, 14</sup>

**Identified Geological Resource Priorities**

Town officials and volunteers have named the following geologic resources as being particularly important to the Town: <sup>18</sup>

- ☒ lime kiln
- ☒ quarries

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Mountains and hills
Second Priority	Soils identification
Third Priority	Sand and gravel deposits
Fourth Priority	Bluffs
Fifth Priority	Gorges

Surveys returned from Warner indicated the following geologic resource priorities:

- Eskers,
- Gorges,
- Mountains and hills,
- Sand and gravel deposits, and
- Soils identification.

The majority of the respondents felt that the Town’s ordinances and regulations do not adequately protect their geological resources.<sup>31</sup>

Specific comments <sup>31</sup>

- ☒ I would like to see ridge lines protected from development and gravel pit rehabilitation enforced.





**Recreational Resources**

A variety of recreational opportunities and resources exist in Warner that are closely associated with the previous resources stated earlier in this narrative. In addition, there are several others deserving of attention:  
18, 29, 30

<b>PUBLIC &amp; PRIVATE RECREATION</b>	<b>Type</b>	<b>Location</b>	<b>Acreage / Miles</b>
Camp Piesaulle (camp ground)	private	close to Lake Massasecum, by the Bradford town line	380 acres
Simonds School Grounds	public	off Route 103, by Warner Village	5 acres
Ashendon State Forest	public	in south-central Warner, off Old Henniker Road, along Warner Brook	168 acres
Runaway Farm Campground	private		35 acres
Bagley Field	public	beside the Warner River, Off Route 103, just west of Red Chimney Road	20 acres
Rollins State Forest	public	in the Town’s northern panhandle	118 acres
Riverside Park	public	off Route 103, by Warner Village	17 acres
Gilmore State Forest	public	off of Route 103, by the Warner River	39 acres
Davisville State Forest	public	by Tom Pond, off of Route 103	19 acres
Carroll State Forest (hiking trails)	public	off of Old Denny Hill Road	29 miles
Chandler Reservation	public	south off Bean Road	1345 acres
Chandler-Harriman State Forest	public	northwest of Mink Hill Road	395 acres
Kearsarge Mountain State Forest	public	in the northern panhandle	1743 acres
Highlawn Farm Horse Trails	private		300 miles
Phrogg Hollow Mini-Golf	private	off Route 103, close to Webster	
Jellome Woods Natural Area	private	off of Route 103, by Davisville, close to the Warner-Webster border	47 acres
Warner Town Beach at Silver Brook	public	off North Village Road	6 acres
Warner Town Forest	public	along the western border of the Town’s panhandle, off Interstate 89	
Warner Ski Area	public	part of Chandler-Harriman State Forest	

**Identified Recreational Resource Priorities**

Past town records have named the following recreational resources as being particularly important to the Town: <sup>28</sup>

-  Mount Kearsarge State Forest Park
-  Warner Ski Area
-  other State Forests and Natural Areas

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Recreational trails
Second Priority	Canoe/boat access
Third Priority	Outdoor sporting fields
Fourth Priority	Picnic areas and playgrounds
Fifth Priority	Beach access

Surveys returned from Warner indicated the following recreational resource priorities:

- Beach access,
- Canoe/boat access,
- Outdoor sporting fields,
- Picnic areas and playgrounds, and
- Recreational trails.

**Specific comments** <sup>31</sup>

-  Warner just put in a Town beach in 1997.
-  I hope that the Warner Master Plan update will rezone so as to allow for recreational uses in some areas while restricting it in other areas to better protect the Town’s important habitats.



**Other Identified Resource Priorities**

Town officials and volunteers have named the following other resources as being particularly important to the Town: <sup>18</sup>

-  campgrounds



## **ACTIVE RESOURCE PRESERVATION COMMITTEES**

In order to more adequately protect these finite natural and historical resources, Warner has established both a Conservation Commission and a Historical Society.

### Conservation Commission

One of the Conservation Commission's most interesting projects has been the identification of natural resources in the Willow Brook Watershed. They have also created an outreach program that will help educate the public about watersheds and their protection. In 1997, the Commission also hosted the "The Dollars and Sense of Open Space," and organized an "Adopt-A-Salmon" project for the fifth graders at Simonds School.<sup>8</sup>

### Historical Society

A private Historical Society exists to help protect Warner's heritage. Recent projects include: studying Warner's cellar holes, stone walls, stone formations, and stone piles; studying the Bagley Covered Bridge; collecting and archiving historic documents and artifacts; and organizing "The Barn Sale," a community fundraiser that helps support the Society.<sup>8</sup>

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## **ADDITIONAL SURVEY FINDINGS**

The following results have been also compiled from Warner's responses to the natural, cultural, and historical resources survey:<sup>31</sup>

### Conservation Activities Undertaken Within the Last Three (3) Years

- the development of map overlays
- updating Warner's Master Plan (a process that should help the Town redirect some energy to environmental issues)
- securing conservation easements
- a statewide natural resource inventory of important local watersheds
- working on the Town beach at Silver Lake

### Conservation Activities Planned or Anticipated Within the Following Three (3) Years

- ✧ the Master Plan update
- ✧ zoning changes
- ✧ forming a capital reserve fund for the conservation commission
- ✧ more public education and support
- ✧ continuing to inventory important ecological resources (wetlands, watersheds, etc...)

### Essential Factors to Warner's "Quality of Life"

- ☞ a desire to protect the environment
- ☞ local community pride
- ☞ a "get involved" attitude
- ☞ understanding the good and bad impacts of residential growth
- ☞ open space

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REFERENCES

- 1 - *CNHRPC: Historical Overview, 1976*
- 2 - *CNHRPC Regional Master Plan: Land Use Element, 1991*
- 3 - *US Census STF1A and STF3A, 1970, 1980, & 1990*
- 4 - *NH Office of State Planning: Current Estimates and Trends in NH's Housing Supply 1996, 1997*
- 5 - *NH Office of State Planning: Population Estimates of NH Cities and Towns (1997), 1998*
- 6 - *Warner Zoning Ordinance, 1992*
- 7 - *Town Officials/Employees, 1998*
- 8 - *Warner Town Annual Report, 1997*
- 9 - *Warner Site Plan Review Regulations, 1990*
- 10 - *NH Department of Environmental Services, Water Resources Division, 1998*
- 11 - *NH Fish and Game: Biological Survey of the Lakes and Ponds in Survey Report 8c, 1970*
- 12 - *CNHRPC: Natural Resources Inventory, 1974*
- 13 - *Inventory of Merrimack County Lakes and Ponds, 1968*
- 14 - *Warner Master Plan, 1989*
- 15 - *NH Geographically Referenced and Information Transfer (GRANIT) System, 1998*
- 16 - *US Geological Survey (Bow, NH): Bedrock Geology Mapping, 1998*
- 17 - *US Fish and Wildlife Service: National Wetlands Inventory, 1986-1990*
- 18 - *Town Officials (anecdotal), 1998*
- 19 - *NH Office of State Planning: Comprehensive Statewide Trails Study, 1997*
- 20 - *Society for the Protection of NH Forests, 1998*
- 21 - *LCIP Final Report, 1993*
- 22 - *State of NH: Real Property Summary, 1995*
- 23 - *NH Association of Conservation Commissions, 1998*
- 24 - *NH Division of Historical Resources: Historical New Hampshire, 1990*
- 25 - *NH Division of Historical Resources: Historical Markers, 1989*
- 26 - *NH Department of Transportation: Covered Bridges of the Past, 1994*
- 27 - *NH Department of Revenue and Economic Development: NH Natural Heritage Inventory, 1998*
- 28 - *CNHRPC: Open Space Plan, 1980*
- 29 - *NH Office of State Planning: Recreation Plan, 1997*
- 30 - *(reserved)*
- 31 - *Warner Survey Results, 1998*
- 32 - *Merrimack County Conservation District: Inventory of Soil Erosion and Agricultural Waste, 1979*
- 33 - *1999 Municipal Profile Update*

**WEBSTER**

About Webster.....	
Member of CNHRPC	X
Surveys Mailed	17
Surveys Received for Tallying	0
REPP Meeting Participation	X
Profile Review & Comment by Town	X
1999 Update	✓

**Historical Profile**

Webster was originally granted in 1733 as a part of the Town of Boscawen. In 1860, political discontent prompted the residents of East Boscawen to petition to have their part of Town separated and reincorporated. Despite opposition from the Town’s west side, the New Hampshire Legislature granted East Boscawen’s petition, and 1860 saw the establishment of two new towns. The residents of East Boscawen claimed the land east of Beaverdam Brook and Pond Brook, while West Boscawen received the land to the west and acquired the name “Webster” in honor of Daniel Webster, the famous New Hampshire statesman. Webster was not short-changed in this maneuver. It was able to hold on to many natural and cultural resources including Lake Winnepocket, the Blackwater River, and the Corser Hill historic area. Webster was originally a farming community, but the 1800’s brought mills and manufacturing to the area. Webster never became an industrial or agricultural center, and its current residents tend to commute to other places to work. One of the Town’s best attributes has been its ability to retain its rural character and colonial charm.<sup>1</sup>

**Present-Day Profile**

The area of Webster is 18,048 acres, or 28.2 square miles. The Town comprises 3.5% of the CNHRPC area.<sup>2</sup>

Over the last twenty-seven years, Webster’s population has grown by 117% while the number of housing units has increased by 77%:<sup>3, 4, 5</sup>

GROWTH	Population	Net Change		Housing Units	Net Change	
		#	%		#	%
1970 (US Census)	680	na	na	351	na	na
1980 (US Census)	1095	+ 415	+ 61.1	444	+ 93	+ 26.5
1990 (US Census)	1405	+ 310	+ 28.3	577	+ 133	+ 30.0
1997 Population & 1996 Housing (NHOSP)	1478	+ 73	+ 5.2	620	+ 43	+ 7.5
<b>TOTAL CHANGE FROM 1970 - 1997</b>		+ 798	<b>+ 117.4%</b>		+ 269	<b>+ 76.6%</b>

In an effort to control its growth, while protecting its resources in an economically viable manner, the Town has adopted a number of land use controls to facilitate the conservation process: <sup>6</sup>

Town Zoning Districts	Town-Adopted Resource & Conservation Ordinances
Residential	Floodplain Development Ordinance
Agricultural	

Non-regulatory measures for protecting Webster's resources include the following: <sup>7, 8, 9</sup>

Town Master Plan Elements	Town Conservation Plans, Reports and Studies
Community Profile Element (1992)	Blackwater Project Master Plan (US Army Corps 1997)
Goals and Objectives Element (1992)	Natural Resources Inventory (1990)
Land Use and Natural Resources Element (1992)	
Conservation and Preservation: Historical and Natural Resources (1992)	
Transportation Element (1992)	
Community Facilities and Services Element (1992)	



## **TOWN RESOURCES**

### **Water Resources**

#### Water Supplies

The Pillsbury Lake Water Precinct provides 101 dwellings in Webster with public drinking water. The rest of the Town's residents depend on private wells.<sup>14, 32</sup>

Between 1983 and 1997, the NHDES has issued 40 well permits to residents of Webster. These new well locations have been mapped by NHDES.<sup>10</sup>

#### Ponds<sup>11, 12, 13, 14, 32, 33</sup>

The Blackwater Reservoir is an artificial flood control area that is managed at the Blackwater Dam in Webster. It reduces flooding in residential communities found downstream of the site as well as in some major industrial and commercial areas such as Concord, Manchester, and Lowell Massachusetts. The New Hampshire Department of Resources and Economic Development (NH DRED) oversees a forestry, fish, and wildlife management program on the 3,475 acres of land surrounding the reservoir.

Walker Pond has an area of 190 acres and an average depth of 18 feet and is shared with Boscawen. It formerly served as the public water supply for the Town of Boscawen.

Ox Pond is a small pond that is only eight acres in size and has an average depth of 16 feet. Its value is in its wildness, undeveloped shoreline, and use by ice fishermen.

Trumbull Pond is located in western Webster close to the Warner town line. This 83-acre pond is surrounded by woods. Marshy areas make this lovely pond a haven for wildlife. It is also considered to be important habitat for endangered species of turtles.

Lake Winnepocket is a natural lake with an area of 227 acres and a maximum depth of 55 feet. It serves as a tributary to Schoodac Brook. Summer homes are located along its shore.

Pillsbury Lake lies south of Walker Pond, between the Blackwater River and the Boscawen-Webster town line. Homes are situated along its shore also.

Knight's Meadow Marsh is a 35-acre water body that is located in the Town's northwest corner. It is owned and managed by New Hampshire Fish and Game Department and is very scenic.

#### Rivers<sup>11, 12, 13, 14, 32</sup>

The Blackwater River flows from Salisbury, south for twelve miles through the center of Webster, and into Hopkinton where it converges with the Contoocook River. The Blackwater Reservoir and Blackwater Dam are found along this River, just west of Corser Hill. The river is known for its beauty and its recreation opportunities, making it a popular site for canoeing and the annual kayaking races.

The Warner River flows for a short distance in Webster in the extreme southwest corner of the Town. It also converges with the Contoocook River in Hopkinton.

Brooks <sup>11, 12, 13, 14, 32</sup>

Beaverdam Brook forms part of the boundary between Webster and Boscawen. It begins in Salisbury at a small unnamed pond and flows south-easterly until it becomes the Webster town line. It passes through wetlands and then drains into Walker Pond.

Knight Meadow Brook flows through Knight Meadow Marsh in the northwest corner of the Town.

Pond Brook flows out of Walker Pond. It also comprises part of the Webster-Boscawen boundary. Northeast of Pillsbury Lake, the brook turns east and flows into Boscawen.

Deer Meadow Brook flows south out of Pillsbury Lake into Hopkinton.

Schoolhouse Brook drains off the north end of Rattlesnake Hill into Deer Meadow Brook.

Frost's Brook flows off of Corser Hill.

Cold Brook is one of many small brooks that drains into the Blackwater River.

Hydric Soils

Out of the total land acreage of Webster (18,048), only 2.5 % is comprised of hydric soils: <sup>32</sup>

<b>HYDRIC SOILS</b>	<b>Acreage</b>	<b>Total Percentage of Town</b>
Poorly Drained	0	0
Very Poorly Drained - organic base	383	2.1
Very Poorly Drained - mineral base	67	0.4
Marsh	0	0
<b>TOTALS</b>	<b>450</b>	<b>2.5%</b>

Watersheds

The Town lies within three major watersheds. The Contoocook River watershed underlies the eastern part of the Town. A central strip of land lies within the Blackwater River watershed, and the western part of the Town falls inside the Warner River watershed. The Beaverdam Brook watershed feeds Walker Pond, which lies half in Webster and half in Boscawen. <sup>10, 32</sup>

Aquifers

An important stratified drift aquifer underlies the Blackwater River. It starts at Snyders Mill and extends south for about one mile. There are no high yield aquifers in Webster. <sup>16, 32</sup>

Wetlands

Wetlands inventoried, field-checked, and mapped by the US Fish and Wildlife Service between 1986 and 1990 dot the entire Town. Large areas of mapped wetlands which do not co-occur with ponds are found along Beaverdam Brook, the Blackwater River, and north of Pillsbury Lake.<sup>17, 32</sup>

**Identified Water Resource Priorities**

The 1990 Webster Natural Resources Inventory named the following water resources as being particularly important to the Town:<sup>32</sup>

- ☛ aquifers
- ☛ Walker Pond and the Beaverdam Brook watershed
- ☛ Lake Winnepocket
- ☛ Pillsbury Lake
- ☛ The Blackwater River

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Rivers and streams
Second Priority	Aquifers
Third Priority	Lakes and ponds
Fourth Priority	Designated prime wetlands
Fifth Priority	Watersheds

In the 1999 Municipal Profile Update, Webster indicated the following as water resource priorities:

- Aquifers,
- Designated prime wetlands,
- Lakes and ponds,
- Rivers and streams, and
- Watersheds.

Specific comments included:<sup>31</sup>

- ☛ No response.



## 🌲 Land and Forestry Resources

The total number of acres under conservation was calculated to be approximately 21% of the entire Town. The following table breaks down the components: <sup>8, 20, 21, 22, 32, 33</sup>

CONSERVATION LANDS	Held by	Acres
Blackwater Reservoir (portion in Webster)	US Army Corps	1194
Boscawen Town Forest (small portion in Webster)	Boscawen	0
Community Park & School	Town	20
Corn Hill Road/Huntoon Bog Pond Land	NH F&G	18
Cummings easement	Town	141
Fifield Waterfowl and Wildlife Management Area	NH F&G	9
Fisher Parcel	Town	6
Janeway #2 easement	Town	7
Janeway #3 easement	Town	19
Janeway #4 easement	Town	8
Kimball Lot Wildlife Management Area	NH F&G	18
Knights Meadow Marsh WMA	NH F&G	107
Leonard WMA	NH F&G	855
Old Dump	Town	7
Paul Mock Memorial Forest	Town	59
Phelps easement	Town	13
Pillsbury Lake Boat Access	NH F&G	1
Pillsbury Lake Wildlife and Hunting Area	Town	316
Prince Pasture	SPNHF	92
Riggs easement	Town	16
Riverdale Sanctuary	Town	51
Rockefeller easement	Town	268
Schildbach easement	Town	20
Swetts Mill Island	Town	1
Talbot Conservation Easement (Bashan Road)	Town	56
Victor easement	Town	200
Walker Pond Conservation Land	Town	35

Waterfowl and Wildlife Management Land	NH F&G	82
William Pearson Park	Town	3
Woodman Forest	Town	93
<b>TOTAL ACREAGE PROTECTED</b>		<b>3715</b>

In addition, approximately 11,431 acres, or 63% of the Town’s total area, were in current use as of December 31, 1998.<sup>33</sup>

In 1997, Webster supported a land use change tax allocation to be directed to the Conservation Fund for additional land acquisition.<sup>23, 33</sup>

***Identified Land & Forestry Resource Priorities***

The 1990 Webster Natural Resources Inventory named the following land and forestry resources as being particularly important to the Town:<sup>18</sup>

- ✦ hay fields
- ✦ corn fields
- ✦ farms on Little Hill, Battle and Pleasant Streets
- ✦ tree farms

***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community:<sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Open space
Second Priority	Agricultural land
Third Priority	Conservation easements
Fourth Priority	Town parks and forests
Fifth Priority	Deeded conservation lands

In the 1999 Municipal Profile Update, Webster indicated the following as land and forestry resource priorities:

- Agricultural land,
- Conservation easements,
- Deeded conservation lands,
- Open space, and

- Town parks and forests.

*Specific comments included* <sup>31</sup>

- 🌲 No response



## **Historical and Cultural Resources**

### National Register of Historic Places

Webster has two exemplary sites located on the National Register, both of which were nominated and listed in 1985. No additional regulative restrictions are placed upon those properties which are listed on the National Register, but instead a listing in the Register recognizes the significance of and encourages the stewardship of the property: <sup>1, 24</sup>

<b>NATIONAL REGISTER OF HISTORIC PLACES</b>	<b>Date Listed</b>	<b>Location</b>	<b>Significance/Description</b>
Old Webster Meeting House	3/85	on Battle Street, off of NH Route 127	This old Meeting House belonged to the residents of West Boscawen even before the NH Legislature incorporated the town of Webster in 1860. It was remodeled at the beginning of this century.
Webster Congregational Church	3/85	on Long Street, off NH Route 127	

### New Hampshire Historical Markers

These markers stand at places of great historical significance to the State of New Hampshire. Some of these places contain tangible reminders of the past, while others mark the locations of where structures once stood or a historical event took place. Webster currently has no historic sites listed with the New Hampshire Division of Historic Resources. <sup>25</sup>

Local markers, or the actual remnants of the structures themselves, indicate the sites of various other, yet not less important, historic landmarks and events: <sup>1, 8</sup>

- 🏠 The Corser Hill Meeting House is a beautiful example of a 19th century church. Built in 1823 by George T. Pillsbury, the church features well-designed towers and a striking “Venetian” window.
- 🏠 Cook’s Cabin on Cook’s Hill off of Mutton Road belonged to Thomas Cook, one of Webster’s earliest residents. A few flat rocks, perhaps used as floor tiles, still lie here.
- 🏠 Fowler’s Plain is a level parcel of land located east of Corser Hill and west of Beaver Dam Brook. It was a popular site for regimental musters.
- 🏠 An abandoned sluiceway and mill are located along the Blackwater River.

Covered Bridges

Covered bridges once played an integral part of the transportation network of the 19th century. Today, they are recognized for their beauty and uniqueness. Although Webster no longer has standing covered bridges, six once existed: <sup>26</sup>

COVERED BRIDGE NAME/LOCATION	Date Built	Date Gone
Burbank	unknown	1936
Bashon	unknown	1907
Clothespin	unknown	1936
Snyder	unknown	1951
Swetts Mill	unknown	1909
Danville, road to Tyler	unknown	unknown

Cemeteries

As do many other small Central Region towns, Webster has a rich heritage and a strong connection to its past. Cemeteries, both Town and small, private family plots, are an important and personal link. Webster has four Town cemeteries: <sup>8, 18</sup>

CEMETERIES	Owner	Parcel Number / Location
Beaver Dam Cemetery	Town	near Beaverdam Brook, south off Long Street
Town Cemetery	Town	east off Allen Street
Town Cemetery	Town	between Allen Street and Pleasant Street
Town Cemetery	Town	along the Blackwater River, south of Snyders Mill

**Identified Historical Resource Priorities**

The 1990 Webster Natural Resources Inventory mentioned that the following general and specific historical and cultural resources are of extreme importance to the Town: <sup>32, 33</sup>

-  cellar holes
-  Native American sites
-  Old Webster Meeting House
-  old watering troughs by back roadsides

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Cemeteries
Second Priority	Cultural interest sites
Third Priority	Covered bridges
Fourth Priority	National Register of Historic Places
Fifth Priority	Archaeological sites

In the 1999 Municipal Profile Update, Webster indicated the following as historical and cultural resource priorities:

- Archaeological sites,
- Cemeteries,
- Cultural interest sites, and
- National Register of Historic Places.

Specific comments <sup>31</sup>

 No response



 **Ecological Resources**

NH Natural Heritage Inventory

Several outstanding plant and animal species have been located in Webster since the 1930's and recorded NHI program's database. <sup>27</sup>

Arethusa (*Arethusa bulbosa*) is endangered in the State, but is not listed as such federally. Webster is one of only seven New Hampshire towns that has reported harboring this plant species within the last twenty years.

The elusive Pied-Billed Grebe (*Podilymbus podiceps*) is listed as endangered in the State and has been reported in Webster once within the last 20 years.

The Spotted Turtle (*Clemmys guttata*) has been noted as a reptile of extremely high importance in New Hampshire. Webster has reported the species at one location during the last twenty years.

The Blanding's Turtle (*Emydoidea blandingii*), not a native species to New Hampshire, has been seen at one location in Webster within the last 20 years.

Two rare Noctuid Moths (*Eucoptocnemis fimbriaris* and *Euxoa pleuritica*) were reported in Webster at one time, but neither species has been seen in the Town recently.

Frosted Elfin (*Incisalia irus*) is an insect that has been listed as endangered in the State of New Hampshire. Only five locations have reported this species in the State during the last 20 years. Webster has reported this insect in the past, but not in recent history.

The insect Graceful Clearwing (*Hemaris gracilis*) has only been seen at four locations in the State during the last twenty years, one such location in Webster.

The Karner Blue Butterfly (*Lycaeides melissa samuelis*) is listed as endangered both in the State and throughout the country. Only four Karner Blue populations have been recorded in the State within the last twenty years. Webster reported this species in the past, but not in recent history.

The Phyllira Tiger Moth (*Grammia phyllira*) and the Pinion Moth (*Xylena thoracica*) are two moth species that were found in Webster at one time, but not in recent history. Each species has been seen at only three New Hampshire locations during the last twenty years.

Pine Devil (*Citheronia sepulcralis*) is a rare insect that was found in Webster at one time. It has only been seen at one New Hampshire location during the last twenty years.

The Spiny Oakworm (*Anisota stigma*) is an insect that has been seen at only one location in the State, in Webster, within the last twenty years.

The Cora Moth (*Cerma cora*) is yet another a rare species that has only been reported in New Hampshire only one time, in Webster, during the past twenty years.

### Corridors

Corridors and greenways are typically used not only by people for recreation or transportation, but also by wildlife to travel from one habitat to another. Maintaining viable and undeveloped corridors ultimately measures the biological success of the animals, particularly larger mammals, within an area. The following corridors have been identified in Webster: <sup>15, 18, 19, 32</sup>

A large riparian corridor is located along the Blackwater River which flows south from Salisbury, through the center of Webster and into the Contoocook River. In the North, the river is surrounded by conservation lands.

An important power line corridor runs along the eastern side of the Town, parallel to the Webster-Boscawen town line. Many animal species use this utility corridor to facilitate traveling from one place to another. This corridor is assumed to be especially well-traveled because it passes by ponds and crosses through wetlands.

Deeryards and bear trails have been noted on Little Hill.

### Exemplary Natural Communities

Other special, undisturbed lands are essential for the biological diversity of plants and animals. The more bio-diversity found within an area, the more valuable and self-sustaining the community becomes from both ecological and economic perspectives. The following natural communities have been identified in Webster: <sup>32</sup>

Dingit Corner is comprised of Huntoon Pond and Ike Waldron Pond. This bog area supports a wide variety of freshwater wetlands species including: sphagnum moss, leatherleaf, pitcher plants, orchids, small mammals, and fish.

Common Loons are a threatened species that have been seen at Walker Pond and Lake Winnepocket.

Webster’s most ecologically-rich wetlands occur between Couch Pond and Walker Pond. Many wildlife species have been seen or heard in this marshy area including: beaver, bobcat, otter, fisher, weasel, moose, owls, hawks, and ospreys.

Scenic Roads and Vistas

Mutton Road, Call Road, Gerrish Road, and Bashan Road all offer scenic views of Webster’s rural farmland. Little Hill offers views of Warner’s Mt. Kearsarge, and on clear days the Presidential Range can also be seen. Other spectacular vistas can be seen from Lake Winnepocket, from Knights Meadow Marsh, and from Corser Hill.<sup>32</sup>

**Identified Ecological Resource Priorities**

The 1980 CNHRPC Open Space Plan named the following ecological resources as being particularly important to the Town: <sup>18</sup>

- ☛ Knights Meadow
- ☛ Schoodac Brook
- ☛ Walker Pond
- ☛ Dingit Corner
- ☛ Wildlife Management Areas

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Scenic vistas
Second Priority	Plant/tree communities (tied w/3rd)
Third Priority	Greenway corridors (tied w/2nd)
Fourth Priority	Riparian corridors
Fifth Priority	Biological diversity

In the 1999 Municipal Profile Update, Webster indicated the following as ecological resource priorities:

- Biological diversity,
- Greenway corridors,
- Plant/tree communities,
- Riparian corridors, and
- Scenic vistas.

Specific comments <sup>31</sup>

☛ No response



☛ **Geologic Resources**

Surficial Geology

A few stratified gravel and gravel deposits lie in kames and kame terraces located in the southern section of the Town in the land surrounding the Blackwater River. Organic deposits and outwash plains appear in various wetland areas. <sup>12</sup>

Additional and perhaps more recognizable geologic formations are mountains and hills: <sup>14, 28</sup>

<b>MOUNTAINS AND HILLS</b>	<b>Elevation</b>
Chase Hill	660'
Corser Hill	840'
Littles Hill	800'
Ox Pond Hill	740'
Putney Hill	740'
Round Hill	840'

Bedrock Geology

Approximately 1/2 of Webster is underlain by an unnamed pluton composed of Granodiorite-Biotite and Granodiorite-Biotite Quartz Monzonite (mostly quartz, some garnet). The remaining half of the Town is divided between an unnamed pluton of Kinsman Quartz Monzonite, and the Littleton Formation of Undifferentiated Schists and Gneisses, which is comprised mostly of gray mica. <sup>12, 14</sup>

***Identified Geological Resource Priorities***

The 1980 CNHRPC Open Space and Recreation Plan named the following geologic resources as being particularly important to the Town: <sup>18</sup>

- ✕ sand and gravel ridges
- ✕ glacial erratics

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Mountains and hills
Second Priority	Soils identification
Third Priority	Sand and gravel deposits
Fourth Priority	Bluffs
Fifth Priority	Gorges

In the 1999 Municipal Profile Update, Webster indicated the following as geologic resource priorities:

- Bluffs,
- Gorges,
- Mountains and hills,
- Sand and gravel deposits, and
- Soils identification.

Specific comments <sup>31</sup>

- ✕ No response



**Recreational Resources**

A variety of recreational opportunities and resources exist in Webster that are closely associated with the previous resources stated earlier in this narrative. In addition, there are several others deserving of attention: <sup>18, 29, 33</sup>

PUBLIC & PRIVATE RECREATION	Type	Location	Acreage / Miles
Paul P. Mock Memorial Forest	public	Swetts Mill	59 acres
Riverdale Sanctuary	public	off Tyler Road, south of Snyders Mill, by the Blackwater River	51 acres
Pillsbury Lake Wildlife and Hunting Area	public	by Pillsbury Lake	300 acres

Leonard Wildlife Management	public	between Knight Meadow Brook and the Warner town line	855 acres
Community Park & School	public	Swetts Mill	20 acres
Knights Meadow Marsh WMA	public	between Knight Meadow Brook and the Warner town line	119 acres
Kimball Lot Wildlife Management Area	private	off Corn Hill Road	18 acres
Blackwater Reservoir, dam, hiking trails, and picnic area	public	north-central section of Town	1194 acres
Prince Pasture		northeast corner of Webster	92 acres
Pillsbury Lake boat launch and beach	public	Pillsbury Lake	1 acre
Cold Brook Camping Area		Snyders Mill	
Cloverdale Riding Stable		Battle Street, south of Snyders Mill	

**Identified Recreational Resource Priorities**

Town officials and volunteers have named the following recreational resources as being particularly important to the Town: <sup>18, 33</sup>

-  William Pearson Park
-  Knights Meadow Marsh

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Recreational trails
Second Priority	Canoe/boat access
Third Priority	Outdoor sporting fields
Fourth Priority	Picnic areas and playgrounds
Fifth Priority	Beach access

In the 1999 Municipal Profile Update, Webster indicated the following as recreational resource priorities:

- Beach access,
- Canoe/boat access,
- Outdoor sporting fields,
- Picnic areas and playgrounds, and
- recreational trails.

Specific comments <sup>31</sup>

No response



**Other Identified Resource Priorities**

Town officials and volunteers have named the following other resources as being particularly important to the Town: <sup>18</sup>



No response



***ACTIVE RESOURCE PRESERVATION COMMITTEES***

In order to more adequately protect these finite natural and historical resources, Webster has established a Conservation Commission.

Conservation Commission

Recent activities of the Conservation Commission include: painting and blazing the boundaries of all of the Town’s conservation easements, and working to understand and to minimize the impacts of new developments near a wooded swamp on Pillsbury Lake.



***ADDITIONAL SURVEY FINDINGS***

The following results have been also compiled from Webster’s responses to the natural, cultural, and historical resources survey:

Conservation Activities Undertaken Within the Last Three (3) Years<sup>33</sup>

Boundary marking

Conservation Activities Planned or Anticipated Within the Following Three (3) Years<sup>33</sup>

- ✧ Trails and wetland survey
- ✧ Protection of shorelands

Essential Factors to Webster’s “Quality of Life” <sup>33</sup>

- ☞ Open land
- ☞ Wetlands protection
- ☞ Setbacks from shorelands

REFERENCES

- 1 - *CNHRPC: Historical Overview, 1976*
- 2 - *CNHRPC Regional Master Plan: Land Use Element, 1991*
- 3 - *US Census STF1A and STF3A, 1970, 1980, & 1990*
- 4 - *NH Office of State Planning: Current Estimates and Trends in NH's Housing Supply 1996, 1997*
- 5 - *NH Office of State Planning: Population Estimates of NH Cities and Towns (1997), 1998*
- 6 - *Webster Zoning Ordinance, 1998*
- 7 - *Town Officials/Employees, 1998*
- 8 - *Webster Town Annual Report, 1997*
- 9 - *Webster Site Plan Review Regulations, 1993*
- 10 - *NH Department of Environmental Services, Water Resources Division, 1998*
- 11 - *NH Fish and Game: Biological Survey of the Lakes and Ponds in Survey Report 8c, 1970*
- 12 - *CNHRPC: Natural Resources Inventory, 1974*
- 13 - *Inventory of Merrimack County Lakes and Ponds, 1968*
- 14 - *Webster Master Plan, 1992*
- 15 - *NH Geographically Referenced and Information Transfer (GRANIT) System, 1998*
- 16 - *US Geological Survey (Bow, NH): Bedrock Geology Mapping, 1998*
- 17 - *US Fish and Wildlife Service: National Wetlands Inventory, 1986-1990*
- 18 - *Town Officials (anecdotal), 1998*
- 19 - *NH Office of State Planning: Comprehensive Statewide Trails Study, 1997*
- 20 - *Society for the Protection of NH Forests, 1998*
- 21 - *LCIP Final Report, 1993*
- 22 - *State of NH: Real Property Summary, 1995*
- 23 - *NH Association of Conservation Commissions, 1998*
- 24 - *NH Division of Historical Resources: Historical New Hampshire, 1990*
- 25 - *NH Division of Historical Resources: Historical Markers, 1989*
- 26 - *NH Department of Transportation: Covered Bridges of the Past, 1994*
- 27 - *NH Department of Revenue and Economic Development: NH Natural Heritage Inventory, 1998*
- 28 - *CNHRPC: Open Space Plan, 1980*
- 29 - *NH Office of State Planning: Recreation Plan, 1997*
- 30 - *(reserved)*
- 31 - *(reserved)*
- 32 - *Webster, NH Natural Resources Inventory, 1990*
- 33 - *1999 Municipal Profile Update*

**WILMOT**

<b>About Wilmot.....</b>	
Member of CNHRPC	✓
Surveys Mailed	12
Surveys Received for Tallying	4
REPP Meeting Participation	✓
Profile Review & Comment by Town	X
1999 Update	✓

**Historical Profile**

The completion of the 4th New Hampshire Turnpike in 1806 was the impetus for the formation of a new town by making settlers in the northern half of New London (incorporated 1779) and those in the northern part of Kearsarge Gore (an unincorporated proprietorship straddling Mount Kearsarge) better connected with each other than with the remainders of their respective townships. They petitioned the General Court and in 1807 became the town of Wilmot, a forested tract with many hills and valleys. In 1832 the town annexed a portion of New Chester on the northwest flank of Ragged Mountain, then relinquished parts of this addition to Danbury in 1848 and 1878. The population grew rapidly, from 423 in 1810 to 1,272 in 1850 - a record high not surpassed since. Farming was the chief occupation throughout the 1800s even as many mills along the Blackwater River and its tributaries became increasingly important to the economy. In the first half of the 20th century, emigration of farmers, long underway, and the demise of most of the mills reduced the population by 1950 to an all-time low of 370. The landscape and the wildlife were reverting to an approximation of what the first settlers found, a trend that continues to this day despite the recent surge of immigration. Thus, Wilmot is a typical New Hampshire paradox: its rural character is its charm, attracting enough newcomers that its rural character begins to be at risk.<sup>1, 33</sup>

**Present-Day Profile**

The area of Wilmot is 18,955 acres, or 29.6 square miles. The Town comprises 3.8% of the CNHRPC area.<sup>33</sup>

Over the last twenty-seven years, Wilmot's population has grown by 93% while the number of housing units has increased by 94%:<sup>3, 4, 5</sup>

GROWTH	Population	Net Change		Housing Units	Net Change	
		#	%		#	%
1970 (US Census)	516	na	na	258	na	na
1980 (US Census)	727	+ 211	+ 40.1	397	+ 139	+ 53.4
1990 (US Census)	935	+ 208	+ 28.6	458	+ 61	+ 15.4
1997 Population & 1996 Housing (NHOSP)	998	+ 63	+ 6.7	500	+ 42	+ 9.2
<b>TOTAL CHANGE FROM 1970 - 1997</b>		+ 482	<b>+ 93.4%</b>		+ 242	<b>+ 93.8%</b>

In an effort to control its growth, while protecting its resources in an economically viable manner, the Town has adopted a number of land use controls to facilitate the conservation process: <sup>6</sup>

**Town Zoning Districts**

**Town-Adopted Resource & Conservation Ordinances**

Residential District	
Village District	
Commercial District	

The Planning Board is undertaking a comprehensive Zoning Ordinance update which will be presented at Town Meeting in 1999.

Non-regulatory measures for protecting Wilmot’s resources include the following: <sup>7, 8, 9</sup>

**Town Master Plan Elements**

**Town Conservation Plans, Reports and Studies**

Population, Economics, and Commercial Activity (1996)	
Natural Resources and Land Use (1996)	
Recreation and Community Facilities (1996)	
Housing (1996)	
Transportation (1996)	



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## **TOWN RESOURCES**

### **Water Resources**

#### Water Supplies

Between 1983 and 1997, the NHDES has issued 40 well permits to residents of Wilmot. These new well locations have been mapped by NHDES.<sup>10</sup>

#### Ponds<sup>11, 12, 13, 14</sup>

Piper Pond is a 39-acre pond located in the northwest region of Wilmot. This pond has a maximum sounded depth of 15 feet.

Tannery Pond is located in the south-central portion of Wilmot adjacent to Chase Pond. Tannery Pond is 16 acres in area and has an average depth of five feet.

White Pond is a 15-acre pond with an average depth of nine feet. White Pond is located in the north-central portion of Wilmot.

Eagle Pond is one of Wilmot's largest ponds with an area of 37 acres. This pond is located in east-central Wilmot in a region which juts out from the rest of the Town.

Butterfield Pond is 15 acres in area with a maximum sounded depth of 23 feet. This pond is located in northwest Wilmot.

Chase Pond is located near Tannery Pond in south-central Wilmot. This pond, also one of the largest ponds in Town, ties Eagle Pond with an area of 37 acres. The maximum sounded depth was 14 feet.

#### Rivers<sup>11, 12, 13, 14, 33</sup>

Wilmot's only river, the Blackwater, begins in Wilmot Flat with the junction of the outflow of Tannery Pond and Cascade Brook. It flows eastward into Andover.

#### Brooks<sup>11, 12, 13, 14, 33</sup>

Kimpton Brook flows into the northwest portion of Wilmot from Springfield. Kimpton Brook flows southeasterly from the Town's western border to Andover. Then the brook turns northward and flows back into Wilmot and into Eagle Pond.

Cassey Brook flows from central Wilmot southward a few miles where it empties into Tannery Pond.

Whitney Brook enters Wilmot from New London and then travels about a mile into Chase Pond.

Cascade Brook begins in Cascade Marsh in Sutton and flows northeast into Wilmot Flat where it joins the outflow of Tannery Pond to form the Blackwater River.

Hydric Soils

Out of the total land acreage of Wilmot (18,955 acres), only 3% is comprised of hydric soils: <sup>14, 32, 33</sup>

<b>HYDRIC SOILS</b>	<b>Acreage</b>	<b>Total Percentage of Town</b>
Poorly Drained	875	1.9
Very Poorly Drained - organic base	332	.7
Very Poorly Drained - mineral base	99	.2
Marsh	110	.2
<b>TOTALS</b>	<b>1416</b>	<b>3.0</b>

Watersheds

The Town is over 90% encompassed within the Blackwater River watershed. Only the northern most tip, where Wilmot abuts Springfield, Grafton, and Danbury, falls within the Smith River watershed. <sup>10</sup>

Aquifers

A large aquifer underlies the entire central section of Town. A smaller aquifer can be found under Eagle Pond and its surrounding area. Other aquifers within Town underlie miscellaneous wetlands in northern Wilmot and along Kimpton Brook. <sup>16</sup>

Wetlands

The wetlands in Wilmot lie exclusively within the northern 3/4 of the Town. The more prominent wetlands surround the Piper, Butterfield, Eagle and White Ponds. Many others occur along Kimpton, Cascade, and Cassey Brooks. Only a few scattered wetlands do not co-occur with water bodies. <sup>17, 33</sup>

**Identified Water Resource Priorities**

Town officials and volunteers have named the following water resources as being particularly important to the Town: <sup>18</sup>

-  Eagle Pond
-  wetlands
-  Kimpton Brook and its chain of marshes
-  The Cascade

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Rivers and streams
Second Priority	Aquifers
Third Priority	Lakes and ponds
Fourth Priority	Designated prime wetlands
Fifth Priority	Watersheds

Surveys returned from Wilmot indicated the following as water resource priorities:

- Aquifers,
- Designated prime wetlands,
- Lakes and ponds,
- Rivers and streams
- Shorelands, and
- Wetlands.

Half of the respondents felt that the Town’s ordinances and regulations adequately protect their water resources, while half disagreed. <sup>31</sup>

*Specific comments included:* <sup>31</sup>

- ☛ We need to update our wetlands map and we should create a wetlands overlay district.
- ☛ We need more public education.
- ☛ In general, we need to upgrade our resource protection policies.



**🌲 Land and Forestry Resources**

The total number of acres under conservation was calculated to be approximately 32% of the entire Town. The following table breaks down the components: <sup>8, 20, 21, 22, 33</sup>

CONSERVATION LANDS	Held by	Acres
Abrams/Lecaroz + Gareau	Town	12
Bog Mountain WMA	NH F&G	304
Chase Pond Town Beach	Town	1
Florence Langley Park	private	0
French #1 easement	Town	467
Gile State Forest	NH DRED	195

Hall #1 easement	Town	7
Hall #2 easement	Town	151
Langenau Forest	SPNHF	168
Little League field	Town	2
Mount Kearsarge State Forest (portion in Wilmot)	NH DRED	2011
Ragged Mountain Conservation Easement	NH DRED	571
Ragged Mountain Fish & Game Club	Town	976
Ray #1 easement	Town	82
Ray #2 easement	Town	81
Spearman easement	Town	3
Timmy Patten Park	private	0
Waite easement	Town	38
Webb easement	Town	950
White Pond	NH F&G	1
<b>TOTAL ACREAGE PROTECTED</b>		<b>6020</b>

In addition, approximately 12,981 acres, or 68% of the Town’s total area, was in current use as of December 31, 1998. <sup>33</sup>

***Identified Land & Forestry Resource Priorities***

Town officials and volunteers have named the following land and forestry resources as being particularly important to the Town: <sup>18</sup>

- ✦ agricultural lands
- ✦ orchards
- ✦ State Parks
- ✦ scenic vistas

***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Open space
Second Priority	Agricultural land
Third Priority	Conservation easements
Fourth Priority	Town parks and forests
Fifth Priority	Deeded conservation lands

Surveys returned from Wilmot indicated the following as land and forestry resource priorities:

- Agricultural land,
- Conservation easements,
- Open space,
- State parks and forests, and
- Town parks and forests.

The majority of the respondents felt that the Town’s ordinances and regulations do not adequately protect their land and forestry resources. <sup>31</sup>

Specific comments <sup>31</sup>

- ✦ We need to create an Agricultural/Residential zoning district.
- ✦ The Town would benefit from an open space overlay district.
- ✦ We should encourage conservation easements, and we should create a Conservation Commission.
- ✦ We need more public education concerning our land and forestry resources.



**Historical and Cultural Resources**

National Register of Historic Places

Wilmot has one exemplary site located on the National Register. No additional regulative restrictions are placed upon those properties which are listed on the National Register, but instead a listing recognizes the significance of and encourages the stewardship of the property: <sup>1, 24</sup>

NATIONAL REGISTER OF HISTORIC PLACES	Date Listed	Location	Significance/Description
North Wilmot Union Meeting House	2/89	Junction of Breezy Hill and Piper Pond Roads	

New Hampshire Historical Markers

These markers stand at places of great historical significance to the State of New Hampshire. Some of these places contain tangible reminders of the past, while others mark the locations of where structures once stood or a historical event took place.

One of the most well-known historical sites in Wilmot is Mason’s Patent. In 1629, the English Crown granted New Hampshire to Captain John Mason. The area he received was bounded by a curved line 60 miles from the sea. This curved line, called the “Masonian Curve”, travels near the Springfield-Wilmot town line.<sup>25</sup>

Local markers, or the actual remnants of the structures themselves, indicate the sites of various other, yet not less important, historic landmarks and events:<sup>1, 8, 18</sup>

-  Morril/Tewksbury mill site
-  Samuel Sterns saw mill site
-  Charles Comey mill site
-  Dodge mill site
-  grist mills
-  Johnson & Colby woolen mill site
-  Thompson & Nettleton sawmill and tannery site
-  Soldiers Monument

Covered Bridges

There are no records of any covered bridges being located in Wilmot.<sup>26</sup>

Cemeteries

As do many other small Central Region towns, Wilmot has a rich heritage and a strong connection to its past. Cemeteries, both Town and small, private family plots, are an important and personal link:<sup>8, 18, 33</sup>

<b>CEMETERIES</b>	<b>Owner</b>	<b>Parcel Number / Location</b>
Carr Hill Cemetery	Town	corner of Morey Pond Road and Kearsarge Mountain Road
Stearns Cemetery	Town	off Tewksbury Road on Stearns Hill
Eagle Pond Cemetery	Town	north of Eagle Pond on Route 4
Pine Hill Cemetery	Town	south of Tannery Pond
White Pond Cemetery	Town	on Farnum Hill on Wilmot Road
North Road Cemetery	Town	corner of Old North Road and Hobbs Hill Road
Thompson Family Cemetery	private	Cross Hill Road
Church Cemetery	Town	east of Tannery Pond
Tewksbury Cemetery	Town	Tewksbury Road
Bunker Hill Cemetery	Town	central Wilmot

**Identified Historical Resource Priorities**

Town officials and volunteers have named the following general and specific historical and cultural resources as being particularly important to the Town:<sup>18</sup>

- 🏠 Wilmot’s many saw mills
- 🏠 grist mill located in central Wilmot off Route 11
- 🏠 tannery located just east of Tannery Pond
- 🏠 woolen mill site located near New London on Route 11
- 🏠 cemeteries
- 🏠 Stearns School
- 🏠 old house located on Route 4A in Central Wilmot
- 🏠 Town Office building
- 🏠 Wilmot’s many historic mines
- 🏠 Wilmot Village Center

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Cemeteries
Second Priority	Cultural interest sites
Third Priority	Covered bridges
Fourth Priority	National Register of Historic Places
Fifth Priority	Archaeological sites

Surveys returned from Wilmot indicated the following as historical and cultural resource priorities:

- Cemeteries,
- Cultural interest sites,
- Mill sites,
- National Register of Historic Places, and
- Unique stone walls.

The majority of respondents felt that the Town’s ordinances and regulations do not adequately protect their historical and cultural resources. <sup>31</sup>

Specific comments <sup>31</sup>

- 🏠 Cemeteries seem to be sufficiently protected, but we need to convince private landowners to be more concerned about historic mill sites, stone walls, and cellar holes located on their properties.
- 🏠 Ordinances should be created to better protect our unique historic features.



## **Ecological Resources**

### NH Natural Heritage Inventory

One outstanding plant species has been located in Wilmot since the 1930's.<sup>27</sup>

The Slender Blue Flag, *Iris primatica*, has been located once in Wilmot. This rare plant is listed as threatened in the State of New Hampshire, but is not listed as such on the federal register. It has only been located in the State eight other times.

### Corridors

Corridors and greenways are typically used not only by people for recreation or transportation, but also by wildlife to travel from one habitat to another. Maintaining viable and undeveloped corridors ultimately measures the biological success of the animals, particularly larger mammals, within an area. The following corridors have been identified in Wilmot:<sup>15, 18 19</sup>

A small railroad corridor travels through the eastern-most portion of Wilmot. Railroad corridors create a unique habitat for plant, animal, and insect species to live in and also create an uninhibited travel corridor for movement.

A utility line corridor cuts east-west through the center of Wilmot. Utility line corridors create similar habitats for organisms as the railroad corridors.

### Exemplary Natural Communities

Other special, undisturbed lands are essential for the biological diversity of plants and animals. The more bio-diversity found within an area, the more valuable and self-sustaining the community becomes from both ecological and economic perspectives. The following natural communities have been identified in Wilmot:<sup>18</sup>

Wilmot has several large plots of undisturbed lands which have been preserved as conservation lands.

One plot exists in the west-central portion of Wilmot. This plot consists of many acres of land including a fairly large pond and several streams.

A second plot lies in central east Wilmot adjacent to Eagle Pond. It encompasses streams and hilly terrain.

The largest uninterrupted parcel of conservation land lies in the southernmost portion of Wilmot. This area is called Winslow State Park and is part of Mount Kearsarge State Forest. This area contains several thousand acres of continuous conservation land. It contains plains, ponds, forests, hills, and a part of Mount Kearsarge.

***Scenic Roads and Vistas***

A scenic vista is located on Kearsarge Mountain Road, just south of its junction with Old Winslow Road. The vista is from southwest to northwest including Mount Sunapee and Pleasant Lake, and on a clear day one can see as far as Mount Ascutney in Vermont. It’s a great place to view sunsets. <sup>33</sup>

***Identified Ecological Resource Priorities***

Town officials and volunteers have named the following ecological resources as being particularly important to the Town: <sup>18</sup>

- ☛ Scenic Vista south of Old Winslow Road
- ☛ Mount Kearsarge State Forest and Winslow State Park
- ☛ Wetland habitats

***Survey Findings***

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

<b>RESOURCE PRIORITIES</b>	<b>Region</b>
First Priority	Scenic vistas
Second Priority	Plant/tree communities (tied w/3rd)
Third Priority	Greenway corridors (tied w/2nd)
Fourth Priority	Riparian corridors
Fifth Priority	Biological diversity

Surveys returned from Wilmot indicated the following as ecological resource priorities:

- Animal communities,
- Biological diversity,
- Deeryards,
- Greenway corridors,
- Plant communities,
- Riparian corridors, and
- Scenic vistas.

The majority of the respondents felt that the Town’s ordinances and regulations do not adequately protect their ecological resources. <sup>31</sup>

Specific comments <sup>31</sup>

- ☛ The Town should identify our ecological protection needs and incorporate them into an ordinance.
- ☛ The establishment of a Conservation Commission would help us to prioritize and protect our ecological resources.



☛ **Geologic Resources**

Surficial Geology

While the lowest elevation lies at 650' around Eagle Pond, the highest elevation of the side of Mount Kearsarge is found to be 2,937'. These are the exceptions rather than the rule, however, as most of the land area of Wilmot lies on slight to moderately steep slopes. <sup>14, 28</sup>

MOUNTAINS AND HILLS	Elevation
Bannock Hill	ca 1385'
Eagles Nest	1473'
Farnum Hill	1541'
Stearns Hill	1623'
Old English Hill	1538'
Bog Mountain	1787'
Philbrick Hill	1622'
Emery Hill	1581'
Cross Hill	1084'
Mount Kearsarge	ca 2930'
Jones Hill	1473'

***Identified Geological Resource Priorities***

Town officials and volunteers have named the following geologic resources as being particularly important to the Town: <sup>18</sup>

- ☛ variety of gorges and eskers
- ☛ glacial erratics
- ☛ Bog Mountain
- ☛ Davenport garnet mine
- ☛ Currier mica mine
- ☛ Powell mine
- ☛ Wetherbee Prospect
- ☛ Wilmot mine

- ✂ North Star mine
- ✂ Mount Kearsarge

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Mountains and hills
Second Priority	Soils identification
Third Priority	Sand and gravel deposits
Fourth Priority	Bluffs
Fifth Priority	Gorges

Surveys returned from Wilmot indicated the following geologic resource priorities:

- Bluffs,
- Eskers,
- Gorges,
- Mining sites
- Mountains and hills, and
- Sand and gravel deposits.

The majority of respondents felt that the Town’s ordinances and regulations do not adequately protect their geologic resources. <sup>31</sup>

Specific comments <sup>31</sup>

- ✂ We should identify our geologic protection needs and incorporate them into an ordinance.
- ✂ It is hard to recommend new protection policies seeing as many of the Town’s geologic features lie on private property.





**Recreational Resources**

A variety of recreational opportunities and resources exist in Wilmot that are closely associated with the previous resources stated earlier in this narrative. In addition, there are several others deserving of attention: <sup>18, 29, 30</sup>

<b>PUBLIC &amp; PRIVATE RECREATION</b>	<b>Type</b>	<b>Location</b>	<b>Acreage / Miles</b>
Mount Kearsarge State Forest	public	South Wilmot	1,511 acres
Gile State Forest	public	south of Piper Pond, by the Springfield town line	195 acres
Eagle Pond Campground	private	off Route 4	127 acres
Camp Wilmot	private	White Pond	158 acres
Little League Field	public		2 acres
White Pond	public	North Central Wilmot	1 acre
Bog Pond Mountain Wildlife Management	public		304 acres
Florence Langley Park	public		
Langenau State Forest	public	near the New London-Wilmot town line	168 acres
Town Beach	public	Chase Pond	1 acre

***Identified Recreational Resource Priorities***

Town officials and volunteers have named the following recreational resources as being particularly important to the Town: <sup>18</sup>



Florence Langley Park



Mount Kearsarge State Park

**Survey Findings**

The following table documents the general resource priorities of the Central New Hampshire Region. Although the results are not statistically significant, they do give an indication of what is most important to the Central New Hampshire community: <sup>31</sup>

RESOURCE PRIORITIES	Region
First Priority	Recreational trails
Second Priority	Canoe/boat access
Third Priority	Outdoor sporting fields
Fourth Priority	Picnic areas and playgrounds
Fifth Priority	Beach access

Surveys returned from Wilmot indicated the following as recreational resource priorities:

- Beach access,
- Canoe/boat access,
- Outdoor sporting fields,
- Picnic areas and playgrounds, and
- Recreational trails.

The majority of respondents felt that the Town’s ordinances and regulations do not adequately protect their public facility resources. <sup>31</sup>

Specific comments <sup>31</sup>

 no other comments were provided



**Other Identified Resource Priorities**

Town officials and volunteers have named the following other resources as being particularly important to Wilmot: <sup>18</sup>

 many local farms



### **ACTIVE RESOURCE PRESERVATION COMMITTEES**

Wilmot is the only Town within the Central New Hampshire Planning Region which does not have a Conservation Commission. Several attempts at Town Meeting to create such a Commission have already been undertaken, and many diligent supporters of a Conservation Commission will continue their efforts to see that one is established.

#### Historical Society

Wilmot has a private Historical Society which helps protect the Town's heritage. Recent activities and interests include inventories of cemeteries and historic buildings.



### **ADDITIONAL SURVEY FINDINGS**

The following results have been also compiled from Wilmot's responses to the natural, cultural, and historical resources survey: <sup>31</sup>

#### Conservation Activities Undertaken Within the Last Three (3) Years

- the creation of greenway hiking trails
- enacting a cluster zoning ordinance with conservation and environmental protection requirements

#### Conservation Activities Planned or Anticipated Within the Following Three (3) Years

- ✧ the improvement of hiking trails
- ✧ more environment and conservation education
- ✧ re-designing the Town's zoning ordinance

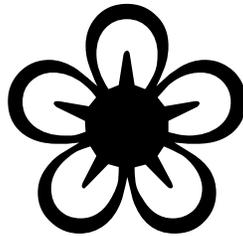
#### Essential Factors to Wilmot's "Quality of Life"

- ✧ the Town's quiet, rural character
- ✧ Wilmot's size and basic desire to remain rural (no more than moderately developed)
- ✧ more public education in regard to changes in Wilmot

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- 4 - *NH Office of State Planning: Current Estimates and Trends in NH's Housing Supply 1996, 1997*
- 5 - *NH Office of State Planning: Population Estimates of NH Cities and Towns (1997), 1998*
- 6 - *Wilmot Zoning Ordinance, 1992*
- 7 - *Town Officials/Employees, 1998*
- 8 - *Wilmot Town Annual Report, 1996*
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- 10 - *NH Department of Environmental Services, Water Resources Division, 1998*
- 11 - *NH Fish and Game: Biological Survey of the Lakes and Ponds in Survey Report 8c, 1970*
- 12 - *CNHRPC: Natural Resources Inventory, 1974*
- 13 - *Inventory of Merrimack County Lakes and Ponds, 1968*
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- 19 - *NH Office of State Planning: Comprehensive Statewide Trails Study, 1997*
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- 26 - *NH Department of Transportation: Covered Bridges of the Past, 1994*
- 27 - *NH Department of Revenue and Economic Development: NH Natural Heritage Inventory, 1998*
- 28 - *CNHRPC: Open Space Plan, 1980*
- 29 - *NH Office of State Planning: Recreation Plan, 1998*
- 30 - *(reserved)*
- 31 - *Wilmot Survey Results, 1998*
- 32 - *Merrimack County Conservation District: Inventory of Soil Erosion and Agricultural Waste, 1979*
- 33 - *1999 Municipal Profile Update*



## **Future Directions in Resource Protection**

Preliminary identification of natural, cultural, and historical resources within each Central Region municipality has been completed. With the production of this *Inventory* comes the challenge of using the information it contains to protect the Region's resources. Different avenues to pursue are accessible to the individual or to the local municipal board, more so than in previous years. Since the early 1990's, increasing attention has been drawn to New Hampshire's dwindling resources in relation to its growing population. An exercise of defining a municipality's goals and objectives for resource protection will greatly assist in the process of enacting the most appropriate conservation measures.

### **Sample General Resource Protection Goals and Objectives for Municipalities**

The following list, by no means exhaustive, offers ideas for goals that municipalities may want to consider in their Master Plan. These very basic goals require a number of objectives in order to adequately be served.

Goal 1 - Conserve Important Natural Resources

Goal 2 - Conserve and Celebrate Historic and Cultural Resources

Goal 3 - Preserve Rural Character and Scenic Beauty

Goal 4 - Preserve and Enhance Open Space

Goal 5 - Preserve Existing Agricultural Land

Goal 6 - Plan Development to Limit Sprawl and Target Growth in Appropriate Areas

Goal 7 - Provide Adequate Recreational Opportunity

Goal 8 - Anticipate and Plan for Population Growth

Goal 9 - Promote Wise and Efficient Use of Water and Air

A variety of methods, varying in complexity, are available to protect a community's natural, cultural, and historical resources. In order to achieve the best possible protection for identified resources, a combination of several options, both regulatory and non-regulatory, are highly encouraged. Listed below is a sampling of potential objectives that can be undertaken to achieve the above long-term goals of municipal resource stewardship and protection.

### ***Producing Municipal Resource Inventories***

The creation of a municipality's own **Natural Resources Inventory** will greatly enhance the preservation opportunities of its resources. A *Natural Resources Inventory*, by Phil Auger of the Rockingham County UNH Cooperative Extension and Jeanie McIntyre of the Upper Valley Land Trust, outlines clearly and concisely the processes to undertake and the types of resources to catalogue. An inventory, which is statutorily required by RSA 36-A, can be incorporated into the Master Plan and officially recognized as an integral part of the future planning priorities of the municipality.

A separate component of the Master Plan, the **Water Resources Management Plan**, is described under RSA 4-C:22. As a sub-component of the conservation and preservation section of the Master Plan, the Water Resources Management Plan (WRMP) is intended to inventory and monitor the water resources and associated activities of a municipality. Some WRMPs are done on a regional basis where a common watershed, river, or large water body are shared by two or more municipalities. Issues such as withdrawals, present and project populations, water quality, and threats are examined in order to present an accurate basis for management of the water resources.

Although often separate from municipal governments, Historical Societies are excellent sources of archived records. Many have produced **inventories of historical sites**, old cellar holes, cemeteries, stone walls, archaeological sites, existing historic buildings, or old mill sites; often, preliminary maps of these sites are included. These valuable historical resources should also be recorded in the municipal Master Plan as a next step in historical resource protection.

A collection of **digitized maps** offers an opportunity to visually display where resources occur. Many municipalities in the Central Region have digitized their tax maps and zoning maps, and CNHRPC offers free base map production for members. Other resources which are inventoried on maps include historic sites, wells, scenic roads, aquifers, soils, floodplains, conservation lands, and geologic features. As previously noted, the CNHRPC has provided a series of resource overlay maps to member municipalities participating in the REPP.

### ***Land Protection Initiatives***

A series of **educational sessions** could be held by the municipality or could be co-sponsored by a conservation organization or by the CNHRPC. A popular workshop, entitled the *Dollars and Sense of Open Space*, illustrates that development costs are often higher than open space costs in the long-term. Other workshop opportunities, such as the training sessions produced by the NH Office of State Planning, law lectures by NH Municipal Association, and mini-workshops by the NH Association of Conservation Commissions, offer current techniques about land protection methods on an annual basis. Citizen participation in these informational sessions is crucial to the overall support that land conservation projects must have.

Procuring conservation easements are a means of directly involving landowners as well as securing the land for future protection. Easements, which separate the development rights from the property, can be donated to or purchased by a municipality or land trust. Common local approaches of obtaining easements include the initiation of **contacting the landowner** by the Conservation Commission or by a donation from the landowner or developer at the subdivision

application stage. A recent catalyst of the conservation easement movement has developed through estate planning, where an easement is donated on the land, thus reducing estate taxes, and heirs can retain the property.

The establishment of a **land conservation fund** at the municipal level permits the fee-simple purchase of conservation lands. Through a vote at Town Meeting, a percentage of the land use change tax can be allocated into this fund; however, the municipality must have an established Conservation Commission. The land conservation fund essentially enables the municipality to protect land without tapping into its own budget for the funds.

Various **volunteer committees**, such as a Trails and Pathways Committee to determine potential future easement acquisitions and maintain the local recreational trail network, can be organized to assist the Conservation Commission and Planning Board with their workload. A benefit of a self-organized volunteer committee, as opposed to a formal appointed or elected municipal committee, is that individuals will serve according to their particular interests.

The **redevelopment of and reuse of old buildings and grounds** should be encouraged as an alternative to new development. Main Street New Hampshire is a program that assists communities with revitalizing their downtowns, in effect strengthening the economic, historical, and cultural facets of the municipality. Another program, the NH DES “Brownfields”, offers financial support to property owners by encouraging the voluntary cleanup and redevelopment of environmentally contaminated properties. Methods such as these limit sprawl related to new development and bring added value to previously unused, blighted properties.

### ***Enacting Local Resource Protection Ordinances and Regulations***

Consider the creation of open space through the municipal zoning ordinance. Commonly referred to as **open space development** or “cluster development” or “incentive zoning”, concentration of new housing on smaller than traditional lots encourages the developer to dedicate a large portion of the entire development to permanent preservation. Developers can benefit from open space development by its inherently less expensive infrastructure and by the added value to the building lots that open space creates. A density bonus could be granted, allowing for more building lots to be created through open space development than through traditional zoning. The municipality also benefits from open space development through a significant land donation from the developer. This innovative zoning control can allow the municipality and developer to work cooperatively and conserve large contiguous tracts of land in the process. RSA 674:21, I(f).

The **current use** tax law (RSA 79-A) is a widely-used tool in which property owners ease their tax burden by placing their land under “current use”. While this status helps them lower their property taxes on the parcel, the right to use their property in certain ways has been rescinded. New house construction, subdivision, or other significant terrain- and use-altering activities are prohibited until the property is removed from its current use status. Termination of this status on a parcel requires property owners to pay a portion of the assessed value of the parcel back to the municipality. This penalty not only discourages the removal of the current use status, it also create opportunities for municipalities to use the current use change tax in ways that benefit the community. Many municipalities in the Central Region have, at Town Meeting, voted to allow a

percentage of the penalties to be allocated to a land acquisition fund. This fund, noted above, is used to purchase lands of significant open space, aesthetic, historical, or ecological value.

Local **noise ordinances** can be implemented to prevent or limit disruptive peace disturbances. The site plan review regulations (RSA 674:44, I(a)(3)) provide best support for successfully implementing a noise ordinance. Maximum decibel levels could be set for each of the zoning districts within a municipality. The power of local governments to regulate noise levels can be found under RSA 31:39 (n). Noise pollution characterizes one of the most difficult and subjective environmental problems which municipalities can address.

**Prime wetlands** can be designated and mapped to further protect wetlands with functional values that are most important to a municipality. To do so, representatives of a Conservation Commission or Planning Board can utilize the *Method for the Comparative Evaluation of Nontidal Wetlands in NH*, also known as the “NH Method”, a publication by the NH Department of Environmental Services (NH DES). The procedure fully documents and compares wetlands within a municipality to determine which ones are the most valuable. RSA 482-A gives the power of designating the most valuable wetlands, or prime wetlands, to the municipalities. Designated prime wetlands are highly considered for their importance to the municipality when applications for wetlands permitting or dredge and fill are filed with the NH DES. These same wetlands can be further restricted from development or other use through setbacks and conditional use permits within the local zoning ordinance. Prime wetlands so designated are listed within the Zoning Ordinance.

Local **Historic Districts**, established through the Zoning Ordinance, provide regulatory protection of historic areas and features, even National Register of Historic Places listings, within its zoning boundaries. Through RSAs 673-677, an Historic District Commission monitors any modifications to structures, stone walls, or sites through an application review process and has the power to grant or deny requests depending on the criteria of the ordinance.

The power of creating and delivering “**Cease and Desist Orders**” was granted to municipalities through RSA 676:17-a. This tool is typically used as a reactive way of enforcing the local land use regulations. Observations of the inappropriate use are reported to the code enforcement officer, Planning Board, or Conservation Commission, who request the Board of Selectmen to authorize a Cease and Desist Order. Although potentially useful for short-term solutions, this technique does little to provide useful education necessary for long-term resource stewardship; as this is an enforcement issue, disputes can occur that may end up in court.

NH RSA 674:22, **Growth Management and Timing of Development**, allows municipalities to regulate and control the timing of development only after the Planning Board has prepared a Master Plan and Capital Improvements Program. Such an ordinance has been utilized as a tool to limit the number of new dwelling units that are built within a given year. This technique has become a recent trend in the Central Region, particularly where intense population growth is occurring. Used as a short-term measure, the Growth Management Ordinance can ease development pressure on a temporary basis; however, the intent of the legislation is to provide a municipality with a period of time, specified in the Ordinance, to establish the necessary infrastructure to accommodate anticipated growth.



### ***Protection through Recognition and Celebration***

The **National Register of Historic Places** is a federal program which recognizes the importance of historic structures and areas through a rigorous application process. While a listing on the Register does not protect the site, it does celebrate its historical significance and does lend itself to promoting tourism and preservation of the site.

The **NH Historical Markers** program of the NH Division of Historical Resources (NH DHR) provides a local way to recognize places that have a historical significance to the municipality. The class of the road near the site determines the manner in which a marker should be requested. For a site near a state highway, an interested citizen or group of people petition the Commissioner of the NH Department of Transportation (NH DOT), which is authorized to erect markers, at NH DOT's expense, in the right-of-way of any state highway. A site along a local road is requested through the NH DHR by the municipality or historical society, which bear the costs of the erecting the marker.

The **Scenic and Cultural Byways** program of the NH Office of State Planning (NH OSP) and the NH DOT creates a statewide byways system that features natural and cultural resources for the purpose of attracting New Hampshire travelers and out-of-state tourists. The program has established a process for nominating roads as official State Byways, already having designated over 700 miles of road as Scenic Byways throughout the State. Heritage tourism is an industry to be further capitalized on in New Hampshire; the Scenic and Cultural Byways program is an inexpensive measure designed for this purpose.

Another celebratory technique of roads and highways is the **Adopt-A-Highway** program offered through the NH Department of Transportation. Organizations or employers agree to clean up the roadsides and inform NH DOT of any problems along the route. Similar municipal **Adopt-A-Spot** programs allow individuals, families, or employers to maintain and beautify commons, traffic islands, or picnic areas for public enjoyment. Municipal established Beautification Committees in the Central Region perform these and other aesthetic services such as tree and flower plantings.

**Old Home Day** in New Hampshire has become a long-standing tradition. Historical Societies and other groups organize tours of old homes, historic sites, historic buildings and offer parades, book fairs, and good old-fashioned community fun. These important cultural events involve children, parents, and the elderly and create the opportunity to further cement the people to their heritage.

### ***Forming Local Partnerships***

The formation of a **Regional Resource Conservation Committee** could provide a catalyst for unified protection of our Central New Hampshire Region resources. The majority of respondents from the Spring 1998 Natural, Cultural, and Historical Resources Survey responded favorably toward the creation of such a committee. Since natural resources do not recognize political boundaries, this or a similar type of committee could create a roundtable for discussion of common issues that are of concern to local officials and conservation organizations.

Multi-town **greenway projects** promote partnerships, create beneficial habitats and travel

corridors for wildlife, and provide an opportunity for people to recreate. Two examples of successful greenway projects in the Central Region are the Sunapee-Ragged-Kearsarge (SRK) Greenway and the BearPaw Regional Greenway. The SRK Greenway focuses on a 75-mile hiking trail from Mount Sunapee to Ragged Mountain to Mount Kearsarge. The BearPaw Greenway has focused on providing an undeveloped corridor, between the State Parks of Bear Brook and Pawtuckaway, to assist in species preservation and diversity. Greenway partnerships, although requiring tremendous coordination, are very effective in achieving long-lasting and large-scale results.

The **Central New Hampshire Regional Planning Commission's** mission is to provide support for local member municipalities. This support includes assistance with any of the above-mentioned objectives, new ventures and projects, and assistance with determining what specific activities could benefit your municipality's resources. The CNHRPC staff specialize in mapping, Master Plan revisions, Zoning Ordinance revisions, and regulations revisions, plus keeping tabs on current legislative issues which effect municipalities. A new staff position, Natural Resources Planner, was created in late 1997 to address issues presented in this *Inventory*. Municipalities are highly encouraged to get involved with the CNHRPC Regional Environmental Planning Program in order to further complement their existing resource protection measures.

In addition, the CNHRPC has access to and information about a number of grant programs which are conservation-related. Often, CNHRPC's regularly published newsletters will contain information about environmental grant opportunities, but many others are only available by contacting the staff.

Additional **non-profit conservation and education organizations** exist to assist landowners and municipalities with protecting and sustainably managing their natural, cultural, and historical resources. The Appendix entitled **Resource Agencies** contains a brief listing. Despite the enormity of any project or undertaking, it is crucial to remember that professional assistance is awaiting municipal resource protection projects.

### Legislatively Protecting New Hampshire's Resources

The New Hampshire Legislature has been seeing tremendous support working in favor of conservationism. Through Senate Bill 493, the **New Hampshire Land and Community Heritage Commission** published an Interim Report in January 1999 (*Appendix A*) which recommends the creation of a public/private partnership to conserve priority natural, cultural, and historical resources. Legislation will be proposed in 2000 in order to achieve the means and the funds necessary for such a program.

House Bill 1238 created the **Land Use Management and Farmland Preservation Study Committee**. Their legislative mandate was to "...study ways to manage land use and to preserve and protect the State's farmland, rural and community character, and environmental quality against low density sprawl and the loss of sense of place." The Committee has recommended that the NH Office of State Planning be funded to conduct a thorough study of growth versus open space and to undertake a strong educational effort, plus create a continuing program on sprawl/open space and fund a new Conservation Investment Program. Proposed legislation has

been drafted to achieve these measures.

Another 1998 accomplishment was the passage of House Bill 627, creating a **conservation license plate trust fund**. Proceeds from these special plates, which will depict icons of New Hampshire's resources, will be allocated among certain State agencies for specific kinds of "physical and tangible cultural and environmental projects".

The **Comprehensive Shoreland Protection Act** (RSA 483-B) was amended under Senate Bill 365 in 1998 to include the Upper and Lower Merrimack, Lamprey, Contoocook, and Swift Rivers under its jurisdiction. This amendment corrected an important oversight; the rivers designated into the Rivers Management and Protection Program prior to January 1, 1993 were unprotected from shoreland development under the Shoreland Protection Act. The passage of this bill, made possible through diligent and committed cooperative efforts, marked a victory for water resource protection.

In 1999, similar conservation-oriented bills are being sponsored. At the time of printing this *Inventory*, they had only been assigned Legislative Service Request (LSR) numbers; House and Senate Bill numbers will be assigned later in the year. They include:

- establishing a coordinated and comprehensive planning effort by State agencies to deter sprawl (H-0188-R)
- establishing a matching grant program to preserve historic agricultural structures (H-0212-R)
- lower taxation of land held for water supply purposes (H-0192-L)
- authorizing the consideration of traditional village plans in local zoning codes (H-0189-R) and
- authorizing and funding the NH OSP to conduct a study of the effects of sprawl in the State (a recommendation of the Land Use Management and Farmland Preservation Committee noted above, H-0187-R)

Continued funding of the **Regional Environmental Planning Program** (REPP) will be recommended to the New Hampshire Legislature in 1999 by NH DES. The activities and the products of the REPP not only assist municipalities within the State with their own resource protection, but they also provide valuable information and support to the New Hampshire Land and Heritage Community Commission. The Central New Hampshire Regional Planning Commission's Year-Two REPP, like the remaining eight RPCs, will include a similar municipal involvement process with the resources identified in 1998, therefore allowing for a more comprehensive listing of priority resources.

These examples show that through diligence and popular support, conservationism is receiving much positive attention. Individuals can contact their legislators, or municipal boards can jointly endorse bills or issues that they feel strongly about.

### **State/Regional and Public/Private Conservation and Preservation Partnerships**

An overall key element of resource protection is the partnership of a wide variety of groups, interests, agencies, and organizations. Although these not-for-profit conservation groups and organizations focus on different projects and missions, fundamentally the goals are quite similar. As each organization has distinct skills and expertise to offer, great accomplishments can be gained by forming partnerships.

The Regional Environmental Planning Program (REPP) was established as a partnership between the NH DES and the regional planning commissions with the aim of providing the New Hampshire Land and Community Heritage Commission (NHLCHC) with the natural, cultural, and historical resource information crucial to their legislative mandate. While the RPCs worked at the grassroots level, the NHLCHC has the capacity to make legislative recommendations based on these grassroots findings as presented by the RPCs.

One supporting group, the Citizens for New Hampshire Land and Community Heritage, sprang from the popular growing sentiment that the success of the NHLCHC was vital to retaining New Hampshire's rural character and to preserving its resources. Over forty active local conservation organizations have heartily endorsed the Citizens and their education/lobbying mission.

The biggest challenge to any partnership endeavor is funding. While environmental goals and ideals are commonly shared, these state, regional, public and private non-profits are nonetheless primarily dependent upon grants and contributions in order to accomplish their missions. With the current environmental climate in the NH Legislature, the NHLCHC and other strongly-supported groups have a rare opportunity to present a united front to obtain additional federal dollars in Congress and, perhaps, additional funding from the State of New Hampshire for resource preservation.



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## Acronym Listing

BMP - Best Management Practices  
CCC - Civilian Conservation Corps  
CNBRLAC - Contoocook and North Branch Rivers Local Advisory Committee  
CNHRPC - Central New Hampshire Regional Planning Commission  
CSRC - Complex Systems Research Center (University of NH)  
EIS - Environmental Impact Statement  
FEMA - Federal Emergency Management Agency  
GIS - Geographic Information System  
GPS - Global Positioning System  
GRANIT - Geographically Referenced Analysis and Information Transfer (NH GIS database)  
ISTEA - Intermodal Surface Transportation Efficiency Act  
LAC - Local Advisory Committee (river)  
LCIP - Land Conservation Investment Program  
LWCF - Land and Water Conservation Fund  
NFIP - National Flood Insurance Program  
NH DES - NH Department of Environmental Services  
NH DHR - NH Division of Historical Resources  
NH DOT - NH Department of Transportation  
NH DRED - NH Department of Revenue and Economic Development  
NH F&G - NH Fish and Game  
NHLCHC - NH Land and Community Heritage Commission (created by Senate Bill 493)  
NH NHI - NH Natural Heritage Inventory  
NH OSP - NH Office of State Planning  
NHACC - NH Association of Conservation Commissions  
NRCS - Natural Resource Conservation Service, Division of USDA  
NRHP - National Register of Historic Places  
NRI - Natural Resource Inventory  
NWI - National Wetlands Inventory  
PWS - Public Water Supply  
REPP - Regional Environmental Planning Program  
RPC - Regional Planning Commission  
RSA - Revised Statutes Annotated (NH)  
SCS - Soil Conservation Service (formerly); see NRCS  
SPNHF - Society for the Protection of New Hampshire Forests  
TEA-21 - Transportation Equity Act for the 21<sup>st</sup> Century  
UMRLAC - Upper Merrimack River Local Advisory Committee  
USDA - US Department of Agriculture  
USEPA - US Environmental Protection Agency  
USGS - US Geological Survey  
WHPA - Wellhead Protection Area  
WRMP - Water Resource Management Plan  
WMA - Wildlife Management Area

## Glossary

In order to create a logical system of resource definitions, we separated the glossary items into a series of categories. Easier association of the terms to one another tends to create a firmer understanding of the whole.

### ECOLOGICAL

*biodiversity*

concept of genetic and ecological variability, and the processes and interactions that weave biological and physical elements of the planet together

*ecology*

the study of interactions between living things and their environment

*ecosystem*

a natural community resulting from the interactions among the climate, vegetation, animal life, and the soil; also called ecological system or natural community

*endangered species*

species with low prospects for survival due to a variety of factors, such as loss of habitat, over-exploitation, disease, or disturbance

*habitat*

the environment in which the requirements of a specific plant or animal are satisfied

*natural area*

undeveloped site which is primarily used or noted for its inherent natural features

*sustainability*

current use of resources in such a manner that allows for something to be left for utilization by future generations

*threatened species*

species with a possibility of becoming endangered due to living conditions

*wildlife corridors*

tracts of land through which wildlife travel; typically follow water courses or geologic features (such as ridge lines)

### GEOLOGIC

*bedrock*

general term that describes solid rock underlying soils and/or other unconsolidated materials

*drumlin*

oval, spoon-shaped hill of glacial till; in NH, drumlins are typically oriented to the southeast.

*erratics (glacial)*

large boulders scattered irregularly across a landscape that were deposited during the last glacial period

*esker*

long winding ridges of sand and gravel deposited in valley bottoms by glaciers as they retreated

*hardpan*

very dense, impervious soil layer, caused by the compaction or cementation of soil particles

*horizon*

parallel with land surface, a distinct layer of soil composed of material with similar properties

*kame terrace*

formed where ice and high valley wall met: as water melted from glacier, it created terrace-like deposits of sand & gravel along the ridge

*kettle hole*

steep sided depression, typically lacking surface drainage; formed by glacial ice fragment melting in area of till

*pluton*

large body of intrusive igneous rock from glacial lakes

*soil profile*

vertical section of soil through all horizons, down to parent material

*soil series*

“A group of soils having horizons similar in differentiating characteristics and arrangements in the soil profile, except for texture of the surface layer” ?

*till*

unsorted, unstratified mixture of wide variety of materials deposited by glaciers; primarily consisting of silt, sand, gravel, clay, and boulders

**WETLANDS***algal bloom*

rapid growth of floating, simple plant life in a body of water

*alluvium*

general term for sediment deposits created by flowing water

*anaerobic*

condition in which oxygen is absent or in very limited supply

*estuarine*

broadly, tidal wetlands

*eutrophication*

manner in which water becomes enriched with plant nutrients (most commonly phosphorous and nitrogen)

*hydric soil*

soil that is wet long enough to periodically produce anaerobic conditions which affects plant growth

*lacustrine*

pertaining to a lake: also, a wetland produced by a lake

*marsh*

an emergent wetland that is flooded seasonally or permanently

*obligate wetland species*

plants that are ninety-nine percent likely to grow in a wetland

*palustrine*

freshwater wetlands, the majority of all wetlands

*parent material*

unconsolidated mineral or organic matter from which the soil profile is developed

*permeability*

soil characteristics (such as compactness and porosity) that enables water to move down through a soil profile: measured in centimeters/hour

*poorly drained soil*

soil is saturated for long periods, or periodically during growing season

*riparian*

pertaining to the shoreline of naturally occurring body of flowing water

*riverine*

wetlands within river or stream channels

*saturated*

condition in which all pores between soil particles are filled with water

*vernal pool*

small, seasonal water body filled with water for only a short period of time in the spring

*very poorly drained soil*

free water remains on or near land surface for most of the growing season

*water table*

the level at which the ground is completely saturated with water: also called “zone of saturation”

## **WATER**

*aquifer*

geological formation such as fractured bedrock and glacial sands or gravel capable of yielding a water supply; also known as groundwater

*base flow*

part of total stream flow; sustained low flow, typically generated by groundwater discharge into stream channel

*bedrock aquifer*

fractures in bedrock filled with water

*bog*

acidic, nutrient-poor wetland generally composed of peat layers formed by waterlogged sphagnum moss; primarily recharged by precipitation events

*delta*

shallow, water-filled, sandy v-shaped plains, formed by meltwater streams flowing into glacial water bodies

*discharge area*

area in which groundwater eventually reaches the surface of the land (in the form of seep, swamp, stream, ocean, etc)

*diverted infiltration*

occurs where development has created impervious surfaces and causes a condition in which water cannot infiltrate the soil to recharge the groundwater

*floodplain*

strips of relatively flat land abutting stream or river channels that are periodically flooded

*groundwater*

depth in unconsolidated material that is completely saturated with water

*ground water recharge areas*

area in which precipitation infiltrates surface material and reaches groundwater: infiltration, or percolation, is dependant on soil characteristics (porosity, permeability, and degree of saturation): precipitation that does not percolate becomes surface runoff

*induced infiltration*

an altered groundwater flow pattern caused by outside sources, such as a dug well, that pumps out groundwater and becomes the de facto discharge zone (as opposed to the naturally occurring discharge zone): in such conditions, surface waters will infiltrate the soil at a faster rate

*intermittent stream*

a stream which primarily flows during the wet seasons and remains dry for a portion of the year

*non-point source pollution*

pollution of surface waters, wetlands, and aquifers caused by precipitation runoff that carries surficial pollutants into these water bodies

*percolation*

water movement under hydrostatic pressure through interconnected pores of a rock or soil

*perennial stream*

a stream which normally flows year-round

*permeability*

interconnectedness of spaces between particles which indicates how well water can flow through an area

*point source pollution*

pollutants in surface or ground water that stem from a specific source

*porosity*

ratio between size of particles/size of pores

*saturated thickness*

measurement of production capabilities of a stratified drift aquifers: given in feet, thickness of saturation zone that extends below the water table

*stormflow*

part of total stream flow; generated by precipitation events

*stratified drift aquifer*

areas of stratified drift deposits that are saturated with a usable amount of water

*stratified drift deposits*

materials deposited by glaciers - sorted, unconsolidated layers consisting mainly of sand and gravel

*surface water*

open bodies of water such as lakes, streams, or ponds

*total stream flow*

combination of base flow and stormflow

*transmissivity*

the rate at which water can be transmitted, usually given in gallons/day/ft<sup>2</sup>

*unconsolidated material*

material with space between particles (sand, as compared to granite)

*water table*

measurement below the top layer of a saturated zone

*watershed*

area of land drained by stream or river: also called drainage basin

## **POLITICAL**

*ad valorem taxation*

property tax that is levied on the fair market value of land

*current use taxation*

reduced rates of property taxation for forest land (or other type of open space use): tax is based at its use value, as opposed to the fair market value

*conservation easement*

legal agreement between a landowner and a government or private conservation organization that limits the type and scope of development: restriction permanently attached to deed

*fair market value*

highest price of a property in an open, competitive market

*fee interest acquisition*

the assumption and full ownership of all rights to property

*geographic information systems (GIS)*

an organized collection of computer hardware, software, personnel, and geographic data; used to produce maps for display and analysis

*land trust*

organization (typically non-profit) with legal capability to provide landowners with a variety of land protection measures

*less-than-fee accession*

the assumption of certain rights to a property (an example is a conservation easement, which is the assumption of development rights by a conservation organization)

*master plan*

long range plan for a town or municipality intended to be used to guide the development and growth of a community and prepared in accordance with NH RSA 674

*NH state plane coordinate system*

one of the plane-rectangular coordinate systems established by the Federal government for defining positions of points the earth's surface in terms of X and Y coordinates

*open space*

land set aside for non-development type uses (including forestry and agriculture)

*ordinance*

law or regulation adopted by municipal or town legislature

*zoning*

districts delineating areas with established regulations concerning development

## **HISTORIC and CULTURAL**

*cultural*

describes an occasion, attitude, object, or location in terms of heritage of a particular place or person

*scenic road*

a road officially designated and protected by a municipality or state because its aesthetic vistas and surroundings; also any other road with the same aesthetic qualities

*historic site*

a site which is of high value for reasons of history or archaeology



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## Resource Agencies

**Ausbon-Sargent Land Preservation Trust** (local land trust)

PO Box 2040  
New London, NH 03257  
phone 526-6555

**Bow Open Spaces** (local land trust)

41 South Bow Road  
Bow, NH 03304  
phone 225-3678

**BearPaw Regional Greenways** (regional land preservation partnership)

PO Box 19  
Deerfield, NH 03037  
phone 463-7562

**CNHRPC** (local and regional land use, transportation, and resources planning)

12 Cross Street  
Penacook, NH 03303  
phone 753-9374

**Concord Conservation Trust** (local land trust)

54 Portsmouth Street  
Concord, NH 03301  
phone 224-9945

**Contoocook and North Branch Rivers Local Advis Comm** (river education and protection)  
*for current information, contact NHDES' Rivers Management & Protection Prog at 271-1152*

**Division of Forests and Lands** (forestry management)

NH DRED  
172 Pembroke Road  
PO Box 1856  
Concord, NH 03302-1856  
phone 271-2215

**Governor's Recycling Program** (recycling partnerships, programs, and legislation)

2 ½ Beacon Street  
Concord, NH 03301-4497  
phone 271-1098

**Hillsborough County Natural Resources Conservation Service** and  
**Hillsborough County Conservation District** (preservation projects, education)  
468 Route 13 South  
Milford, NH 03055  
phone 673-2409

**Hillsborough County UNH Cooperative Extension** (forestry, agriculture, education)  
468 Route 13 South  
Milford, NH 03055  
phone 673-2510

**Main Street USA - New Hampshire** (downtown revitalization)  
14 Dixon Avenue, Suite 102  
Concord, NH 03301  
phone 223-9942

**Merrimack County Natural Resources Conservation Service** and  
**Merrimack County Conservation District** (preservation projects, education)  
10 Ferry Street, Box 312  
Concord, NH 03301  
phone 223-6023

**Merrimack County UNH Cooperative Extension** (forestry, agriculture, education)  
351 Daniel Webster Highway  
Boscawen, NH 03303  
phone 225-5505

**National Park Service** (trails, projects)  
NH/VT Region  
The King Farm  
5 Thomas Hill  
Woodstock, VT 05091  
phone 802-457-4323

**Natural Heritage Inventory** (rare and endangered plant and invertebrate species)  
NH DRED  
172 Pembroke Road  
PO Box 1856  
Concord, NH 03302-1856  
phone 271-3623

**NH Association of Conservation Commissions** (coalition and support)  
54 Portsmouth Street  
Concord, NH 03301-5400  
phone 224-7867

**NH Audubon Society** (land and species preservation)

Silk Farm Road  
Concord, NH 03301-8200  
phone 224-9909

**NH Department of Transportation** (environmental services, etc)

1 Hazen Drive  
PO Box 483  
Concord, NH 03302-0483  
phone 271-2231 (Environmental Services)  
phone 271-6495 (Information)

**NH Division of Historical Resources** (historical sites and inventories)

19 Pillsbury Street  
PO Box 2043  
Concord, NH 03302-2043  
phone 271-6434

**NH Fish and Game** (rare and endangered vertebrate species)

Non-Game and Endangered Wildlife Program  
2 Hazen Drive  
Concord, NH 03301  
phone 271-2461

**NH Land & Community Heritage Commission** (created by SB493 in 1998 to develop state-wide preservation strategies)

PO Box 697  
Concord, NH 03302-0697  
phone 226-0012

**NH Municipal Association** (municipal law lecture series, legal counsel)

PO Box 617  
Triangle Park Drive  
Concord, NH 03302-0617  
phone (800) 852-3358

**NH Office of State Planning** (general land use planning, Scenic and Cultural Byways)

2 ½ Beacon Street  
Concord, NH 03301  
phone 271-2155

**NH Preservation Alliance (formerly Inherit NH)** (historical and heritage preservation)

PO Box 268  
Concord, NH 03302-0268  
phone 224-2281

**NH Rivers Council** (river education and protection)

54 Portsmouth Street  
Concord, NH 03301  
phone 226-2696

**NH Rural Development Council** (rural preservation and development)

2 ½ Beacon Street  
Concord, NH 03301  
phone 229-0261

**Rivers Protection and Management Program** (river nomination, designation, and support)

NH DES  
6 Hazen Drive  
PO Box 95  
Concord, NH 03302-0095  
phone 271-1152

**Society for the Protection of NH Forests** (land preservation)

54 Portsmouth Street  
Concord, NH 03301-5400  
phone 224-9945

**Source Water Protection Program** (grant program)

NH DES  
6 Hazen Drive  
PO Box 95  
Concord, NH 03302-0095  
phone 271-1168

**Sunapee-Ragged-Kearsarge Greenway** (trail network)

PO Box 1684  
New London, NH 03257  
phone 526-4559

**The Nature Conservancy** (land trust)

2 ½ Beacon Street, Suite 6  
Concord, NH 03301  
phone 224-5853

**Turkey River Basin Trust** (local land trust)

33 Washington Street  
Concord, NH 03301  
phone 225-9721

**USDA Natural Resources Conservation Service** (education, technical assistance)

Federal Building  
Durham, NH 03824  
phone 868-7581

**US Geological Survey** (water and geologic projects)

NH/VT District  
361 Commerce Way  
Pembroke, NH 03275  
phone 226-7837

**Upper Merrimack River Local Advisory Committee** (river education and protection)

PO Box 3019  
Boscawen, NH 03303-3019  
phone 796-2615

**Waste Management Division** (solid waste programs)

NH DES  
6 Hazen Drive  
PO Box 95  
Concord, NH 03302-0095  
phone 271-2900

