

## Chapter IV

### Significant and Critical Natural Resources

Acton contains a number of critical natural resource features which all help to define the rural nature of the community and demonstrate its biodiversity. This information is now more comprehensive than the previous plan due to the work of the Beginning with Habitat Project sponsored by the Maine Department of Inland Fisheries and Wildlife (MDIFW) and the Maine Natural Areas Program.

#### Land Trust Focus Areas

Through a cooperative program of MDIFW, MNAP and the Maine Audubon Society a series of maps and presentations were made throughout southern Maine detailing the presence of so-called Land Trust Focus Areas. These focus areas are essentially areas which contain a number of rare and/or endangered plants or animals, their habitat, form a natural community and are of a size large enough to maintain a diverse population of species.

The South Acton Swamps were noted in the Southern Maine Land Trust Focus Area guidebook prepared by MNAP. The general location of the South Acton Swamps is shown on the Plant and Animal Locations and Habitat Map. The area is a series of moderately broad basins containing 250 acres of forested wetlands along with a number of marshes and open water systems. The variety of wetlands creates a wide diversity of plant and animal habitats, which includes:

- Mixed graminoid – shrub marsh natural community: A heterogeneous wetland type in which herbs and shrubs occur in various assemblages
- Unpatterned fen ecosystem: Fens are peatlands in which groundwater or water from adjacent uplands moves through the area. Plants are exposed to more nutrients and the vegetation is more diverse than a bog. Consists primarily of grasses, sedges, reeds and sphagnum.
- Stream-shore ecosystem – A group of communities bordering and directly influenced by the open water portion of a stream and including vegetated aquatic communities as well as the emergent and bordering communities.

#### WILDLIFE

The Maine Department of Inland Fisheries and Wildlife (IFW) , the Maine Natural Areas Program (MNAP), the State Planning Office and Maine Audubon have recently finished a GIS compilation of existing data regarding wildlife habitat and rare and endangered species locations in Acton. A description of this data and it's use can be found in the guide entitled Beginning with Habitat. In sum the data illustrates the following:

1. The importance of riparian habitat along streams, brooks, rivers, and associated wetlands. These areas function as tremendous travel corridors for wildlife and most

importantly contain 75% of all the species diversity in Maine. To some degree, these areas are protected by Shoreland Zoning. The extent of that protection is much debated.

The Maine Department of Inland Fisheries and Wildlife consider these riparian areas the backbone of any wildlife preservation effort.

2. The wide range of high value plant and animal habitat within the community. The consortium of agencies denoted above have highlighted the ecological diversity of the town with mapping of; deer wintering areas; assemblages of rare plants, animals and natural communities found within the town; “essential” wildlife habitats which requires IFW review for endangered animals and their habitat; and “significant wildlife habitat” (such as high and moderate value waterfowl or wading bird habitat). These areas are found on the Plant and Animal Locations and Habitat Map.

3. Finally, and perhaps most importantly, the identification of large relatively unbroken blocks of habitat which can support animals with large home ranges (such as moose and fishers) as opposed to suburban species (such as raccoons and skunks). These unfragmented blocks offer valuable opportunities to preserve a wide range of species in a rapidly developing landscape. The implications for wildlife diversity in the face of “sprawl” in these locations may be an important planning concern. Many of these unfragmented blocks also cross town boundaries.

Two large unfragmented blocks of habitat occur in the town. One is large block that is seen in the southwestern part of Acton and extending into Lebanon (and actually includes the South Acton Swamps). The other is in the southeastern part of town and also extends into Lebanon. These areas play key roles in the biodiversity of the town and are also areas that nearly entirely undeveloped.

Additionally the US Fish and Wildlife Service (USFW) has also developed wildlife habitat data which is also on file with the town. This map is also found on the following page. This data essentially predicts the habitat for the USFW trust species for the region. The data includes both upland habitat and coastal habitat. The maps for this modeled data is also included with the maps in the “Beginning with Habitat” guidebook.

### Rare and Endangered Plant and Animal Species

The areas listed above also contain individual endangered plant and animal species. These include:

- Blandings turtle a state endangered species
- Ribbon snakes, a species of special concern
- State endangered spotted wintergreen plant
- Swamp saxifrage, a species of special concern

In other portions of town, additional rare and endangered plant and animals can be found as follows:

- Wood Turtle, a species of special concern

- White wood aster, a state threatened species
- Sweet pepper bush, species of special concern
- Spicebush a species of special concern
- Ram's head lady slippers, an endangered species
- Small whorled pagonia, an endangered species

The point locations of these species are located on the Plant and Animal Location Map. For the purposes of this section we have not identified the specific species with the actual location. However, it important to note the general location as applications come in for possible development review.

While Acton currently has cluster development provisions within their ordinances, it has been underutilized by the town (also due to the fact there has not been a lot of development activity). There has been an interest in better using open space development methods to protect these resources, particularly as there are now two land trusts operating in the region.

#### Wildlife and Fisheries Habitat

The area of the South Acton Swamp also contains a noteworthy Deer Wintering area as mapped by MDIFW. Deer wintering areas are heavily vegetated areas where deer tend to winter over due to the undeveloped nature of the area as well as the dense tree cover (and possibly lower snow depths).

Acton also has several notable Waterfowl and Wading Bird Habitat locations as mapped by MDIFW (seen on the Plant and Animal Location and Habitat Map. These are areas fairly spread out through the town and are comprised mainly of larger freshwater wetlands. Many are also found along the Salmon Falls River.

The many ponds, lakes and streams of Acton do provide year round recreational fishing opportunities.

#### Scenic Resources

The 1991 Plan listed a number of scenic vistas and views. These included looking east off Route 109 near the Potting Shed; the view up Mousam Lake near the town line; a view of Mt. Washington from Milton Mills Rd. at Hurd's Hill; the scenic drive along the Salmon Falls River on Hopper Rd; the vistas of South Acton and New Hampshire from on top of Farnham's Hill and from the drive on Fox Ridge at School house Hill; views of surrounding areas from Blueberry Hill Farm; vistas from Hurd's Hill looking west; and panoramic views from Hussey Hill. These views and others developed through a facilitated meeting of the Three Rivers Land Trust are on file with the maps of the Land Trust and are also on file at the Town Office.

It has become clear through discussions at these Land Trust meetings that scenic views and vistas play an important role in what people view as the rural character of the community. In fact many of the resources denoted as being valuable on the local level (through the visioning sessions for the Three Rivers Land Trust) included scenic vistas. For the most part these resources hold no special designation within the town which would provide protection, except through some type of cluster development approach.

Wetland Resources

The National Wetlands Inventory is the best source of data currently available for wetland locations in the town. It is shown on the following page.

Freshwater wetlands have many uses. A recent study by the Maine State Planning Office and others, entitled, "Casco Bay Watershed Wetlands Characterization", helps to better define the value for particular wetlands both within and outside of watershed. This characterization can be accomplished through a relatively straightforward GIS mapping process. The study identified the following key values and functions for wetlands which need to be considered as the town examine its wetland and resource protection rules.

- Hydrologic Functions
- Biogeochemical functions
- Biological Functions
- Cultural values

Hydrologic functions are primarily concerned with flood flows and the process by which peak flows are stored and delayed in their journey downstream. In this regards wetlands perform a critical function in the storing and release of waters during storm events. The biogeochemical function is the process by which wetlands may trap sediment in runoff from uplands and help prevent water quality downstream. The biological function is related to the potential fro the wetland to provide habitat for certain species that rely on wetlands for some part of their life cycle including finfish, shellfish and other flora/fauna. Finally, the cultural values of wetlands are those represented by the educational and recreational value (bird watching, nature study) of the wetland.

The prioritization of these wetlands and their value can be seen as an appendix to the book entitled "Beginning with Habitat", and the relative ranking of some of these wetlands can be seen on the National Wetlands Inventory Map. Wetlands with ratings of three or higher have been broken out to highlight their potential functions (wetlands with a rating of greater than three are considered significant for three of the four functions described above).

### Soils

The development potential of any area is largely based on soils. Soil types vary widely in Acton from one part o town to the next. Some are gravel based, some are deep loam and some are rocky or full of clay.

In the absence of a municipal sewer system in Acton these soil types serve an important role in evaluating growth potential within the town. Justifiably, concerns arise with the placement of high density housing in areas served by private on site septic disposal. In general wet soils and steep slopes cause the most concern when locating new septic systems. In that regard, the Hydric Soils Map, displays areas with hydric soils (soils classified by the Soil Conservation Service as containing water at or near the ground surface). The mapped area of these soils combined with other environmental constraints (seen on the Building Constraints Map) can help the town envision their areas suitable for growth.

For the most part, concerns about septic systems and water quality revolve around nitrate loading to wells. EPA has set a standard of 10mg/l for nitrates for well water. Many hydrogeologists however suggest planning for a standard of 5mg/l as a buffer against merely planning to meet the standard.

The 1991 plan outlined the following in regards to the interrelationships of minimum lots sizes, soil types and rainfall.

**Table 1: Minimum lot size (in acres) necessary for nitrate dilution to 10 mg/l, initial concentration 30 mg/l**

<u>Soil type</u>	<u>Average Conditions</u>	<u>Drought Conditions</u>
Sand and gravel	0.4	0.6
Sandy till/rocky	1.0	1.7
Thick silty till	1.4	2.3

**Table 2: Minimum lot size (in acres) necessary for nitrate dilution to 5mg/l, initial concentration 40 mg/l.**

<u>Soil type</u>	<u>Average Conditions</u>	<u>Drought Conditions</u>
Sand and gravel	1.0	1.6
Sandy till/rock	2.8	4.6
Thick silty till	3.9	6.3

Source: Robert Gerber, Inc.

Another option for examining development potential might be to highlight the areas that highly rated for placement of septic systems (and in line with the above table). These soils would correspond to the guide “Soil Potential Ratings for Low Density Development in York County, Maine, 1989”. The areas that are rated high or very high are shown on Soils Suitable for Septic Systems Map. If the town does wish to designate

an area for lot sizes more dense than 2 acres these areas might be appropriate (considering other factors as well).

### Forest Resources

Acton is a community rich in timberland and timberland potential. A large percentage of the town contains soils good for growing timber. These areas include much of Hubbard's Ridge and Acton Ridge; along Milton Mill's Road; the flats between Wilson and Great East Lakes and along the Salmon Falls River. However these soils are also areas that are more easily developed.

One way to gauge the status of forestry in Acton is to look at the lands which have been placed in the "Tree Growth" tax program. In 1990, 442 acres were listed as Tree Growth parcels/acreage. By 2003, this number had grown dramatically to over 3,500 acres. This acreage in Tree Growth represents 14% of the town's total acreage of 24,192 acres. Many of these timberlands are held by single property owners or trusts. There does not seem to be any long term sustainable forestry programs taking place on any of these parcels. The sale of the Lavalley timber lands to Robert Libby (approximately 900 acres), changed the outlook for long term forest lands in Acton as some of these properties are now being subdivided for recreational and seasonal purposes. One Libby parcel is currently being subdivided into 14 house lots – following the harvesting of the entire parcel.

It should also be pointed out that many of the larger Tree Growth parcels form the backbone for the rural landscapes which are noted on the Beginning with Habitat maps of unfragmented blocks of habitat. The location of Tree Growth parcels are seen on the Lands Not Readily Available for Development Map in the Land Use section (Chapter 3).

### Groundwater Resources

While Acton does not currently have a public drinking water supply, it is possible that one might be needed in the future. To that end an analysis of drinking water possibilities can be a valuable assessment as a town begins to grow. In Acton's case the availability of groundwater provides some opportunities and limitations.

The sand and gravel aquifer map demonstrates the opportunities and limitations for a public water source for Acton. The areas mapped may provide up to 50 gallons per minute (gpm) or more. The aquifers appear to be abundant, however they also lie in the most heavily developed portions of town (around the lakefronts). Yet these are also the areas that may in fact need a quality supply of water (due to the prevalence of small lots with on site septic disposal.). The aquifer in the northern part of town (northeast of Great East Lake) is still relatively undeveloped.

In addition a number of possible bedrock aquifers supplying over 50 gpm were identified in the prior Comprehensive Plan. It is interesting to note these possible sources are not as developed as the sand and gravel sites, and a bedrock site may be less susceptible to

contamination. Possible bedrock aquifers are found in both the northern part of town (actually embedded within the sand and gravel aquifer described above), and also in the southern part of town within the large unfragmented block of forest lands seen in the Beginning with Habitat data.

There are three existing public water systems in Acton. Two are located at the Potting Shed Restaurant on Rte. 109 and one is located at the Acton Elementary School. For this plan the Elementary School location poses a possible concern for the town. According to the Maine Department of Human Services Drinking Water program, there is a moderate existing risk of contamination at this well site (as a septic system is within 300 feet of the well) and a high future risk for contamination as the well contains no legal land use controls within 150 foot or greater radius from the well. Additionally, DHS states that the parking lot is within 100 feet of the well site. The town may wish to examine this issue both legislatively and as they begin to look at school expansion issues.

The wells at the Potting Shed hold only a low or moderate risk for contamination.

### Lakes

Acton has an abundance of lakes, including large water bodies such as Mousam Lake, Great East Lake, and Square Pond. Several of these lakes cross the boundaries between Acton and neighboring towns, creating an inter-local planning issue. Lakes provide unsurpassed aesthetic experiences and recreational opportunities. They provide habitat for water birds, birds of prey, fur bearers, and game animals. Lakes are critical to the survival of local and regional fish and wildlife resources.

In Acton, lakeshore properties are a significant portion of the tax base. Intense residential development, agricultural practices, and other activities seriously threaten the water quality of lakes. Every drainage basin in Maine has been affected by “non-point source pollution” that comes from a number of diffuse sources, including construction sites, farms, roads and parking lots, and lawns. When it rains, the run-off may contain nutrients (especially phosphorus), toxics, sediments, and microorganisms. The run-off eventually ends up in our lakes and disturbs the natural balance of organisms in the water. For example, over 50 lakes in Maine have become so rich with phosphorous that they experience prolonged and repeated algae blooms.

The increased phosphorus in the lake acts as a fertilizer to algae, increasing its abundance dramatically and may turn them into green, smelly, murky lakes.

The chart on the following page is based on a program developed by the Lakes Division of the Maine Department of Environmental Protection. The methodology used is adapted from the manual “Phosphorus Control in Lake Watersheds: A Technical Guide to Evaluating New Development,” which is available from the DEP, or S.M.R.P.C. The program addresses the cumulative impact of development in lake watersheds and the resulting effect on lake water quality.

The key element of this program is the “per acre allocation of phosphorus” for the town’s watersheds. Planning Boards can use this phosphorus allocation to review future

development and prevent a loss of water quality for the next fifty years. It is suggested that these charts be reviewed every five years to determine if projections of growth are accurate.

#### Detailed Descriptions of Lakes and their Watersheds

**Balch Pond:** A 519-acre pond with 7.6 miles of shoreline, Balch Pond is split by the Maine/New Hampshire border. Average depth is relatively shallow, at 12.8 feet. Balch's shoreland is dominated by coarse, sandy soils and steep slopes.

The pond, which lies along the course of the Little Ossipee River, has slightly above average water quality according to DEP. Transparency readings have been relatively stable in recent years at 18 feet, and chlorophyll A and phosphorus readings are moderate and stable. According to DEP's report, lakeshore residents have been concerned about aquatic plants and algae in coves where water movement is restricted by causeways. Balch Pond is heavily developed along most of its shoreline, with several tiers of cottages flanking the shoreline in places.

**Great East Lake:** The largest lake in the area with 1,667 acres of surface, it is also split by the Maine/New Hampshire border. It has 12 miles of shoreline and an average depth of 36 feet.

Two-thirds of the lake are surrounded by coarse sand and gravel deposits. Slope is moderate to steep. According to DEP, water quality is above average, with transparency readings well above average, sometimes exceeding 30 feet. The shoreline is almost fully developed.

**Hansen Pond:** A small pond of 30 acres, 1.2 miles of shoreline, and a relatively shallow maximum depth of 8 feet. The pond is accessible only by one dirt road.

**Horn Pond:** Located on the Maine/New Hampshire border and draining to the Salmon Falls River, Horn Pond has 205 acres of surface water and a maximum depth of 31 feet. Its shoreline is heavily developed on the Acton side of the lake.

**Loon Pond:** It has 94 acres, 1.9 miles of shoreline, and a average depth of 10 feet. It is surrounded by sandy and floodplain soils with moderate slopes. The pond is heavily developed, with two tiers of cottages flanking the shoreline in places.

**Moose Pond:** With only 27 acres, less than a mile of shoreline, and a maximum depth of 20 feet, Moose Pond is surrounded by coarse Colton soils. Its shoreline is only one-third developed.

**Mousam Lake:** It is the source of the Mousam River, with 872 acres of surface water and 15.4 miles of shoreline. While the lake is deep in places, up to 98 feet, the average depth is 21.6 feet. Due to its large watershed, over 29 square miles, the lake flushes itself almost twice a year.

According to DEP, the water quality of Mousam Lake is declining based on Secchi Disk readings, total phosphorous and chlorophyll. Mousam is on the state



listing of Maine lakes not attaining water quality standards based on declining trends from the late 80's to current times.

Mousam Lake is supplied by water from several sources. Upstream lakes generally tend to improve water quality for downstream lakes, because sediments and some nutrients settle out of the water into lake sediments. Water from Goose Pond drains into Mousam Lake. In addition, since the watersheds of Pump Box Brook and other streams feeding the lake are largely undeveloped, these sources can supply the lake with relatively pristine water.

Mousam Lake's watershed is dominated by sandy soils, with occasional organic soils. All of these soils have limitations which should be considered as development takes place. Steep areas exist throughout the watershed, including the immediate shoreland. Over 90% of Mousam Lake's shoreline exceeds 8 slope, with many areas exceeding 15. Steeply sloped areas dominated by loose Adams and Colton soils are quite vulnerable to erosion and are a concern from a water quality standpoint. Soil particles eroding into lakes carry phosphorus.

As lakeshore property rises in value, so do marginal lands, including steeply sloped areas which are costly to develop. Some lots with slopes over 30 have been clearcut almost to the shoreline to create or improve views. Most of the available shoreline around Mousam Lake has been developed. In places, the shoreline has been significantly altered to enable construction of summer cottages. Much of this alteration occurred prior to the passage of the Great Ponds Act in the 1970s. Many of the older cottages are built close to the shore, with septic systems situated less than 100 feet from the water. This results in the nearly annual flooding of their septic systems during periods of spring high water. Since most camps were built prior to the establishment of minimum lot sizes, many are on very small lots with little or no room to accommodate replacement septic systems.

The degree of vegetative cover around homes varies widely. In a few areas, most of the natural vegetation has been retained, including ground cover. More commonly, ground cover and shrubs have been removed. In places, older cottages are overtopped by full tree cover. Elsewhere, trees have been removed and lawns established. Because the sandy soils around the lake are extremely dry and low in natural fertility, many homes have difficulty maintaining lawns. Those lawns which are healthy and dense are most likely heavily fertilized or were created over imported loam. Those areas which are unprotected by vegetation are inevitably subject to erosion during rainstorms and spring runoff.

Many roads around the lake are unpaved and show evidence of considerable erosion over the years. Most of these roads are old camp roads which were constructed with little consideration for water movement.

Although Mousam Lakes non-attaining status is based on the declining transparency in the upper basin, it is also important to note the high dissolved oxygen depletion in deep areas of the lower basin of the lake.

**Square Pond:** Close in size to Mousam Lake with 850 acres of surface water. Square Pond has only 8.1 miles of shoreline. Average water depth is 21.4 feet. Unlike Mousam Lake, Square Pond's watershed is very small, only 4 square miles (one-seventh of Mousam's). Local residents refer to it as "spring-fed." because its watershed is so small. Square Pond has a very slow flushing rate, replacing its water only once every three years.

Like Mousam Lake and most other ponds in the area. Square Pond is surrounded by coarse, sandy Adams and Colton soils. Topography is uneven, and steep in places. Square Pond's shoreland is dominated by slopes over 8, with most in the 8 - 25 range. Because these sandy shoreland soils lack binding agents, steeply sloped areas are especially vulnerable to erosion. DEP has placed Square Pond on a new "Watch List" as there are indications that the lake is under stress. Transparencies have been relatively stable, and chlorophyll A and total phosphorus values are low to moderate. Transparency has been about 20 feet. DEP also notes the pond's slow flushing rate and advises residents to exercise care so as not to increase the phosphorus load to the lake. Square Pond's shoreline is almost completely developed. The pattern of development is very similar that described around Mousam Lake, although Square Pond also hosts the Treasure Island community, which is actually in Shapleigh. Because of their physical separation from mainland services, it is unlikely that septic systems on this island have been pumped out since they were installed, 15-20 years ago.

**Wilson Lake:** The lake has 298 acres of surface water, 3.7 miles of shoreline, and an average depth of 18.7 feet. It drains a relatively large watershed of 3.8 square miles, flushing .84 times per year - somewhat slower than the average Maine lake.

Unlike many other lakes in the area, Wilson's shoreland is not dominated by sandy soils, because the lake lies on the edge of coarse sand and gravel deposits. One-third of its shoreland is sandy, while much of the remainder is dominated by compact soils whose use is limited by wetness or slow infiltration. Slope in the area is moderate, often less than 8. Wilson Pond drains to Horn Pond, which ultimately drains to the Salmon Falls River. DEP considers water quality average, noting that transparency has fluctuated in recent years, ranging from 12 to 18 feet. Chlorophyll A and total Phosphorus values are moderate, and a dissolved oxygen deficiency exists by late summer. Wilson's shoreline is over 50% developed, with a second tier of homes flanking shoreline homes in places.

**Swan Pond:** The pond is essentially pristine, although no detailed information is available.

As noted in the Land Use section of this plan, most of the ponds in Acton are heavily developed around the water frontage. However, land outside of the immediate frontage may not be as developed (while still being located within the watershed). A few ponds - Moose Pond, Swan and Hansen ponds are still relatively undeveloped. An anomaly in the towns Shoreland Zoning provisions however, allows the lot sizes of one acre within the shoreland zone for those ponds as compared to a two acre limit outside of those zones.

Summary Table of Lakes

Lake Name	Flushing Rate	Watershed Size	Drainage Pattern
Balch Pond	2.7 flushes/year	5.5 square miles	Already included in plan
Great East Lake	0.3 flushes/year	12.9 square miles	Drains to Salmon Falls River
Hansen Pond	NA	0.49 square miles	Drains to Little Ossipee River
Horn Pond	NA	1.73 square miles	Wilson Lake drains into Horn, then drains to Salmon Falls River
Loon Pond	1.7 flushes/year	0.66 square miles	Drains to Mousam Lake
Moose Pond	NA	0.19 square miles	Drains into Swan Pond, which then drains to Little Ossipee River
Mousam Lake	Already in plan	Already in plan	Loon, Square & Goose Pond drain to Mousam. Outlets to Mousam River
Square Pond	Already in plan	Already in plan	Drains into Goose Pond then Mousam
Swan Pond	NA	0.67 square miles	Moose Pond flows into Swan and then drains to Little Ossipee River

Non-Point Source Priority Watersheds

Mousam Lake, Square Pond and Wilson Lake are on the NPS Priority Watersheds list, which indicates that have significant value from a regional or statewide perspective and have water quality that is either impaired, or threatened to some degree due to nonpoint source water pollution. This list, which was adopted by the Land & Water Resources Council in October 1998, helps identify watersheds where state and federal agency resources for NPS water pollution prevention or restoration should be targeted. Mousam Lake is also on the list of lakes “Most at Risk” from new development under the Maine Stormwater Law. This list identifies the areas in which the stormwater quality standards described in the rules apply.

Invasive Plants

The Maine DEP has been very active regarding public education regarding aquatic invasive plants. Their website states that the introduction of non-indigenous invasive aquatic plant and animal species to the United States has been escalating with widespread destructive consequences. Known infestations of aquatic invaders in Maine, at present, are relatively low, but we would be remiss to assume that this situation will continue indefinitely. Significant habitat

disruption, loss of native plant and animal communities, reduced property values, impaired fishing and water recreation opportunities and large public/private expenditures have accompanied invasive plant introductions in all of the lower 48 states except Maine.

However, the variable-leaf milfoil has been found on the New Hampshire side of Balch Pond. That sign and the increasing use of Acton's lakes for recreational boating – particularly by out of state boaters – presents a real danger to Acton and the health of it's ponds. The town currently has boat inspection program underway in town and also supports volunteer lake monitoring program. These are important volunteer efforts which need to remain in place to combat invasive aquatic plants.

### Rivers and Streams

The state of Maine 1998 Section 303(d) Study of Maine waters indicates there are no water quality limited rivers and streams in Acton – although the Salmon Falls River (the towns border with New Hampshire) is limited (for BOD,S OD and bacteria) further down stream in South Berwick.

### Floodplains

Acton's floodplains are mainly located along the Salmon Falls River and the border with New Hampshire. The Floodplain Map can be found on the following page. The area is sparsely populated resulting in few flood insurance claims for the most recent years.

### Summary Discussion

Acton is a community with a wide variety of natural resources and is a primary reason why people like to live in Acton and will likely continue to want to move there. However, some of these resources are subject to the pressures that accompany unplanned growth.

For instance the ponds and lakes for which Acton is known are nearly built out. Yet the uplands that are near those ponds are still relatively undeveloped. However, surface drainage (as well as malfunctioning septic systems near shore) can negatively impact these water bodies and potentially impact the value of the waterfront properties which abut them (and which form a large portion of the town's tax base). Some studies (in the China Lake region of Maine) have shown a correlation between declining water quality and declining property values. In Acton the maintenance of these property values along the shore is of critical importance to the town's financial health. This relationship shows the possible importance of incorporating watershed protection measures into town ordinances as well as non-regulatory efforts.

Similarly, the town contains vast tracts of forest lands, some of it located in areas defined as unfragmented forest. However these areas – some of which are currently in Tree Growth – are now becoming more valuable as house lots rather

then woodlots (or in some cases the parcels are harvested and then subdivided). The sale of the Lavalley lands and its subsequent harvesting and then subdividing may be a sign of things to come in Acton.

Growth in Acton (or the ability to plan for growth) is somewhat constrained due to the lack of public sewer in the community. To that end, seeking methods to guide growth is dependent on soils types to some degree. Many in town are concerned with allowing more dense development (less than two acres per house lot) because of concerns about water quality. Additional research and education to municipal officials and the public about septic systems and minimum lot sizes would be beneficial.

The town's other resources, particularly scenic vistas and the town's rare and endangered plant and animal resources are notable on both a local and regional level. However neither at this time, through local zoning or state regulation, are protected from development. A look at open space development standards might help in this regard. The town is fortunate to have two newly formed Land Trusts to aid in non-regulatory methods to protect these resources.