

Chapter VII CONSERVATION, PRESERVATION, AND OPEN SPACE

"When we see land as a community to which we belong, we may begin to use it with love and respect." Aldo Leopold - Loudon 2001 Conservation Subcommittee (Conservation Commission)

INTRODUCTION

Loudon can still consider itself a rural community, but progress and development is moving in at a steadily increasing rate. The southern communities in New Hampshire, in the Southern and Nashua Regional Planning Commission Regions, grew an average of 14.6% during the 1990s, while Loudon grew at 12.7%. Loudon's proximity to Concord, the seacoast and the mountains, along with its rural character, make it a much sought after place to live and work. Large tracts of land that have been in single-family ownership for decades are becoming increasingly harder to hold on to due to escalating land values; often, only developers can afford these large parcels due to the quick economic return of the development. In addition, the economic pressures facing agriculture have made it necessary and lucrative for farms to be sold off for residential development. But on a positive note, the residents of Loudon have voiced their opinion about the future of their town, overwhelmingly stating that they wish to see Loudon remain quaint and rural, retaining the agricultural aspect of the Town. The residents of Loudon have a great deal of respect for the land and an interest in conserving the rural character of the community.

The data presented in this Chapter was collected from a number of sources including local, county, regional, state and federal agencies, local residents, existing reports, maps and aerial photographs.

The physical limitations of the land, the Town's position in the path of Boston's sprawl, traditional ownership patterns, and the concern and commitment of the residents - place Loudon in a unique situation for conserving its valued resources and preserving the rural character of the Town. Large parcels of forest, farmlands, and wetlands still exist and much of the shoreline of the Soucook River remains undeveloped. The extensive network of streams and small ponds and the mixture of forest and field provide wildlife habitats for a great diversity of plant and animal species. From the top of Oak Hill to the river valley of the Soucook, from forested wetlands like Hunting Swamp to the farmlands on the Ridge, and from the wild lands to the developed areas, the Town provides a multitude of scenic and recreational opportunities. Change, however, is inevitable. Therefore it is important that the Town recognizes and protects its outstanding natural, historic, agricultural and scenic resources while the opportunity still exists, since suburban development and sprawl is quickly moving north in the state, as people are increasingly willing to drive further in order to live in "the country." As prime development lands become scarcer and technology changes, it is becoming more feasible to develop marginal lands.

Based upon the Community Survey results, the Conservation Commission proceeded to develop measurable recommendations, listed at the back of this Chapter, in order to reach the objectives listed next. The objectives and recommendations established for the chapter are written in order to facilitate their implementation and to encourage the formation of a workable Conservation Chapter to protect these resources.

OBJECTIVES OF THE CHAPTER

- To preserve the visual character of the Town of Loudon by protecting its natural, historic, scenic, and agricultural resources;
- To promote the conservation, protection, and sound management of the Town's natural resources;
- To provide recreational opportunities for all ages and user groups;
- To educate the citizens and Town officials in Loudon on the importance of protecting the Town's natural resources and open space;
- To modify local land use controls to protect natural and cultural resources;
- To ensure local compliance with Federal and State Regulations, which would include gravel excavation and bio-solids;
- To acquire development rights, conservation easements, or fee ownership of lands of special importance; and
- To involve town boards, and public, private, and state organizations in the protection of Loudon's resources.

COMMUNITY SURVEY RESULTS

The Loudon Conservation Commission reviewed the results of the 2000 Master Plan Survey to assure that this chapter reflects the desires of the residents of Loudon. The Survey clearly mandates preservation of the Town's rural setting, comprised of open space, agricultural lands, the Soucook River and its watershed, and other major wetlands and important habitats.

Table VII-1

Should the Town appropriate money to be used for the protection and preservation of natural, cultural, and historic resources?

Money for conservation	Total	Percentage
Yes	345	44.0%
No	108	13.8%
No opinion	282	36.0%
No answer	49	6.3%
Grand Total	784	100.0%

Table VII-2

Do you feel that the Soucook River is important to the character of Loudon?

Soucook important to character	Total	Percentage
Yes	586	74.7%
No	71	9.1%
No opinion	90	11.5%
No answer	37	4.7%
Grand Total	784	100.0%

Table VII-3

Would you support a portion of the land use change tax to be allocated to the Conservation Commission for land protection and acquisition?

Support land use change tax	Total	Percentage
Yes	422	53.8%
No	166	21.2%
No opinion	159	20.3%
No answer	37	4.7%
Grand Total	784	100.0%

Table VII-4

A greenway is a linear open space established along a natural corridor, usually designed to accommodate both wildlife and low-impact human recreational uses. A greenway can serve as a linkage between existing natural and historic sites. Are you in favor of creating a greenway along the Soucook River?

Create greenway along Soucook	Total	Percentage
Yes	494	63.0%
No	124	15.8%
No opinion	121	15.4%
No answer	45	5.7%
Grand Total	784	100.0%

Table VII-5

Should the Town plan to restore the Mill Pond in the Village by dredging as part of the dam repair effort which will be necessary in the next few years? Doing so will provide increased recreational opportunities along the Soucook River and improve the general appearance of the area.

Restore Mill Pond	Total	Percentage
Yes	558	71.2%
No	88	11.2%
No opinion	92	11.7%
No answer	46	5.9%
Grand Total	784	100.0%

Table VII-6

Should developers be required to donate a portion of land dedicated for permanent open space preservation when granted subdivision or site plan approval?

Developers donate land	Total	Percentage
Yes	420	53.6%
No	175	22.3%
No opinion	138	17.6%
No answer	51	6.5%
Grand Total	784	100.0%

The citizens of Loudon feel strongly about the Soucook River and its protection. They also see the recreational opportunities and have voiced their opinions, like seeing the Mill Pond restored and a managed corridor along the Soucook River established. There is also overall support to protect and preserve Loudon's natural, cultural and historic resources as well as protecting Loudon's rural character by utilizing various regulations and funding sources.

INVENTORY OF NATURAL RESOURCES

In order to establish the need for preservation, it is necessary to inventory the resources that define Loudon's character. The majority of this information was taken from the *1999 CNHRPC Natural, Cultural, and Historical Resources Inventory* and from mapped sources. A series of maps was developed which depict these resources of the Town, including the *Conservation and Public Lands Map*, which illustrates the locations of conservation and Town-owned properties within the Town.

Water Resources

The *Water Resources Map* depicts all of the water resources as noted here in this section, including floodplains, aquifer transmissivity, wetlands, public water supplies, private wells installed between 1983 and 1998, and dams.

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 2000, the NH Department of Environmental Services (NH DES) issued approximately 225 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 NH DES. As the Town becomes more built out, drinking water may become an issue if the Town's best water supplies are not adequately preserved. Future water supplies are being considered in CHAPTER X, UTILITIES.

Ponds

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.

Rocky Pond serves as a tributary to Kimball Pond in Canterbury and to the Soucook River. It has a total area of 78 acres, with the majority located in Gilmanton and Canterbury.

Hot Hole Pond, 27 acres in size, is shared with Concord and has a maximum depth of 43 feet.

Rivers

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.

A large brook is known as either Canterbury River or as Kimball Brook, originates from Rocky Pond along the Loudon/Canterbury border. It then travels a short distance to converge with Academy Brook.

Brooks

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.

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.

Wetlands and Hydric Soils

Many small and medium sized wetlands exist throughout Loudon. Hoit Road Marsh 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.

Table VII-7
Breakdown of Hyrdric Soils

Hydric Soils	Acreage	Total % of Town
Poorly Drained	3163	10.7%
Very Poorly Drained - organic base	725	2.4%
Very Poorly Drained - mineral base	270	0.9%
Marsh	224	0.8%
TOTALS	4382	14.8%

Source: Merrimack County Conservation District: Inventory of Soil Erosion and Agricultural Waste, 1979

As shown by Table VII-7, out of the total land acreage of Loudon (29,696), 14.8% is comprised of hydric soils as defined by the 1979 Soils Survey for Loudon.

Watersheds

The Soucook and Suncook Rivers dominate Loudon's surface drainage system. More than 75% of the Town's area is drained into the Soucook River, either directly or through a series of tributaries. The Suncook River watershed drains the far eastern part of the Town.

Aquifers

One of the largest in New Hampshire, 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. Transmissivity is a measure of how quickly water travels, measured in feet squared per day. In Loudon, there are large areas of aquifer transmissivity between 2000 and 4000 feet squared per day, surrounded by areas of lower transmissivities. These areas are largely clustered on the east side Route 106 and around the Soucook River corridor. The **Water Resources Map** shows the locations of the transmissivity of the aquifer and other water resources.

Dams

The NHDES keeps an inventory of dams within the State. Loudon contains almost 20 dams, most of which are inactive. However, most of the dams fall under private ownership:

Table VII-8

Dams

DES #	Name	Type	Status	Owner
143.01	Academy Brook I		inactive	private
143.02	Academy Brook II		inactive	private
143.03	Academy Brook III		inactive	private
143.04	Academy Brook IV		inactive	private
143.13	Gues Meadow Brook	concrete	active	private
143.08	Shaker Brook I		inactive	private
143.09	Shaker Brook II		inactive	private
143.07	Clough Pond	concrete	active	State
143.22	Holt Meadow Pond	stone	active	private
143.16	Farm Pond		active	private
143.12	Crooked Pond	concrete	active	State
143.05	Soucook River I	concrete	active	Town
143.15	Soucook River II	stone	inactive	private
143.18	O'Brien Recreation Dam	earth/concrete	active	private
143.17	Recreation Pond		active	private
143.14	Fire Pond	earth	active	private
143.19	Pineridge Detention Pond	earth	inactive	private
143.06	Giddis Brook	concrete	inactive	private

Source: NHDES, Water Resources Division (GIS) 2000

During the realignment of Route 106, Mill Pond experienced siltation and degradation of its water quality. Many residents (as evidenced by the Community Survey results) would like to see Mill Pond restored. Funding is needed in order to carry out its dredging as part of the dam repair effort that will be necessary in the next few years.

Swamps

The Hunting Swamp located in the tracts of land between Old Shaker, Lovejoy, Flagg, and Lesmires Roads has been attracting humans and animals alike for years. The Bumfagon Swamp off of Young's Hill Road also provides significant wildlife habitat.

Land and Forestry Resources

The total number of acres under conservation was calculated to be approximately 11% of the entire Town. The following table, Table VII-9, breaks down the components:

Table VII-9
Lands Protected from Development

Conservation Lands	Held by	Acres
Bachelder Lot	Town	152
Bachelder easement	Town	35
Bachelder 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
Right-of-way access to 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
Total Acreage Protected		3,199

In addition, approximately 17,888 acres, or 60% of the Town's total area, were in current use as of the end of the year 2000.

Table VII-10
Land Use Change and Timber Tax Collections, FY-91 to FY-00

	Land Use Change Tax Collected	Timber Tax Collected
1991	\$8,504	\$12,489
1992	\$17,445	\$9,352
1993	\$33,732	\$16,809
1994	\$29,918	\$55,840
1995	\$62,630	\$33,654
1996	\$51,471	\$11,904
1997	\$72,473	\$24,660
1998	\$4,060	\$20,848
1999	\$2,200	\$17,920
2000	\$17,504	\$17,737

Sources: Loudon Annual Reports and Town Files

Nearly a hundred New Hampshire towns set aside from 5% to 100% of their land use change tax monies for conservation. In 1998, New Hampshire towns and cities received over \$3 million from the land use change tax. Atkinson, Belmont, Boscawen, Bow, Canterbury, Chester, Claremont, Danville, Derry, Gilmanston, Londonderry, Lyme, Meredith, Middleton, Nashua, New Durham, North Hampton, Portsmouth, Rindge, Sharon, Tamworth, and Windham are communities that currently set aside 100% of that money for conservation.

Table VII-11
Current Use Acreages by Land Type, 1992-2000*

	2000	1999	1998	1997	1996	1995	1994	1993	1992
Farm Land	2302	1721	2270	1984	2382	2343	2327	3365	1638
Forest Land	13631	14202	13202	12423	12928	11799	11585	11682	13381
Unproductive Land	808	856	999	823	996	1095	1022	996	952
Wet Land	1147	1133	1133	1066	1080	1008	950	991	917
Total Acres in CU	17888	17912	17604	16296	17386	16245	15884	17034	16888

*represents fiscal year, not calendar year; minor discrepancies are found with 1996, 1997 & 1999 M&S totals

Source: Town Files

Table VII-12
Current Use Acreages Statistics, 1992-2000*

	2000	1999	1998	1997	1996	1995	1994	1993	1992
Total Acres in CU	17888	17912	17604	16296	17386	16245	15884	17034	16888
Removed from CU	94	13	101	98	98	10	93	18	252
Receiving 20% recreational discount	10739	9665	9422	9529	9667	9617	9582	9675	9594

*represents fiscal year, not calendar year

Source: Town Files

New Hampshire studies, such as the *Dollars and Sense of Open Space* by the NH Wildlife Federation and *Does Open Space Pay* by the UNH Cooperative Extension show that open space brings in more revenue to a town than it requires in services. The general consensus is that less development, particularly residential development, means lower taxes. More houses require, among other community services, additional roads to maintain and more schooling for children. In Chester, it cost the community \$449,206 more to educate children from 117 new homes than those new residents paid in taxes. In Peterborough, the 188-home Pine Ridge Development cost the town \$128,124 more than it brought in in taxes. Although it is not the intent of this Chapter, Master Plan or Town to discourage growth, all growth and further use of land must be managed in a way that will be sustainable for future generations.

Agricultural Resources

The Natural Resource Conservation Service (NRCS) is currently revising the soil surveys for Merrimack and Belknap counties. All database and mapped information is subject to change until the surveys are completed, which is anticipated to be fall 2002. Using the data currently available, Loudon has just over 400 acres of Prime Farmland Soil as defined for Merrimack County, identified in Table VII-13 which constitutes 1.3% of Loudon's total land area. The soils are of four types, 46B, 104, 166B, and 458B, and are scattered in 26 various locations. The locations are shown on the *Prime Agricultural Soils Map*.

It is important to note that not all prime farmlands are currently being used as such, when comparing the *Prime Agricultural Soils Map* to the *Existing Land Use Map*. In addition, soils that are classified as locally important or have statewide importance have not been mapped. Therefore, more agricultural land is available for farming, and is actively farmed, than is displayed on the map or discussed in this Chapter.

Table VII-13
Prime Farmland Soils of Merrimack County

Soil Symbol	Soil Name	Parent Material	Erosion	Drainage
24A	AGAWAM VERY FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES	outwash	not highly erodible	Well drained
24B	AGAWAM VERY FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES	outwash	potentially highly erodible	Well drained
27A	GROVETON VERY FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES	outwash	not highly erodible	Well drained
28A	MADAWASKA FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES	outwash	not highly erodible	Moderately well drained
29B	WOODBIDGE FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES	till	potentially highly erodible	Moderately well drained
44B	MONTAUK FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES	till	potentially highly erodible	Well drained
46B	HENNIKER FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES	till	potentially highly erodible	Well drained
56B	BECKET FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES	till	potentially highly erodible	Well drained
66B	PAXTON FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES	till	potentially highly erodible	Well drained
76B	MARLOW FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES	till	potentially highly erodible	Well drained
166B	MARLOW VARIANT FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES	till	potentially highly erodible	Well drained
201	ONDAWA FINE SANDY LOAM, OCCASIONALLY FLOODED	alluvium	not highly erodible	Well drained
378A	DIXFIELD FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES	till	not highly erodible	Moderately well drained
378B	DIXFIELD FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES	till	potentially highly erodible	Moderately well drained
401	OCCUM FINE SANDY LOAM, OCCASIONALLY FLOODED	alluvium	not highly erodible	Well drained
446B	SCITUATE-NEWFIELDS COMPLEX, 3 TO 8 PERCENT SLOPES	till	potentially highly erodible	Moderately well drained;
458B	SKERRY VARIANT FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES	till	potentially highly erodible	Moderately well drained
478A	DIXFIELD VARIANT, 0 TO 3 PERCENT SLOPES	till	not highly erodible	Moderately well drained
478B	DIXFIELD VARIANT, 3 TO 8 PERCENT SLOPES	till	potentially highly erodible	Moderately well drained
513A	NINIGRET FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES	outwash	not highly erodible	Moderately well drained
513B	NINIGRET FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES	outwash	potentially highly erodible	Moderately well drained
532B	BELGRADE VERY FINE SANDY LOAM, 0 TO 5 PERCENT SLOPES	lacustrine or marine	potentially highly erodible	Moderately well drained
558B	SKERRY FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES	till	potentially highly erodible	Moderately well drained
1	OCCUM FINE SANDY LOAM, FREQUENTLY FLOODED	alluvium	not highly erodible	Well drained
4	POOTATUCK FINE SANDY LOAM, OCCASIONALLY FLOODED	alluvium	not highly erodible	Moderately well drained
101	ONDAWA FINE SANDY LOAM, FREQUENTLY FLOODED	alluvium	not highly erodible	Well drained
104	PODUNK FINE SANDY LOAM, FREQUENTLY FLOODED	alluvium	not highly erodible	Moderately well drained

Source: Natural Resource Conservation Service, April 2001

Historical and Cultural Resources

Historical and cultural resources are important to the heritage and character of the Town. They have been inventoried in the CHAPTER III, HISTORIC AND CULTURAL OVERVIEW.

Ecological Resources

NH Natural Heritage Inventory

Several outstanding plant and animal species have been located in Loudon since the 1930s and recorded in the Natural Heritage Inventory (NHI) program's database.

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 (*Alasmodonta varicosa*) is listed in the State as endangered. One of New Hampshire's best population of Brook Floaters is located in Loudon throughout the Soucook River.

The Blanding's and spotted turtles have been sighted in Loudon.

Historically, great blue heron (*Ardea herodias*) rookeries have been located in Loudon. This species of bird is not listed as threatened nor 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:

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.

A managed corridor along the Soucook River and its tributaries would be an asset to the town of Loudon. The Conservation Commission envisions a mosaic of protected private and public lands linked to the Soucook River Corridor. Protection of this land network will safeguard important wildlife habitat and travel routes, surface water, groundwater, aquifers, wetlands and scenic resources and recreational opportunities. The establishment of a Soucook Corridor would ensure that the region's most important natural features continue to be available for future generations.

One way to establish a Soucook Regional Managed Corridor could be done through a land trust established by resident volunteers who are concerned about the loss of open space lands. Accomplishing this goal would be through landowner outreach, land protection, community assistance and partnerships with neighboring towns. A success story is that of the Bear-Paw-Regional Greenway. Two conservation-minded citizens of Candia started the project back in the 1980s. By 1997 it had become a non-profit tax-exempt land trust, and in 2000, the Greater Piscatiqua Community Foundation awarded Bear-Paw \$20,000 to hire a part-time director to keep the project on track. The Soucook River Managed Corridor could be a success story like this.

Important 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:

A large, mostly continuous area of conservation land, including the Merrill, Batchelder and Sanborn Farm properties, is located in the northeastern corner of Loudon. This unfragmented area contains a pond, several wetlands and streams and very few roads.

A bog (or sometimes called a kettle hole) is an artifact of the last glacial age 10,000 years ago. Bogs lack drainage; precipitation is the only source of water. Bog water is acidic and lacks oxygen. Sphagnum mosses are the dominant plant forming thick layers of peat. Loudon is fortunate to have one of these unique features in Town and should work to protect and preserve the bog and clean up accumulated debris.

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.

Additional and perhaps more recognizable geologic formations are mountains and hills, listed below.

Table VII-14
Highest Elevations

Mountains and Hills	Elevation
Clough Hill	800'
Bear Hill	740'
Oak Hill	920'
Sabbattus Heights	1040'

Source: CNHRPC Open Space Plan, 1980

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) lie 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.

A stratified drift aquifer is located along the Soucook River corridor, stretching from the Canterbury border to the Concord/Pembroke border. Several excavation pits are located within Town, mostly along the Soucook River and the aquifer. The location of the aquifer and the excavation pits are indicated on the **Construction Materials Map**, and the excavation sites are discussed in more detail in CHAPTER XII, EXISTING AND FUTURE LAND USE.

Table VII-15
Selected Intent to Excavate Application Facts, 2000-2001

Total Acreage Permitted to Excavate, 2000-2001	1107.65
Total Acres Previously Excavated on Lots as of 4/1/00	50.49
Total Acres Reclaimed on Lots as of 4/1/00	6.5

Source: Town Files

Loudon's current zoning ordinance does not permit construction to occur on land with more than 25% slope. This is meant to protect the slopes from erosion, a result of the loss of vegetation that occurs when slopes are cleared for development. Areas with greater than 25% slope are shown on the **Development Constraints Map**.

Recreational Resources

Beginning in January 2001, the Loudon Conservation Commission undertook the creation of an Open Space Trail System Plan with the assistance of the Central New Hampshire Regional Planning Commission. The plan, which was finished in July 2001, provides recommendations to the Town of Loudon as to what areas and features the Town should protect from development and lays the groundwork for establishing a functional and comprehensive open space and trails network in Loudon.

The plan inventories Loudon's Class VI roads, conservation easements, public land, utility rights-of-way, former railroad rights of way, snowmobile trails and existing recreational trails, as well as certain private lands that may be beneficial to the network. This inventory is the foundation of the recommendations for areas to protect from development and possible trail linkages.

The Open Space Trail System Plan, complementing the findings of the Master Plan, promotes conservation in the Town and provides an option for the expansion of recreational opportunities. Previous versions of the Loudon Master Plan, as well as this one, have emphasized protecting Loudon's natural resources and rural character. The establishment of this comprehensive Open Space Trail System puts continued emphasis on the Town's natural resources and promotes stewardship of the lands by Loudon residents by involving volunteers in trail creation and maintenance.

Recommendations of the Open Space Trail System Plan included establishing open space protection areas around Hunting Swamp, Holt's Pond and Currier Road, Rocky Pond and Shaw Road, Bumfagon Swamp and the Bachelder Town Forest, and Crooked and Bog Ponds, and establishing a 150-foot buffer around the Soucook River beginning at Currier Road, to the Concord City Line. In addition, several recreational trail linkages were proposed, as was establishing a relationship with the Sno Shakers Snowmobile Club, who have created and presently maintain a network of snowmobile trails in the Town, in order to gain permission to use the trails during the summer months for non-motorized activities.

NATURAL RESOURCE CONCERNS

Biosolids

Land application of biosolids (also known as sludge and sometimes septage) has occurred for decades and will continue to be an approved (by federal and state authorities) method for disposing and managing biosolids in the foreseeable future. Everyone contributes to the production of biosolids. Local regulation of the land application of biosolids is occurring in New Hampshire. If many communities prohibit or effectively prohibit the land application, then managing the residuals of sewage treatment will become more difficult and more expensive.

A controversy over the land application of biosolids exists. Issues include an unpleasant odor noticeable during stockpiling, during land application, and for a few days after land application and the presence of potentially harmful heavy metals and pathogens being absorbed into the vegetation.

The EPA regulations contain standards which are intended to limit exposure to dangerous substances to acceptable levels. The EPA standards and methodology are based on extensive, reliable, and ongoing research. Many persons remain unconvinced by the research or feel the research is not complete and thus are opposed to the land application of biosolids. All regulations involve the acceptance of some risk, the balancing of private rights and public interests and competing public values.

Local decisions should be based on the best available information. Loudon should investigate the newest research and regulations and make a determination if and how to regulate the application of biosolids in Town.

Reconditioned Soil

Environmental Soil Management, Inc. (ESMI) owns and operates an Advanced Thermal Treatment Facility for the treatment and recycling of petroleum and non-petroleum hydrocarbon contaminated soils. The facility is located in Loudon on Industrial Drive. ESMI was the first treatment facility in New Hampshire to become a fully permitted Solid Waste Facility (permit #DES-SW-SP-96-002).

Through its Research & Development Program and subsequent Solid Waste Permit, ESMI has proven successful treatment of over 60,000 tons of coal tar contaminated soils as well as a host of other non-hazardous materials. Contaminants in soils accepted at the facility include gasoline, diesel oils, #2, #4, and #6 oils, waste oils, coal tars, petroleum solvents, mineral oils, and PCB's <50ppm.

ESMI performs post treatment analysis on all materials to ensure compliance with strict State and Federal regulations. Treated materials have been used in the construction of the Loudon Country Club and for other commercial developments. Use on residential or park/playground land is prohibited. Materials are also used as aggregate products and for restoration at site remediation projects.

The facility is situated over the aquifer and runs 24 hours per day. Complaints about noise and odor have been brought before the Zoning Board, which have been determined to be insignificant at this time. The use of reconditioned soil in Loudon or elsewhere should be a closely monitored endeavor. These issues, which are not specifically intended to target ESMI, are potentially serious environmental concerns that must be closely monitored.

Underground Storage Tanks

The purpose of the Underground Storage Tank Program (UST) at the NH Department of Environmental Services is to prevent and minimize contamination of the land and waters of the state due to the storage and handling of motor fuels, heating oils, lubricating oils, other petroleum and petroleum contaminated liquids, and hazardous substances. Established rules and regulations apply to all non-residential UST systems having a total regulated substance storage capacity of more than 110 gallons and non-residential tank systems having an on-premise use heating oil storage capacity of more than 1,100 gallons.

In Loudon, there are 12 businesses which have permits for underground storage tanks. Of the 12 businesses, a total of 15 tanks have been reported. The majority of tanks are located along Route 106, although some businesses reported having no tanks. The businesses are listed, along with the number of tanks reportedly in place, in Table VII-16:

Table VII-16
Underground Storage Tanks

Permitted Businesses	Location	Number of Tanks
Penny Press	Route 106	0
106 Bean Stalk	Route 106	5
NH International Speedway	Route 106	2
Crowley Land Clearing	Route 106	0
Raceway Convenience	Route 106	1
Fillmore Industries	Route 106	0
Pleasant View Gardens	Pleasant Street	0
Loudon Elementary School	School Street	1
Marshall Scott	Route 106	0
Yankee Country Store	South Village Road	2
Pittsfield Gas and Oil	Chichester Road	3
Capitol Fire	North Village Road	1

Source: NH Department of Environmental Services Water Division, 1999

The potential for leakage from the underground storage tanks is always a possibility. The NH Department of Environmental Services retains a list of known leaking underground storage tanks (LUST) which have not been inventoried in this Chapter.

Protection from Nonpoint Source Pollution

The greatest threat to Loudon's waterways is perhaps nonpoint source (NPS) pollution, also known as polluted runoff. Nonpoint source pollution is pollution that cannot be traced back to any specific source; it is the accumulated pollution resulting from our everyday activities. Its effects are magnified by impervious surfaces, such as building roofs and paved surfaces. Water cannot infiltrate these surfaces, causing more water to run off over the land. As water washes over the land, it picks up oil, pesticides, nutrients, sediment, and other pollutants that have been placed into the environment by everyday activities. The runoff water flows into storm drains and sewer systems or directly into water bodies, carrying the pollutants that have been deposited. Sewers and storm drains are not the answer to this problem; they are direct lines to waterways, meaning that polluted runoff is being poured right into surface waters. As little as 10% impervious surface on a lot can begin to negatively impact a waterway. Thus, the more intensively used a piece of land is, the more nearby waterways are negatively affected by polluted runoff. Survey questions asked of residents in CHAPTER XII, EXISTING AND FUTURE LAND USE, confirm that something must be done in Loudon to minimize the effects of NPS.

CHOOSING THE APPROPRIATE PROTECTION MECHANISMS FOR DIFFERENT RESOURCES

There are numerous mechanisms available for protecting and conserving a community's natural, scenic, historic and agricultural resources. A very effective, but most costly method is fee simple purchase of the resource. Because of the limited funding presently available, this method is the most challenging for the Conservation Commission, and in the majority of the cases, fee simple ownership is not necessary to achieve effective protection of the resource. In some instances, however, fee simple acquisition of a parcel may be the best alternative for protection if landowners may no longer be willing to own and manage their property but may still want to insure that it will be protected and maintained for future generations.

Water Resources

The water resources in the town of Loudon are very important assets to our community. The streams, rivers, ponds, wetlands and aquifers provide diverse wildlife habitats, numerous recreational opportunities, ground water recharge and water supplies and many scenic views and vistas. Therefore, it should be a priority for the Town of Loudon to preserve and protect its water resources, particularly its aquifer that may become a major source of water in Loudon's future.

It is important to understand the Soucook River watershed, since healthy watersheds are vital for a healthy environment and economy and provide drinking water, irrigation and industry. Watersheds are also used for various kinds of recreation like, hiking, swimming, boating, fishing and hunting. Wildlife depends on a healthy watershed for their food and shelter. Managing our watershed and other natural resources is an effective and efficient way to sustain the local economy and environmental health. The creation of a Watershed Management Plan should be undertaken with state and private funding.

Water quality should be protected regardless of whether acquisitions of land or easements are possible. Water quality should be protected through the adoption of land use regulations to avoid ground and surface water pollution, erosion, and sedimentation because once a body of water has been contaminated, the restoration of the ground and surface waters is costly, time consuming, and often a futile endeavor.

In addition to the tributaries that flow into the Soucook River, the Town has many other small ponds and perennial streams. These ponds and streams provide a diverse wildlife habitat and recreational opportunities for fishing, hunting, birdwatching, hiking, cross-country skiing and snowmobiling. The town of Loudon should explore opportunities to acquire easements for public access for these areas and develop a trail system. This process is made less difficult by the small size of most ponds and the limited ownership.

Managed Corridor along the Soucook River

The Soucook River is the Town's largest and most important surface water resource. The river flows through the Town for approximately 7.8 miles with much of the shoreline currently undeveloped. The Soucook River Corridor presents the Town with a great opportunity to create a managed corridor that would protect the river and its tributaries and the uplands incorporated with it for multiple recreational uses. This corridor could provide public access to the Soucook, increase active and passive recreational use, provide a protective buffer to the River itself and generally increase the quality of life in the community as well as provide a protected wildlife corridor. The Town of Loudon should work to create a managed corridor stretching the entire length of the River in the Town and encourage the neighboring communities of Canterbury, Concord and Pembroke to do the same, thereby creating a regional corridor.

Conservation easements could be used to acquire development rights and public access to parcels with river frontage. Easements for a trail network that would allow public passage in existing developed areas could be used to complete the trail system. In addition, acquisition of key parcels may be required to allow for boat/canoe put-in and take-out areas, picnic areas and public parks linked by the trail system. Acquiring buffer strips along the Soucook River should be a priority of the Town of Loudon. The Shoreland Protection Act should also be incorporated as part of the effort.

The Soucook River and its tributaries flow through one of the largest aquifers in the state. By using the current technologies of GIS, maps can be developed to show the direction the town should take to develop a Watershed Management Plan and a Water Resources Management Plan. This plan could then be presented to neighboring towns with the intention of developing a managed corridor much like the one created in southeastern New Hampshire called Bear-Paw Regional Greenway.

The development of a managed corridor within the Soucook Watershed is a process that will take time and considerable effort. Loudon's Open Space Trail System Plan did not recommend the corridor or a greenway, per se, but it did recommend that a 150 foot buffer zone be created around the Soucook River beginning at Currier Road and continuing to the Concord City Line. This buffer zone could be a start to the creation of a corridor of the Soucook River watershed, since along the river it is already partially protected by the federal Shoreland Protection Act.

Agriculture

Historically the primary land use in Town, agriculture is another resource that is extremely important to Loudon. Many of the original agricultural fields have since lain idle and reverted back to forests. Except on Loudon Ridge which still harbors some large, contiguous parcels of active farmland, few active farms remain. Many of the existing agricultural conservation programs are concerned primarily with prime farmland soils and the productivity of the land. While these factors should not be ignored, they are not the only measures for evaluating the importance of agricultural areas. Farms provide open space for viewing fields and hillsides, hunting opportunities, and scenic views of the farms themselves. The visual presence of the farm buildings, pastures, croplands and orchards are essential to the character of the Town of Loudon. Farms, in general, provide the variety of habitats, fields, forests, streams, wetlands and transitional areas, essential for species diversity. Farmland preservation provides these multiple benefits. Therefore, agricultural preservation should be a priority for the Town of Loudon. The Town should seek to acquire development rights and easements to agricultural lands to ensure the continuation of farming in the community.

Agriculture provides an example of when the Town may want less than fee simple ownership, but the purchase of the development rights would assure the continuation of agricultural use while compensating the owner for the lost rights to develop the property at a cost significantly less than fee simple purchase. This could be accomplished through mechanisms such as the Land and Community Heritage Investment Program, through a municipal or regional land trust, or through the Farmland Protection Program, a federally funded program that is a 50/50 venture with communities.

Historical Sites and Areas

The preservation of historic sites and areas should also be a high priority in the Town; once destroyed, these resources are lost forever. Loudon is well-endowed with historical sites and areas including mill sites, an active water powered mill, stone houses, the Maxfield Library, the original Loudon Elementary School, the Town Hall and the areas of Sabbattus Heights and Loudon Center. Very few of these areas are protected at the present time. The Town should actively seek to protect its historic resources by first conducting an inventory of the existing resources and then determining the appropriate protection mechanism for the site. Old mill sites along the Soucook River and feeder streams, for example, could be acquired as part of the corridor while an historic district could be developed to protect the Loudon Village area. See CHAPTER III, HISTORICAL AND CULTURAL OVERVIEW, for detailed information on historic areas in Loudon.

Public Access

When considering resource protection measures, it is important to evaluate the need for public access. In some instances the Town may only need to purchase an easement for public access to or across an area, e.g. a scenic waterfall may be located in the middle of a wooded area. Development may be limited due to the physical conditions of the site, poorly drained soils or steep slopes, rendering it unnecessary for the Town to purchase the development rights to the area if the chances for future development are remote. However, the Town could purchase an easement for public access at a much lower cost. Another scenario would be an agricultural parcel with river frontage and high recreational and scenic value. In this case, the Town should try to purchase public access (fee simple or easement) to a corridor along the river to provide for public access to and use of the resource.

General Recommended Changes to the Zoning Ordinance or Land Development Regulations

A number of setback amendments or setbacks where none were currently in place are being recommended for the Zoning Ordinance for wetlands and soils types. The following information was excerpted from the NH Office of State Planning and from the NH Department Environmental Service's special committee report Data Requirements for Site Review: Guidance for Planning Boards. Concerning the subdivision and use of land, it is important to maintain a consistent approach to the level of information requested pertaining to soils mapping and wetland delineation requirements for all applications.

Wetlands

Wetland buffers provide valuable functions and protect wetlands. All surface waters not covered under the Comprehensive Shoreland Protection Act and wetlands under the jurisdiction of the NH Department of Environmental Services Wetlands Bureau require minimum 100 foot buffers. Setbacks include no disturbance or structure permitted in the buffer. The buffer width for wetlands of limited size and possessing low functions and values may be considered less if no practical alternative is available.

Prime wetlands designation within the Town of Loudon's limits through the NH Department of Environmental Services Wetlands Bureau evaluation and identification process (pursuant to Wt701-702 NH Code of Administrative Rules) is being considered. This effort affords additional protection to special resources that will require a wider buffer of 200 feet.

Plans should be stamped by a qualified professional certified by the State of New Hampshire who is capable of preparing site-specific information, (i.e. Soil Scientist, Wetlands Scientist, Permitted Septic Designer). Emphasis should be placed on avoiding or minimizing the impacts of disturbance on water resources.

All wetlands and surface waters should be delineated as required by the NHDES utilizing the 1987 US Army Corps of Engineers Wetlands Delineation Manual, 1998 Field Indicators for Identifying Hydric Soils for New England.

Minimum shoreline protection standards for all public open water bodies, rivers and streams shall be in compliance to limits outlined in the Comprehensive Shoreland Protection Act, RSA 483-B (CSPA). Reference lines for rivers should be at the ordinary high water mark; for natural fresh water bodies, natural mean high water level; and for artificially impounded fresh water bodies, the water line at full pond.

Soils

Where intense development is proposed, it is appropriate to require the detail of a site specific soil map (SSSMS). Such a map will help both the applicant and planning board to identify areas with limitations for site development as well as areas that are suitable for locating structural improvements.

Three criteria to measure development intensity, sufficient to warrant a site specific soil map:

- Areas with average lot sizes two acres or less, without municipal water and sewer;
- Areas with average lot sizes one acre or less, with municipal sewer, and
- Areas with 20,000 or less contiguous square feet of land that is not wetland and do not have any limiting physical features.

When development is less intense, identification and confirmation of the current Natural Resources Conservation Soil Service's County Soil Survey Map for Loudon is required.

When identifying the limiting physical features of a parcel of land, the delineation of such features, specifically rock outcrops, steep slopes >35%, shallow bedrock <18 inches and very poorly drained areas on the site, should be clearly marked on the plans. Areas of very poorly drained hydric soils should not to be included in lot size dimensions.

The Conservation Commission recommends the presentation of soil based data for future development and lot size plans to be consistent with the National Cooperative Soil Survey (NCSS) standards. Site specific soil mapping standards (SSSMS) are consistent with the regional field indicators for identifying hydric soils and the identification and delineation of federal jurisdictional wetlands. Sizing of lots on less suitable lands by soils data will identify limiting features and difficulties for building, roads, and other construction activities. Due to the variability of soil map units, the presence of inclusive soil types, the Planning Board should request the assistance of a soils scientist to review applications where significant questions about the suitability of the soils have been raised.

Table VII-17
Summary of Proposed Setback/Slope Changes or Additions

Source	New Setback or Change	Proposed	Original in Zoning Ord / Regs	Section and Page
CSPA	Leachfields for New Septic Systems Setbacks	125 feet where soil down gradient of leachfield is porous sand & gravel	none	n/a
		100 feet where soil maps indicate presence of soils with restrictive layers within 18" of natural soil surface	none	n/a
		75 feet where soil map indicates presence of all other soil types	none	n/a
		75 minimum setback from rivers	none	n/a
CSPA	Primary Building Line Setback	50 feet	none	n/a
OSP	Wetlands (all types)	100 feet	none	n/a
OSP	Wetlands (Prime)	200 feet	none	n/a
OSP	Water Bodies	250 feet	none	n/a
		150 feet (tree cutting – 5-% of basal area of trees in 20 yr period; 50% of saplings in 20 yr period; no stump or root removal)	none	n/a
CSPA	Natural Woodland Buffer	150 feet	none	n/a
Zoning Ord	Steep Slopes District	No development on slopes greater than 15%	greater than 25%	302.2 (page 28)

*Sources: Comprehensive Shoreland Protection Act (CSPA), RSA 483-B's
Minimum Shoreland Protection Standards;*

NH Office of State Planning's (OSP) Data Requirements for Site Review: Guidance for Planning Boards

SUMMARY

The Conservation Commission recognizes that it would be impossible to preserve all the open spaces and resources in the Town. Yet there are large parcels of forests and farmlands that still exist, many of which are adjacent to land that is currently under some form of conservation easement or restriction. The Soucook River and the land abutting it are of utmost importance, and one of the recommendations is to develop a “managed corridor” to conserve this important resource. There are extensive networks of streams, marshlands, small ponds, and mixtures of forest and fields providing wildlife habitats for a great diversity of plant and animal species. Loudon also rests on top of one of the largest aquifers in New England and makes the mission to conserve an even more critical one. The next step is to discuss the most appropriate mechanisms for protecting these areas and educating the public on the importance of doing so.

The Conservation Commission hopes to enrich the community of Loudon through standardization of building practices and committing the community to the importance of protecting our natural resources. New Hampshire is home to 1.2 million people and is visited by nearly 25 million every year for recreation or business. New Hampshire has been the fastest growing state in the northeast for a decade with an average growth rate of 13,000 per year for the last 20 years. As the population grows there are new statistics to show that there is a substantial decline in undeveloped land – over 20,000 acres per year have been converted from open to developed uses in the past decade alone. Loudon is one of the fastest growing communities in the State because of its rural character and aesthetic beauty. Open space is a large part of what defines Loudon's character and it is the Commission's job as stewards of the Town to help preserve it. As has been seen in the southern region of the state with the explosion of growth, communities are struggling with how to turn senseless sprawl into smart growth. Often the first reaction is to slam the door on any further growth which is neither practical nor equitable.

It is the Conservation Commission's hope as the Town enters the twenty-first century, standards can be set that will make Loudon the community to follow when juggling growth and open space. Through community awareness, various conservation techniques, and planning and zoning, the Commission can work to make Loudon the community of the future.

RECOMMENDATIONS

Objective

To preserve the visual character of the Town of Loudon by protecting its natural, historic, scenic, and agricultural resources.

- ◆ Identify the scenic resources of the Town using maps that utilize GIS technology.
- ◆ Identify the locations of prime farmland soils so that the resources may be conserved.
- ◆ Purchase and acquire conservation easements, options and rights of first refusal, or purchase outright unfragmented lands, lands containing water bodies or wetlands, and other lands with important natural characteristics.
- ◆ Establish a funding base for land protection, including the land use change tax fund and a capital reserve fund.
- ◆ Use existing roads instead of creating new ones, to alleviate traffic problems (see also CHAPTER XI, TRANSPORTATION AND CHAPTER XII, EXISTING AND FUTURE LAND USE).
- ◆ Work with land trusts, conservancies, and other non-profit groups to protect local lands.

Objective

To promote the conservation, protection, and sound management of the Town's natural resources.

- ◆ Increase protection for wetlands with tighter regulations.
- ◆ Protect the shorelines of streams and ponds.
- ◆ Limit future development to sites with suitable soils.
- ◆ Protect steep slope areas (greater than 15%) from development.
- ◆ Increase protection of the Town's future water supplies.
- ◆ Reduce nonpoint source pollution.
- ◆ Protect wildlife habitats to ensure species diversity.
- ◆ Identify the Town's unique natural communities for protection.
- ◆ Identify critical wetlands worthy of Prime Wetland designation (EA-483-A) through wetlands mapping.
- ◆ Protect critical wetlands and aquifers.

Objective

To provide recreational opportunities for all ages and user groups.

- ◆ Increase public access to and use of the Town's natural resources through the development of an Open Space Trail System. An Open Space Trail System Plan was finished in July 2001 and provides recommendations to the Town of Loudon as to what areas and features the Town should protect from development and lays the groundwork for establishing a functional and comprehensive open space and trails network in Loudon.
- ◆ Develop a managed corridor along the Soucook River that would have trails, picnic areas, boat access, hunting and fishing opportunities.
- ◆ Acquire fee simple rights or recreational easements on additional land for recreational use.

Objective

To educate the citizens and Town officials in Loudon on the importance of protecting the Town's natural resources, and open space.

- ◆ Engage in public outreach to inform Loudon residents of the immediate and cumulative impacts of their actions on the natural, scenic, historic and agricultural resources of the community.
- ◆ Encourage the press to write articles focusing on conservation measures and practices and to report on Conservation Commission activities, and establish a conservation column in the Loudon Ledger.
- ◆ Prepare pamphlets identifying the existing recreational, historical, and conservation resources in Town and make the pamphlets available to the public to inform residents of the recreational and conservation activities of the Town and provide additional support to the Conservation Commission.
- ◆ Create a Natural Resources Inventory/Conservation Plan and adopt it as a sub-element of the Master Plan.
- ◆ Rally community support for local funding of conservation projects and apply for grant monies for conservation projects.
- ◆ Encourage residents to report any suspected violations to the appropriate agency.
- ◆ Conduct a community tank census to identify the location and contents of underground storage tanks smaller than 1,100 gallons and distribute information to the general public.
- ◆ Assist property owners in dealing with abandoned underground storage tanks which pose a significant threat to the groundwater supply of the community.

- ◆ Keep Loudon citizens informed about the increase in growth and land use changes within the Town to gain their support for funding conservation purchases.

Objective

To modify local land use regulations to protect natural and cultural resources.

- ◆ Adopt land use and zoning regulations that will protect resources such as wetlands or floodplains.
- ◆ Amend the general provisions of the Zoning Ordinance as recommended by the Shoreland Protection Act, to include a minimum 50-foot setback of structures and a natural woodland buffer of 150 feet from open waterbodies, watercourses, and wetlands (as delineated by the Wetland Conservation District) to protect sensitive shoreline areas from erosion caused by increased velocity and volume of runoff from developed areas.
- ◆ Amend the zoning ordinance to prevent development on steep slopes greater than 15% (rather than 25%, as it is currently), as well as eliminating steep slopes as part of the buildable lot area when calculating minimum lot size to prevent loss of vegetation, increased erosion and sedimentation, and slumping of uphill lands.
- ◆ Require plans to be stamped by a qualified professional certified by the State of New Hampshire who is capable of preparing site-specific information, (i.e. Soils Scientist, Wetlands Scientist, Permitted Septic Designer).
- ◆ Delineate all wetlands and surface waters as required by the NHDES utilizing the 1987 US Army Corps of Engineers Wetlands Delineation Manual, 1998 Field Indicators for Identifying Hydric Soils for New England.
- ◆ Require the detail of a site specific soil map (SSSMS) where intense development is proposed.
- ◆ Create the recommended setbacks in Table VII-17 which follow the Shoreland Protection Act Guidelines and the NH Office of State Planning's (OSP) Data Requirements for Site Review: Guidance for Planning Boards.
- ◆ Develop regulations to guide forest-cutting and excavation practices, including utilizing Best Management Practices.
- ◆ Amend the site plan review regulations to include penalties for violation of the approved erosion and sediment control plan as required in the subdivision regulations to encourage developers to properly install and maintain the erosion control devices.
- ◆ Encourage the Code Enforcement Officer to monitor every three to five years the local sites upon which reconditioned soil is placed.

- ◆ Develop a table of dimensional controls to be included as part of the Zoning Ordinance. The table would outline the requirements of each zoning district in a clear and concise tabular form. The table could serve as a quick reference to the Planning Board, the Conservation Commission, landowners, developers and other interested persons.
- ◆ Involve the Conservation Commission in the site plan review process for proposed developments that may encroach upon important natural resources in the Town of Loudon.
- ◆ Continue the Conservation Commission's practice to review and comment on Wetlands Board dredge and fill applications in the Town and report the findings of these reviews at the Planning Board meeting.
- ◆ Monitor development in the Town's watersheds to allow an analysis of the cumulative impacts of growth and development of water quality and other natural, historic, scenic and agricultural resources of the community.
- ◆ Continue to enhance subdivision and site plan review as a means to assess the impact of proposed developments and to negotiate design changes with developers that would protect the Town's natural, scenic, historic and agricultural resources.
- ◆ Evaluate the existing Town roads to determine those eligible for scenic road designation and upon identification, organize residents to petition scenic road designations at Town meeting, providing a limited level of protection to preserve the scenic character of a road from road improvements and most importantly, ensure public input before, not after, a roadside has been significantly altered.
- ◆ Encourage the use of open space development as a mechanism for protecting sensitive areas of a development and providing open space, with strict regulations imposed to prevent misuse and misinterpretation of this measure.
- ◆ Negotiate with developers through the subdivision and site plan review process to obtain conservation and public access easements to parcels and existing trails prior to development of the site to protect the natural, historic and scenic resources contained on the site and to allow public use of existing trails.

Objective

To ensure local compliance with Federal and State Regulations which would include gravel excavation and bio-solids.

- ◆ Work with the Code Enforcement Officer and Planning Board to develop guidelines for the spreading of biosolids.
- ◆ Evaluate the environmental concerns of spreading biosolids on parcels and the effects on adjacent wetlands.
- ◆ Encourage the Planning Board to monitor gravel excavation and reclamation activities to ensure compliance with RSA 155:E.
- ◆ Develop a brief description of State and Federal regulations that relate to land use activities, and list the appropriate agency to contact in case of a violation.
- ◆ Encourage the Planning Board to contact the Conservation Commission to review significant alteration of terrain permits at the time of submission to the Water Supply Protection Control Division.
- ◆ Explore the feasibility of the Rivers Protection and Management Program to assess its use in protecting and creating a managed corridor along the Soucook River.
- ◆ Support the efforts of the NH Association of Conservation Commissions to lobby the legislature to increase the penalties for violations of State environmental laws and strengthen enforcement to ensure compliance with the law.

Objective

To acquire development rights, conservation easements, or fee ownership of lands of special importance.

- ◆ Acquire land for permanent protection through available funding mechanisms to ensure the long-term protection of the resource.
- ◆ Promote the preservation of agricultural lands in the community through the Farmland Protection Program, the LCHIP Program or by establishing a land trust program.
- ◆ Seek conservation and public access easements to parcels located along the Soucook River as part of the development of the managed corridor to protect the shoreline from development.
- ◆ Work to protect scenic viewsheds to preserve the significant views of the Town and to help maintain the rural and visual character of the community.
- ◆ Develop public access to the Town's ponds and the Soucook River.

- ◆ Seek funding on a regular basis for the purchases of conservation lands or easements from, but not limited to, the Land and Community Heritage Investment Program (LCHIP), the Fish and Game Department, Water Supply Land Conservation Grant Program, Farmland Protection Program, the Waterfowl Conservation Program, and the US Division of Parks and Recreation's Land and Water Conservation Fund.
- ◆ Seek funding for conservation land and easement acquisitions from the Town in the annual budget.

Objective

To involve town boards, and public, private, and state organizations in the protection of Loudon's resources.

- ◆ Consider a warrant article in Town Meeting that would place a percentage of the revenue from the land use change tax in the conservation fund for conservation purposes.
- ◆ Continue retention of revenues derived from timber sales on Town Forests to be dedicated to conservation projects.
- ◆ Encourage the other communities along the Soucook River to work with the Loudon Conservation Commission in developing a managed corridor to promote the conservation of the shoreline and to provide public access to a valuable local and regional asset.
- ◆ Foster a closer working relationship between the Conservation Commission, the Planning Board, the Zoning Board of Adjustment, and the Board of Selectmen.