

GROTON TOWN PLAN

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1) INTRODUCTION

A plan helps to define a community by laying out the general direction for future development while identifying local needs and desires. Its primary purpose is to encourage appropriate development of land in a manner that will promote the public health, safety, prosperity, efficiency, economy and general welfare.

The spirit of this document is to enhance local control. It also encourages the most desirable and appropriate use of land, works to minimize the adverse impact of one land use upon another, and reduces undesirable conditions.

It is intended as a policy document to be considered by the District Environmental Commission and the State Environmental Board in their hearings under Act 250, the development law of the State of Vermont. Furthermore, under Vermont statutes, the plan is required to guide revisions to zoning and subdivision regulations. The plan has been prepared in accordance with Title 24 VSA, Chapter 117, Sections 4325 and 4381.

The desire of the Planning Commission (PC), was to pull together information and write a document that reflects the vision and goals of the people who live in Groton. Adoption of a plan represents a community decision about the town's future character, its priorities for land use, conservation of physical resources, and the encouragement of well considered, responsible development. Groton does not exist in isolation from the region and will be affected by what happens in other municipalities.

Each section of the Plan identifies issues and recommends actions to help resolve the Town's problems. It attempts to identify the areas and resources which possess economic, historic, natural and scenic value and attempts to set reasonable priorities where two or more uses or, values may conflict.

2) OVERALL VISION

Groton has a rich history of Yankee independence based on self reliance and the Constitution of the State of Vermont. A strong sense of community has held the community together for generations and makes Groton different than other Vermont towns. Groton is small, where everyone knows and cares about each other. In order to concentrate municipal services and save the town money, the primary emphasis of future policies should be to maintain the rural economy based on the wise use of the natural resources of the forests and farms, encouraging the growth in the village center.

In the future, things that are important to fostering the community of Groton shall be encouraged. These will include and not limited to the chicken barb-b-ques, the fall foliage festival, and recreation activities in Groton State Forest. The future will also see expanded facilities to service the growing population of visitors to Groton State Forest, a new solid waste transfer station, an increased interest and involvement of local people in government services such as fire department. The town will recognize the river as an important focal point -for the community; it will be used for new recreational activities.

Planning Goals:

- * Improve the overall condition of the forests through landowner education and enforcement of existing guidelines.
- * Maintain and enhance the number of farms and farmland.
- * To maintain and improve the water quality found in Groton.
- * Maintain and enhance the diversity of species found in Groton.
- * Maintain and improve the existing road network.
- * Recognize the important economic and social role recreation plays in Groton.
- * To encourage new businesses and services that enhance the economic potential of our renewable natural resources, recognizing that tourism and recreation resources are economic resources.
- * Ensure a variety of housing options in Groton.
- * Maintain and improve Groton's municipally owned properties.
- * Maintain and improve Groton's road network.
- * Ensure adequate and safe drinking water is available.
- * Ensure that all septic systems are adequately functioning.
- * Protect Groton residents and real estate from fire to the greatest extent possible.
- * Maintain convenient and cost effective waste disposal for Groton residents.
- * Promote a reduction in local dependence upon non-renewable energy resources by encouraging conservation and the use of local, renewable energy resources.
- * Maintain the historic character to Groton's buildings.

3) TOWN OVERVIEW

Groton is a rural town located in the southwestern corner of Caledonia County. Our town is probably best known for the large amount of public lands in Groton State Forest and for the large amount of undeveloped forestland and lakeshore throughout town. But Groton is much more than a public recreation playground. We have a rich history of Yankee pride and independence, of families scratching a living out of rocky soils, and of sending our youth off to distance lands to fight in the nation's wars.

The history of Groton is similar to the history, of many small New England towns. An early settler, Captain Edmund Morse, arrived in 1783 and quickly established a sawmill and gristmill to lure more people to the area.

Groton has its start as a farming and lumbering community. Ricker's Mill, on Ricker's Pond, was the oldest running mill in the area, operating from 1790 to 1965. By 1797 enough people were in the area to organize a town. The name "Groton" may have been chosen after the Groton, Massachusetts birthplace of some of the settlers.

In the early 20th century, Groton enjoyed a short but affluent time due to the granite industries and woodworking mills development. Granite mining increased the town size slightly and created a time of local prosperity; but in the 1940s, all the quarries had been abandoned because of the grade of granite.

Since World War II, farming, lumbering and granite quarrying have decreased or died away and Groton has become a residential town with many workers traveling to other towns to work.

Population Growth.

According to the US Census, in 1980 the population of Groton was 667, by 1990 it had grown to 862. That is an overall 29.2% change.

By percent change, Groton is the second fastest growing town in Caledonia County, after Waterford. Groton is growing nearly 4 times faster than the county average and 5 times faster than the State of Vermont.

Projections done by the Vermont Office of Policy, Research and Coordination, suggest Groton will continue to grow nearly twice as fast as Caledonia County through the Year 2005 adding an additional 138 people.

Where People Work.

According to the 1990 Census, there are 344 workers over the age of 16. Of those workers only 18% work in Groton while 829-6 commute outside of town. This compares to a county and state

averages of 49% and 41% respectively working in the town in which they reside.

Age Distribution.

In 1990 Groton had a population of 862. Of that population, 80 were under 5 years old, 610 were between 15 and 65, and 101 are over 65 years old. The median age was 33 years old, this is only slightly younger than the county median of 33.5 years old.

Current Land Use/Land Cover

As part of the planning process, we developed a set of maps done on a geographic information system (GIS) using 1:5000 scale (1 inch equals 417 feet) orthophotos. These are aerial photographs that have been rectified (corrected) to eliminate distortion caused by topography. The maps indicated the Town includes 35,228 acres which are presently used as follows:

* Forest	30,631 A.	(87%)
* Agriculture	1,462 A.	(4%)
* Water	812 A.	(2%)
* Brush/Transitional	788 A.	(2%)
* Wetland (forested and emergent)	745 A.	(2%)
* Urban Built-out including roads, parking lots	608 A.	(2%)
* Utility	134 A.	(0%)
* Outdoor Developed/Landscaped	22 A.	(0%)
* Beach, gravel pit, rock outcrop	6 A.	(0%)
Total	35,228	(100%)

Note: 0% = less than 1%

4) STATE LANDS

A large portion of the Town of Groton (37.3%) is owned by the State of Vermont, principally Groton State Forest. The Forest is a crown jewel among State owned lands. It draws thousands of people to the town and supplies a steady flow of wood-fiber for the timber industry.

Traditionally some local residents have felt a certain animosity toward the State of Vermont because they own so much land in town which is not taxed at the full rate, although the State does make a smaller payment in lieu of taxes. But as the regional economy turns more toward recreation/tourism and people see the loss of public access to private lands in other areas of the state, Groton State Forest is beginning to be looked at differently. As suggested by the Commissioner of the Vermont Department of Forest Parks and Recreation, Conrad Motyka, "it is highly unlikely that the State of Vermont is going to sell the bulk of Groton State Forest. Therefore, it is time to focus on the positive sides of public land. Let's look for ways in which the local economy of Groton can benefit from this public land." The residents of Groton should take Mr. Motyka's comments to heart and change the focus of our discussion away from the traditional gripes about

public lands and taxes, and begin to recognize the great economic potential that this big block of public land has to the town. It could be the cornerstone to Groton's future economy. With the proper planning and infrastructure, what has been viewed as a detriment to Groton could become the town's new economic foundation.

The Town of Groton is actively involved in developing the management plans for Groton State Forest. This activity should continue.

State Management

The State of Vermont, Agency of Natural Resources manages over 13,125 acres within the Town of Groton, 37.3% of the town.

The State lands are managed by three separate departments in 5 administrative units. They are as follows:

Department of Environmental Conservation Manager: Department of Environmental Conservation, Waterbury	Unit # 664	Lake Groton Dam	3.0 A.	(0%)*
Department of Forest Parks and Recreation Manager: Jim Norton, District Forester	Unit # 13	Groton State Forest	12,391.07 A.	(35%)*
Department of Fish and Wildlife Manager: Cedric Alexander, Wildlife Biologist	Unit # 495	Saint Hilaire	100.0 A.	(0.3%)*
Neal Montieth, Wildlife Forester	Unit # 545	Levi Pond-Wildlife Mngmt.	259.2 A.	(0.7%)*
	Unit # 562	Pine Mtn-Wildlife Mngmt.	372.0 A.	(1%)*

* percentages based on total acreage in town being 35,228.

The State Forest facilities may be under-utilized during the winter. A study needs to be completed by the Department of Forest Parks and Recreation in conjunction with the Town of Groton that considers the economic and social costs and benefits of opening more public facilities in the winter months. This would supply a year-round clientele for businesses and might encourage new businesses to grow. Without a doubt Groton State Forest has both good and bad aspects for the Town of Groton. But since it is not going to go away, we should focus on the positive aspects while we work to fix those aspect which are less desirable. The Forest has ten year management plans which are being updated in 1994. There is a real opportunity to influence the plans and the public managers. The residents of Groton should become more involved with the largest land owner in town. The Selectboard are actively working with the state managers on Groton State Forest.

The long term management activities carried out by the State for Groton State Forest typically have a heavy emphasis on

traditional timber management. Due to a relatively even aged timber stand, this has meant increased cutting in the last few years. Some of the cuts have been for "regeneration" to make the overall timber stand different ages. Some of the cuts have been for "wildlife improvements" by creating more edge and encouraging pioneer species. Some have been to improve scenic views. Taken individually, each cut seems justified but there is a growing concern that overall there may be too much cutting going on within the State Forest.

Throughout the Northeast Kingdom there is a growing concern that since there is so much heavy cutting on private lands and since public lands do not need to generate the same kind of cash flow as private lands, public land managers should look at the land differently. In order to ensure a variety of habitat on a regional basis, it may make sense to use longer rotation schemes on public lands.

There is also a concern that the public land managers take a broader view of the forest. Groton State Forest is becoming more of a recreation asset and less of a wood basket than it has been traditionally. Long term management schemes should reflect this broadened perspective. Will visitors find it satisfying to hike up a trail which is in the middle of a "beauty strip" while the rest of the mountainside has been clear-cut? What will be the impact of remote lean-toes on the wildlife? What are the impacts of new skid roads on recreation and wildlife? As more trails are developed, which will take precedent - logging or recreation? In most cases, both can occur together. But future forest management plans need to consider the multitude of options and focus beyond traditional forest management.

In addition, there is a concern that nearly all the private land in Groton is considered a deer wintering area and nearly none of the public land is. Therefore there is a desire for the State to follow management plans that enhance deer wintering areas on public land wherever possible. Hopefully over time this help shift some of the burden off private lands and onto State lands.

Despite the need for broader management goals, the public lands traditionally have provided a steady flow of wood fiber which employ loggers and can be used for manufacturing wood products and paper. These economic benefits should continue to be part of any management plan.

Another important contributor from the public lands on the local economy has been tourism and recreation. The opportunities that the State Forest provides should continue to be rustic and less developed. The private sector should be encouraged to develop the more lucrative "developed" recreational opportunities such as cabins, RV parks and alike. This aspect of Groton State Forest has great growth potential and should be encouraged.

Planning Goal:

Groton State Forest is managed for year-round multi-use recreational activities.

Issues/Concerns:

1) It is the local perception that the Town of Groton is not as involved with the management of Groton State Forest as we could be. Therefore a real opportunity is being missed.

2) From driving and hiking through Groton State Forest, there seems to be too much emphasis on timber management using the clear-cutting technique. The land should be managed for a variety of recreational needs.

3) Groton State Forest has lots of summer visitors and very few winter visitors. In order to increase the Forest's contribution to the local economy, it may be useful to increase its use during the winter months.

Recommended Actions:

1) The Town should become more involved with the long term planning and management of Groton State Forest to ensure our views are implemented.

2) The Town should encourage the public land managers to take a broad, multi-use perspective when developing and implementing management plans.

3) Work in conjunction with the State of Vermont to complete a study regarding the costs and benefits of increasing the winter use of Groton State Forest.

5) FORESTRY

Forests cover 30,651 acres (87%) of Groton, they are an important part of the town. Forests are an important economic resources providing employment through logging jobs and mill work, recreational opportunities and tourism, and wildlife habitat. Working in the woods and harvesting trees is a Vermont tradition that goes back several centuries.

In years past, when times got lean, a farmer would go into the woods with his horse and axe to cut timber to supplement his income. The harvest was relatively light and the overall impact relatively small. Today things are different. Economic pressures are intense, harvesting equipment is mechanized, and management techniques have changed. Today, loggers have huge pieces of heavy equipment, chainsaws and mechanical shears. They have equally large debt loads to service and can cut trees like never before. This may provide many jobs but it also has a growing impact on the environment.

Due to a growing public concern over forest harvest techniques and the impact on water quality, in 1987 the Department of Forest, Parks and Recreation adopted a set of guidelines entitled the "Acceptable Management Practices for Maintaining Water Quality on Logging Jobs in Vermont (AMP)." These guidelines set out minimum standards to be used during logging jobs and should be encouraged in Groton.

Managing forests is more than letting trees grow and then cutting them down. By designing a long term forest management plan, the trees will grow better and faster. Landowners should be encouraged to use a local consulting forester to assist in managing their land.

The Town could play a role in informing residents, new and old, about the current use program, the Acceptable Management Practices for Maintaining Water Quality on Logging Jobs in Vermont (AMP), using consulting foresters and the like. By promoting better forest management, the Town will get a better forest, will create and sustain more forest related jobs, and make it more profitable for landowners to keep forest land in production.

Since there are less financial pressures on public lands than on private lands, there are more opportunities for creative management techniques and for doing things differently. The amount of clear-cutting in, recent years, the public sector should favor longer rotations of timber harvesting, perhaps having some area not cut at all. On the whole this would result in a variety of harvesting techniques which leads to a variety of wildlife habitat and visual opportunities.

Planning Goal:

Improve the overall condition of the forests through landowner education and enforcement of existing guidelines.

Issues/Concerns:

1) There is growing concern about the impact that logging operations have on the environment and water quality. These concerns could be addressed with proper enforcement of existing guidelines.

2) Landowners often make mistakes because they do not have all the information they need. In order to improve the condition of the forests, information on timber management should be made available to interested parties.

3) There seem to be too many clear-cuts within Groton State Forest. Since public lands do not have the same financial constraints as private lands, they should be managed on a much longer rotation and for a variety of wildlife and recreation uses.

Recommended Actions:

1) Consider incorporating the Acceptable Management Practices for Maintaining Water Quality on Logging Jobs in Vermont (AMP) into the local zoning by-law.

2) Provide landowners with information about forest management, consulting foresters, and Acceptable Management Practices for Maintaining Water Quality on Logging Jobs in Vermont (AMP).

3) Work with the public land managers to modify management techniques to increase the number of years between harvesting the trees (rotation) in the State Forest.

6) AGRICULTURE

Traditionally agriculture has played a very important role in shaping the communities of Vermont. This was also true in Groton. But over the years many of Groton's farms have gone out of business with the best lands being consolidated and the rest either growing up to trees or being mowed as someone's lawn. Today there are only 5 dairy farms left in Groton. These farms add greatly to the character of the town. In total the farms use only 4 percent (1,462 acres) of the land.

This makes the open land important to the character of the town as well as an asset for recreation and wildlife. The real question comes down to how do you maintain these important open spaces while not taking property rights away? Farmers need to have the maximum number of options to use their land however they see fit to keep the farm operation going

There are many regulatory and non-regulatory actions which adjacent communities are taking to help maintain their farming communities. Groton should look to these examples and see what fits in our town.

Planning Goal:

Maintain and enhance the number of farms and farmland in Groton.

Issues/Concerns:

1) Often farmers depend on land that is leased from other landowners. Lease agreements tend to be informal and non-binding. The informal nature of the agreements make it difficult for a farmer to invest in the land or in new equipment to help improve the farm operation.

2) Nearly every town in Vermont wants to enhance and maintain their agricultural landbase. Some towns have designed innovative ways to reach their goal. Groton could learn from their experiences.

3) At one time there were many more fields in Groton than there are today. Bringing back these fields fits well with the overall goal of maintaining and expanding farming in town.

Recommended Actions:

1) Work with non-agricultural landowners to stabilize lease agreements and conserve their lands which are vital to the farming community.

2) Review the mechanisms that other municipalities are using to maintain and enhance their agricultural lands to see if any would be appropriate in Groton.

3) The reclamation of old fields and pastures, and the creation of new ones, should be encouraged.

7) WATER QUALITY

Protecting water quality is a high priority in the Town of Groton. Activities such as logging on steep slopes or down to the water's edge, building houses close to the water, and cutting all the vegetation along the shore all affect the quality of water.

Lake front development has traditionally had second homes that add alot of taxes to the community while not requiring alot of public services. Even though this trend has begun to change somewhat, the Planning Commission generally supports the development of lakeshore property.

Traditionally camps were built close to the water's edge to afford the best view from the living room and front porch. The camps were used only two or three weeks a year and the number of people staying at a camp were usually few. The dishes were done by hand, laundry done in the sink and taking a bath meant jumping in the lake. The toilet consisted of an outhouse set back from the water's edge.

Life around some of Groton's lakes are different today. People use their camps for much longer periods and some have even been converted to year round homes. Many camps now have showers, dish washers, washing machines, and even flush toilets. Where does all this "gray" (from sinks, showers, washing machines) and "black" (from toilets) water go? When these camps were built, they had such infrequent use that people were not very concerned about their impact on water quality. But today things have changed - perhaps significantly. Since most of these camps are built on wet soils and close to the lake, when dish water is drained out of the sink it ends up in the lake. Granted, the gray water may initially drain into a sand filter or "dry well" but this treatment is superficial at best. The "black water" may go to a sealed holding tank. If properly managed and cleaned out holding tanks could be very effective. Ensuring that this happens is an administrative nightmare.

So the question is "so what if this gray and black water enters the lake?" The answer has several parts. As the use of the lake has increased, so has the amount of grey water and other pollution. A lake can naturally treat a certain amount of pollution but if the amount surpasses the lake's natural ability to treat the waste, it starts to accumulate in the sediments and water column. Groton's lakes are cold water lakes, which means it has a much harder time breaking down soap and other pollution. Once a particular concentration of pollution is reached, large algae blooms will occur and the overall water quality will diminish rapidly. And since it took a long time to build up, it will also take a long time to correct the problem once it has occurred. When the water quality goes down, so will the real estate value of the camps.

There are ways to prevent the degradation of water quality on a lake. It is clear that when you have a lake on which all the private lands are totally built-out that the challenges are quite different than if starting from scratch. But it is also clear, that if some fairly strict measures are not adopted, the lake may end up polluted and containing a significant algae bloom.

Preventative measures include ensuring that no black water and very little gray water enters the lakes, establishing vegetative buffer strips along the shore to help prevent run-off and erosion, setting the camps back from the water's edge to allow a

greater filtering distance before any pollution that does occur enters the lake, and requiring that all year round or enlarged camps have properly designed and installed septic systems.

During warm summer days, especially on weekends, the State facilities at Boulder Beach are under unusual strain. Can they really treat that amount of wastewater? If not where does the untreated water end up? This system should be carefully monitored to ensure the quality of Lake Groton is not degraded.

Many of the same problems and corrective measure apply to other surface waters with private lands in Groton. The town has a real opportunity to develop these lands in a way to prevent problems in the future and maintain the water quality in town.

The people who own camps around a lake have a vested interest in maintaining the high level of water quality in the lake. The Town could work in conjunction with a lake association to ensure the proper installation and monitoring of septic tanks, buffer strips and the like.

In order to alleviate unnecessary burdens on the camp owners, protect the water quality, and streamline the permit process, the current zoning by-law should be revised. Revisions to be considered include: reducing the side set backs, requiring a properly engineered and installed septic system before a camp can be significantly enlarged or used for year-round occupancy, restricting additions or expansion of existing camps from getting closer to the water's edge than where the camp already is, maintaining significant setbacks from the water for all new structures, encouraging creation of vegetative buffer strips along the lakes and streams, and changing the requirements within the lakes and ponds and steam districts to reflect those currently in the conditional use categories.

Undeveloped Lakeshore.

In 1992 the Northeastern Vermont Development Association completed a resource inventory of the undeveloped lakeshore in northern Vermont. The study identified undeveloped tracts of lakeshore on lakes over 10 acres. An "undeveloped tract" was defined as having a minimum of 1000 feet of shore frontage with a depth of 250 feet horizontal feet with no human structures or 2-wheel drive roads.

Five ponds lay completely within the Town of Groton and part of one other. These ponds have 79,557 feet of shoreline of which 49.5% (39,359 feet) is undeveloped. Groton ranks second in Caledonia County (after Peacham) and fourth in the Northeast Kingdom for having the most undeveloped lake shoreline. See the attached map for location of the undeveloped portions. Undeveloped shoreline contains many valuable attributes including critical wildlife habitat, it helps maintain high water quality and enhances recreation opportunities.

Lake/Pond Name	Total Shore Length (ft)	Undeveloped Length (ft)	Percent Undeveloped	Public Ownership
Groton	33,664	9,235	27%	partial
Ricker	12,941	2,784	22%	partial
Levi	5,085	5,085	100%	Yes
Pigeon	7,376	6,607	90%	No
Noyes	6,373	6,053	95%	Yes
Kettle*	14,118	9,595	68%	partial

* Note: Due to the outlet location, the study considered Kettle Pond to be in Groton even though some of it is in Peacham and Marshfield.

The lakes and ponds should be treated in two categories: one to remain essentially unchanged (Levi, Pigeon, Noyes and Kettle) and the other to address concerns caused by extensive development around the shore (Groton Lake, Ricker Pond).

In order to protect the water quality, wilderness character, wildlife habitat, and rare plant species, large undisturbed buffer strips should be established around the undeveloped ponds and streams. Buffers at least 50 feet wide should be left along all the streams and rivers in town. Following State of Vermont guidelines, the buffers around ponds and lakes should be at least 100 feet of undisturbed vegetation and 200 feet of contiguous vegetative cover. Active farmland would be encouraged but not required to maintain these buffer strips.

Non-Point Run-Off

Non-point pollution comes from a variety of sources such erosion due to house construction, deforestation, failing septic tanks, grass clippings from lawns, manure spread on fields, gravel washing off the roads, improper or excessive application of lawn fertilizers, herbicides and pesticides and so on. By definition non-point pollution tend to be dispersed and dilute. However, all these activities combined contribute to downgrade the water quality. Nutrient inputs such as phosphorous, nitrogen and organic matter lead to eutrophication (the increase in the amount of nutrients available for water plants such as algae which

increases their growth thus leading to a decrease in the amount of oxygen available for fish and other life in the water), reduces water transparency (results in increased water temperature), and undesirable chemical products like pesticides and heavy metals threaten human health and the survival of the aquatic ecosystem.

A study done in 1979 by Environment Quebec, the environmental agency in the Province of Quebec, to look at the nutrient content of run-off from various land uses found water coming from agricultural land contained four times more phosphorus than water running off undisturbed forest land. Run-off from urban/built-up land contained twelve times more phosphorous than run-off from forested land. ⁽¹⁾

Many of the same problems and corrective measure apply to other surface waters in Groton as well. The town has a real opportunity to develop these lands in a way to prevent problems in the future and maintain the water quality in town. If the Town of Groton is serious about maintaining and improving water quality, the question of non-point pollution must be addressed.

Logging practices in Vermont are addressed in the guidelines entitled Acceptable Management Practices. However, they can adopt regulations that reflect the same standards that are contained within the Acceptable Management Practices for Maintaining Water Quality on Logging Jobs in Vermont (AMP) guidelines. Due to increasing concerns about the detrimental effect of logging on water quality, the Acceptable Management Practices for Maintaining Water Quality on Logging Jobs in Vermont (AMP) should be carefully reviewed and considered for adoption at the local level.

Also in order to decrease the amount of siltation caused by building construction, logging and farming, erosion control standards might be considered.

Flash Floods

Groton has many areas with steep slopes in upper watershed areas where minimal alteration of vegetative cover through logging or changing drainage patterns through building roads may significantly increase the likelihood of flash floods. Although flash floods may not seem like a large problem, their potential should be recognized and monitored.

¹. Quebec/Vermont Working Group on Managing Lake Memphremagog and its Environment, Final Report, 1993, page 24. Available from Vermont Department of Environmental Conservation, Water Quality Division, Lakes and Ponds Unit in Waterbury.

Planning Goal:

To maintain and improve the water quality found in Groton.

Issues/Concerns:

- 1) Erosion from building sites, roads, logging operations and farms lower the overall quality of the water.

- 2) As more people expand their camps and begin to use them as year-round homes, the quality of the water and traditional character of the lake is severely threatened.

- 3) Vermont has guidelines that regulate logging practices in order to protect water quality. The enforcement of the guidelines is completed at the state level. In order to increase local control, these guidelines should be incorporated into the local zoning by-law.

Recommended Actions:

- 1) Erosion control standards should be considered.

- 2) In order to alleviate unnecessary burdens on the camp owners, protect the water quality, and streamline the permit process, the current zoning by-law should be revised. Revisions to be considered include:
 - * reducing the side set backs,
 - * requiring a properly engineered and installed septic system before a camp can be significantly enlarged or used for year-round occupancy,
 - * restricting additions or expansion of existing camps from getting closer to the water's edge than where the camp already is,
 - * maintaining significant setbacks from the water for all new structures,
 - * encouraging creation of vegetative buffer strips along the lakes and streams,

- 3) Revise the current zoning by-law to include the standards set forth in the Acceptable Management Practice for Logging Practices in Vermont.

4) The campowners have a large vested interest in maintaining the quality of water in the lakes. in the lakes.

4) Work closely with the lake associations to encourage the maintenance of water quality

5) The septic system at the Boulder Beach day use area is inadequate during peak summer use. This have a significant impact on the quality of water in Groton.

5) Working closely with the Department of Forest Parks and Recreation, the Boulder Beach septic system should be monitored regularly.

8) NATURAL AREAS

Wetlands

Based on the National Wetland Inventory maps, Groton has an estimated 680 acres of wetlands in town. The wetlands mapped during the planning process are generalized and are not meant to be comprehensive and replace field checking. For example there are areas around Lake Groton that are still pending with the Federal Emergency Management Administration (FEMA) and Town of Groton.

Wetlands perform important functions in enhancing water quality, recharging ground water, providing wildlife habitat, and so on. In recognition of the importance wetlands play in the environment, they are protected by the State of Vermont, Wetland Rules. They are an important part of Groton and should be preserved and enhanced.

Maintaining critical wildlife habitat (ie. nesting areas of rare birds, feeding areas of animals) and the wetland areas are important to the town and should get priority in conservation efforts.

Deer Yards

Deer in Vermont live near the northern limit of white-tail deer range in eastern North America. This forces deer to use specific winter habitat when severe climatic conditions become a threat to the animals' survival. Areas which are used year after year by deer seeking winter shelter are called "wintering areas" or deer yards. These areas consist of two basic habitat components. The core range" is often characterized by concentrations of relatively tall, dense softwoods. This reduces the snow depth, protects from the wind and increases the average temperature and relative humidity. South facing slopes are often preferred due to increased solar gain. The second component consists of mixed hardwood and softwood adjacent to or within the core range which provides accessible browse.

The availability of quality wintering areas is the limiting factor for white tail deer in most of Vermont. Since only 6

percent of Vermont is considered deer wintering areas, the State of Vermont has made protection of these areas a priority. Considering the economic contribution and the important place that deer hunting has in Vermonters traditional lifestyle, the state-wide priority is understandable. However, taken on a local level the restrictions imposed on deer yards may be excessive. Within the Town of Groton, 34.6% (7,447 acres) of the privately owned lands are considered deer yard. These lands receive more scrutiny by State agencies when development is proposed on them which makes future development within Groton even more difficult. So even though the State goal of protecting deer yards may be good, State agencies should consider the overall impact on the local towns and landowners before making any decisions. Not every acre of deer yard is critical and some kind of mechanism to allow development within some of them should be considered.

Natural Heritage Sites

The Vermont Natural Heritage Program is responsible for locating and mapping rare plants and animal habitat in Vermont. Using information from aerial photography, local experts, field visits, and other sources, they compile a list of sites within each municipality in Vermont. The quality of the inventory depends on the quality of the information received and landowner's willingness to allow people to inventory their property. It is not necessarily comprehensive. Once identified information about the species or habitat is collected and mapped. A generalized map showing the approximate location of the site is then developed. In general the sites are not protected by law, but meant to inform landowners so they may be careful not to unknowingly disturb a rare plant or animal habitat.

Examples of the sites in Groton include the following:

- * Rare plants and loon nesting sites on Kettle Pond,
- * Threatened Rhododendron at Lake Groton,
- * Threatened laurel at Levi and Ricker Ponds,
- * Rare plant on Seyon Pond.

Planning Goal:

Maintain and enhance the diversity of species found in Groton.

Issues/Concerns:

1) Resource protection costs money. In order to accept donations from interested parties and money raised at town meeting, the Town should set-up a dedicated conservation fund. These funds would be used specifically for conservation projects that the Town wants to support.

2) People often do not understand the complexities and techniques for managing their private lands. Holding a series of educational forums would supply the information that people need.

3) There are certain areas in town that need special protection. One way to accomplish this protection is through revising the local zoning to include special resource areas.

Recommended Actions:

1) Establish local conservation fund which can be used for conservation projects. The fund could accept donations or municipal funds raised at town meeting.

2) Hold workshops on natural resources management, estate planning, woodlot management, and land conservation techniques.

3) Establish conservation areas in local by-laws and create a special review process for projects within certain areas of town.

9) LAND CONSTRAINTS

As part of the planning process we completed a map (which is in Town Clerk's office) that shows areas with some type of constraint to buildings. The mapped constraints may not be inclusive, but they give a good idea of the natural and regulated constraints on the land in Groton. There are 35,228 acres in Town. The constraints include the following:

Slope	0-15%	17,787 acres	(50.5%)*
	15-20%	7,533	(21.4%)
	20-25%	4,495	(12.8%)
	25+%	<u>5,413</u>	(15.4%)
		35,228	

*includes surface waters

Surface waters (ie lakes, rivers)	812 acres	(2.3%)
Over 2,500 feet	1,327 acres	(3.8%)
Deer Winter Areas	7,447 acres	(21.1%)
Public Lands	13,685 acres	(38.8%)
Floodplain	1,330 acres	(3.8%)
Wetlands	680 acres	(1.9%)

Note: Some of the layers will overlap, so adding up the total will give you an inflated overall figure. The resource constraints map is available in the Town Clerks office.

This indicated alot of areas that are unsuitable for development. This makes careful planning and revision of the zoning by-law even more important to ensure the types of development which is desired in Groton has some place to go.

Issues/Concerns:

1) Every acre of land in Groton is different than another, some have great development potential while others have less development potential. Land use planning and regulations should consider the natural resources and development potential of the land.

Recommended Actions:

1) Consider the information provided on the land constraints map when revising or creating local by-laws.

10) TRANSPORTATION

Roads are vital to the character, economy and lifestyles of the residents in Groton. They allow the movements of goods and people as well as direct where future land use development will occur. The maintenance of town roads is the second largest expenditure in the town budget (after schools). Roads are an integral part every person's life and an important item to consider.

The road network within the Town of Groton including the Village of Groton consists of:

- * 17.19 miles of **State highways** (Route 302 and 232)
- * 5.54 miles of **Class II town highways**. These are designated by the selectboard and approved by the Vermont State Highway Board.
- * 32.91 miles of **Class III town highways**. These are certified as Class II after consultation with the district Highway engineer. Minimum requirements are that Class II highways be negotiable under normal conditions, all seasons of the year, by standard manufactured pleasure cars, and thus such highways must have sufficient surface and base, adequate drainage, and enough width to allow winter maintenance.
- * 10.73 miles of **Class IV town highways**. These highways are maintained for summer service only; persons erecting dwellings served by these roads cannot expect winter service.

The main "arterial" is US Route 302, the "main collectors" are the Groton/Peacham Road and the Groton State Forest Road. The rest of the roads are "secondary collectors."

The cost of maintaining the existing town roads is high because many of them were not built to carry the current volume of traffic or the weight of contemporary trucks. Therefore, the town should encourage development to occur along the existing public roads.

The Groton Forest Road is narrow and curvey. As more people visit the Forest the volume of traffic has increased. Utilizing the Cross Vermont Bike path would help reduce the amount of bikes on the road and increase safety.

Planning Goals:

Maintain and improve the existing road network.

Issues/Concerns:

1) In order to get Groton's transportation priorities on the regional and state list of projects, the Town needs to actively pursue the transportation decision makers.

2) in order to save money and guide road projects, a detailed road policy is desirable.

3) Groton has many miles of roads. In order to identify the trouble spots, a comprehensive inventory should be conducted.

4) People seem to be driving too fast on many of the roads in Groton.

Recommended Actions:

1) The Selectboard and Planning Commission should take the initiative to work with the State of Vermont and the Northeastern Vermont Development Association to improve our highest transportation priority - the S-curves along US Route 302.

2) Town should adopt a road policy that states the following items:
* the existing paved roads that are properly designed and constructed should be maintained but, in general, a road should not be paved unless the existing road bed has been brought up to standard,
* road matting should be use very carefully and only after the road has been brought up to the proper standards.

3) The Selectboard should inventory the existing roads to determine the following items:
* hazardous and/or narrow spots that need improvement,
* the volume and type of use,
* the placement, size and quality of culverts and bridges should be documented so a replacement scheme can be designed.

4) In order to improve safety more speed limit signs are needed.

5) Over the last few years, the road crew has done an excellent job of cleaning out the ditches. This activity should be encouraged to continue.

6) Clearing the roadside brush has traditionally been contracted out to the private sector. This practice should continue, but money could be saved if the Town's effort was coordinated with the utilities companies schedule for clearing under their lines.

7) The Cross Vermont Bike Path should be encouraged and the problem of the gate at Ricker Pond resolved.

8) The entrance/exit to the Boulder Beach Road is hazardous.

9) Town has an Equipment Fund for upgrading the road be equipment as needed. This helps level out the taxes in any given year and saves money by paying cash for equipment instead of taking loans.

5) Ditching roads saves alot of money by avoiding the need to replace gravel that would otherwise wash away.

6) Utility companies clear the brush away from their powerlines. If the Town coordinated our brush clearing activities, we could save money by not duplicating efforts.

7) The Cross Vermont Bike path fits well in the Town's vision for economic development and recreation.

8) The following changes should occur at the entrance/exit to the Boulder Beach Road:
* the "Lake Groton" sign blocks the line of sight for people coming from the Boulder Beach Road onto the Groton State Forest Road. This is especially true for trucks. The sign should be moved.
* the traffic signs along the Groton State Forest Road warning about the turn into Lake Groton are not placed in the proper location. Several more signs should be added.

9) The Equipment Fund should be funded on an annual basis.

10) Burying cables is not always the best option from the town's perspective because they can get damaged during road work and culverts may get cut in half during construction and man-hours are added while waiting for repair crews from the utilities.

10A) When utility companies are placing new cables, they should work with the town road commissioner to determine proper placement. The utility map is located in the Town Clerk's office.

10B) The utility lines (above and below ground) should be put on the Town's maps. The planning commission should investigate if the utility company's engineering data can be transferred onto the Town's computer mapping system.

11) RECREATION

Groton is one of the recreation centers of Vermont. Traditionally recreation has been an important part of the local economy beginning in the 1800s when people traveled long distances to relax near Lake Groton and hike in mountains. This tradition continues to play an important part in the town today as a lot of the local taxes are generated from summer camps and recreation property.

Groton is very fortunate to possess many recreation attributes with numerous clean lakes, Groton State Forest, mountains with an extensive trail network, the snowmobile trail along the old railroad bed, a town park, and a swimming beach in Groton State Forest. Utilizing the Cross Vermont Bike path would help reduce the amount of bikes on the road and increase safety. All of these attributes combined, make Groton a very special recreation community - perhaps the core to Groton's economic future.

The town attracts tourism due to the fact that it has Groton State Forest, Lake Groton, and the many mountains in public and private ownership with hiking trails. Therefore, the town's concerns include maintaining the water quality with town and the accessibility of both public and private lands for recreation. However, all recreation opportunities do not come without some challenges which need to be addressed.

Groton State Forest

* The planning commission does not endorse creating a large boat launch facility. However we do believe some type of access needs to be developed for residents of the Town of Groton.

Throughout Town

* Undeveloped lakeshore provide important wildlife habitat, a peaceful place and protection of water quality. Groton has many

opportunities to protect large sections of undeveloped shoreline.

* Hiking, fishing, horseback riding and hunting are enjoyed on public lands and on much of the privately owned land in Groton. However, posting of private land against public recreation has been on the increase and may further increase unless users are careful to respect the rights of property owners.

* The river that runs through town should be used more for recreation activities.

* Infestation of eurasian milfoil into our lakes is a growing concern. Boaters should be encouraged to check their boats and motors for eurasian milfoil before using Groton's lakes and ponds.

Planning Goal:

Recognize the important economic and social role recreation plays in Groton.

Issues/Concerns:

1) Residents of the town of Groton do not have free access to Lake Groton.

2) Undeveloped lakeshore has many natural, social and economic benefits.

3) Public use of private land is a Vermont tradition, yet as landowners become concerned about liability issues, this tradition is threatened.

4) The vast majority of recreation users come to Groton State Forest during the summer months. The rest of the year has less use.

5) The gravel pit has potential for becoming a recreation site once closed.

6) Non-native species of plants ie. eurasian milfoil are easily transferred from one lake to another on boats.

Recommended Actions:

1) A cartop boat access needs to be developed on Groton Lake for the resident's of the town of Groton.

2) Groton should work to protect the undeveloped shoreline.

3) The Town should encourage the responsible public use of private land.

4) Recreation activities should be encouraged on the river that runs through town.

5) The gravel pit should be used for recreation once the gravel has been exhausted.

6) Boaters should be encouraged to check their boats and motors for eurasian milfoil before using Groton's lakes.

12) ECONOMIC DEVELOPMENT

The purpose of planning for orderly development is to encourage and promote that kind of community growth which preserves the town's physical beauty, unique character, quality of life, and the economic welfare of its citizens. In recent years, much of Groton's development has been residential, both year-round and seasonal. This trend will probably continue and can be compatible with a working agricultural and forest landscape when planning techniques are effectively applied.

Groton's primary economic assets are its abundant natural resources and the beauty of its landscape. Groton State Forest can play a major role in the town's economic future. A Northeastern Forest Alliance study states that, on the average, each thousand acres of Vermont forest land produces 4.2 forest tourism jobs and 1.1 forest manufacturing jobs.¹ Forests support wood-using industries vital to continuing the economic viability of rural economies. Forests provide the environment for a host of non-timber forest activities ranging from hunting, fishing, and viewing fall foliage to camping and water storage. Groton Lake, the scenic roads, recreational opportunities, and the unspoiled rural landscape attract visitors who come to enjoy our natural resources. Approximately 36.9% percent of Groton's residential properties are vacation or seasonal homes, compared to 15 percent overall in Caledonia County.

Residents of the Northeast Kingdom are coming to realize that their economic future may lie more in the wise use of our abundant natural resources than in attracting manufacturing or industrial development. Seasonal and vacation visitors make a substantial and growing contribution to the local and regional economy.

The economic future of Groton lies substantially in the wise use of our renewable natural resources: the water and the land. Sustainable development in Groton should be based on providing recreation opportunities and related services for visitors which are compatible with our active agricultural and forestry traditions. The underlying strategy of a development plan is to plan for orderly growth which maintains a sound tax base and anticipates the potential tax burdens for current and future needs.

The Town should recognize existing opportunities such as the State Forest, existing buildings in town, and the rustic appeal of Groton. Both the positive and negative aspects of future development should be considered. If a new industry were located in Groton, it might bring new jobs and increase the tax base. But the costs of that industry also need to be considered. These costs might include increased demand for local services, changing the character of the town, and the new jobs might bring new people with new children in the school system. Usually, a new

industry alone will increase the tax base and have a favorable affect on the taxes, but because they usually also bring new people the overall net effect is that taxes go up not down. Therefore, a community should carefully consider its purpose and desire for new industry.

Perhaps Groton's roots are more locally based in supplying daily services and maintaining the existing businesses and character of the town. Most people live in Groton because they enjoy the slow pace of life, the quiet village setting, and the strong sense of community. Perhaps these are our strongest attributes.

Planning Goal:

To encourage new businesses and services that enhance the economic potential of our renewable natural resources, recognizing that tourism and recreation resources are economic resources.

Issues/Concerns:

1) In order to promote recreation as part of Groton's economy, the opportunities need to be identified.

2) Encourage a diversity of sustainable uses through zoning which would allow a variety of low-impact commercial and recreational uses in a range of districts. Examples of such development would include Bed and Breakfast establishments and four season recreational centers like the Craftsbury Touring Center.

3) Aspiring entrepreneurs often do not know how to get started and where to find assistance.

4) A sustainable local economy must be diversified and employ local people.

Recommended Actions:

1) Create an inventory of the existing and potential recreational opportunities in the town.

2) Revise the zoning by-law to encourage sustainable uses.

3) Inform local entrepreneurs about the availability of small business development services and funds.

4) Encourage a diversity of local commercial and service enterprises which use local labor as much as possible.

13) EDUCATION

The Town of Groton is a member of the Blue Mountain Union School District (Groton, Ryegate, Wells River) which provides public educational services for grades kindergarten through 12th. Each town pays proportionately for the number of students from that town.

As more residential homes are built in Groton and more cottages are turned into year round homes, the number of school children also grows. On average in Vermont it takes 75 years of paying taxes on the average residential unit to pay for sending a child through the public school system. Adding more residential units in town may increase the tax base but it also increases amount of taxes required. The way Vermont's property tax system is set up, it places the burden of school costs of the landowners and businesses.

Expenditures on the school has become a very controversial topic in every Vermont community with nearly 80% of our tax dollars going to pay for school services. In the 1989-90 school year, Groton spent \$3,387 per pupil in school. This compares to a county and state averages of \$3,512 and \$3,914 respectively.

In 1990, 76% of Groton residents had completed high school and 11% completed college. This compares to county and state averages of 77% and 81% for high school and 19% and 24% for college.

Some people in Groton believe the elementary school is already too crowded and the high school is filling up fast. This should be is of great concern to the Town of Groton. Fortunately, the Town has a special committee of elected officials, the "Union No. 21 School Directors," who keep track of school issues and make recommendations to the voters in Groton. The Planning Commission defers to this body to provide detailed recommendations about the future of the school.

The way Vermont's property tax system is set up, it places the burden of school costs on the landowners and businesses.

Planning Goal:

Groton should maintain a high level of education opportunities for the residents of town.

Issues/Concerns:

1) Setting up, financing and running a school is a very complex task with many aspects that change on a regular basis.

2) The cost of education consumes nearly 80 percent of the local property taxes. This policy has many negative implications for land use planning and conservation in Vermont.

Recommended Actions:

1) The situation should be monitored to ensure the Town continues to provide the best and most cost effective educational opportunities to our children.

2) Support a statewide effort to reform the way schools are funded such as reducing the reliance on property taxes.

14) HOUSING

In 1990 there were 303 households in Groton. A household includes all persons who occupy a housing unit. A housing unit is a house, an apartment, a mobile home, a group of rooms, or a single room that is occupied (or if vacant, is intended for occupancy) as separate living quarters.

Of the 303 households, 246 were family households and 43 were one-person households. The average size household contained 2.84 persons, slightly larger than the county average of 2.60 persons.

There are several apartments in Groton, they should fulfill the need for affordable rental property. The needs of the elderly and low income residents should to be monitored to ensure they are met. In order to maintain the character of the community, where possible existing housing units should be rehabilitated in favor of building new ones.

Seasonal Housing.

In 1990 Groton had 523 housing units of which 36.9% are considered seasonal units. A seasonal unit is a vacant unit only intended for use in certain seasons or part of the year. This is much higher than the county average of 14.4% and Northeast Kingdom average of 23.3%.

Planning Goal:

Ensure a variety of housing options in Groton.

Issues/Concerns:

1) Older homes add much to the character of the community but they are expensive to maintain. There is public money available to assist in rehabilitating and maintaining the older housing stock.

2) Zoning by-laws can discriminate against affordable housing by requiring large lots, excessive set-backs and certain building standards.

3) Some areas of town are more suited for development than others. New construction should be encouraged on areas best suited for development while areas less suited would left undeveloped.

4) There is a common perception that affordable housing costs more in services than is paid in taxes. Under Vermont's present form of property taxation, nearly all residential units cost more than they contribute. Other considerations such as maintaining a diverse community should be considered when looking at the affordable housing question.

Recommended Actions:

1A) In order to maintain the character of the community, the planning commission should work with community action programs (North East Kingdom Community Action, Northern Community Investment Corporation, University of Vermont Extension System) to establish a rehabilitation program in Groton.

1B) The planning commission should ensure the residents are aware of federal and state programs for weatherizing and home financing by making information available through the town clerks office.

2) The planning commission should review zoning by-law to ensure that it does not discriminate against affordable housing.

3) Using the natural resources constraints maps completed in the planning process, the areas most suitable for residential development should be identified and building encouraged in these areas.

4) A committee should be formed to look into the balance between promoting affordable housing and the cost of educating school children.

15) PUBLIC PROPERTIES

Groton has a variety of public buildings including;

Emergency Services Building

Community building

Town garage

Gazebo

Boy Scout Camp

Gravel pit

Salt shed

Cemetery building

Pump house

Warming hut, skating rink

Old Groton Landfill

Over the years the voters have been very responsive to the needs of Town and have planned expenditures so they do not all come at the same time. For the most part the public buildings are in good shape.

Community building has asbestos siding and may contain lead paint, both will need to be rectified. The Town garage has served its purpose well over the years, but as the amount and size of the equipment has grown, the facility has become inadequate for our needs. Also during the winter, the Town spends between \$300 - 400 a month on electricity to "plug-in" the trucks and road equipment.

The Town hall/gymnasium has recently been refurbished at great expense of money and volunteer time for the Town. The Town recently hired a janitorial person to maintain the building, this effort should be continued. In the future additional space may be required for the town clerk's office and the library.

The Pump house needs to have electricity installed.

All of the heated buildings could use an energy audit to look for ways the Town might save money in heating costs.

The old Groton Landfill is located along the Wells River. While it has been inactive since the 1970s, it should be monitored regularly for leaching wastes.

Planning Goal:

Maintain and improve Groton's municipally owned properties.

Issues/Concerns:

- 1) The town garage is old, crowded and needs to be replaced but it will cost a lot of money to do so.
- 2) There was a lot of money spent on refurbishing the town hall/gymnasium. In order to protect the investment, the building should be properly maintained.
- 3) The town clerk's office and library are becoming crowded.
- 4) Currently the Pump house does not have any electricity.
- 5) Completing energy audits on the public buildings identify areas that need improvement, this will ultimately save the Town money.
- 6) Old landfills contain a variety of wastes that can be harmful to the environment.
- 7) A Vermont tradition is to have a private dump behind the barn or over the bank. The materials put in these dumps may contain toxins and harmful substances, therefore they should be regulated by the State the same as public dumps.

Recommended Actions:

- 1) A fund should be set up to replace the town garage within the next five years.
- 2) The town hall/gymnasium should be properly maintained on a regular basis.
- 3) A study should be undertaken to determine the space requirements of the town office and library, and how these needs can be best met.
- 4) Recommend installing electricity in the Pump house.
- 5) Energy audits should be completed on all heated public buildings.
- 6) The old Groton landfill should be monitored for leaching wastes.
- 7) Encourage enforcement of state regulations of private dumps.

16) TOWN VEHICLES

Groton has a variety of vehicles and equipment including:

- F.A.S.T. Squad Truck

- Fire Trucks:

 - 1991 Ford 8000 Pumper

 - 1973 Chevy 70 Series Tanker

 - 1954 Chevy Pumper

- Cat 130 Road Grader

- Cat 416 Backhoe

- 1968 Fair Allis Front-end Loader

- 1988 Chevy Ton Truck and Plow

- 1986 Chevy Town Truck

- Assorted attachments

Groton is very fortunate to have only a few miles of roads to maintain which makes the wear and tear on the equipment less than what it might be. If taken care of properly, this means the equipment lasts longer than usual. But even with normal use, equipment does not last forever and needs to have major maintenance or be replaced. The debate comes down to which is cheaper to buy new or to make major repairs. A new truck costs in the order of \$50,000. A lot of major repairs can be completed for that kind of money. In either case, constant attention needs to be given to keep the equipment in running order.

In the near term, the Front-end Loader is old and parts are becoming hard to find. Also the Town trucks are getting old and will need to be replaced within the next five years.

There are several other ways to save money that the Town should consider: 1) forming a regional compact with adjacent communities to share in owning specialized items like chippers, paving equipment, and the like; 2) join with adjacent communities to form a buyer cooperative to purchase commonly used items such as road salt, gasoline, and so on; 3) due to the downsizing of the US military there are many tools and equipment available at surplus suppliers for very low prices. This is a good time for the Town to purchase some needed tools at a very good price.

Planning Goal:

Maintain and improve Groton's road network.

Issues/concerns:

1) The cost of purchasing new equipment is very great. While maintaining old equipment may cause some inconveniences, it may be more cost effective for the Town.

2) Purchasing in bulk can save lot of money. Items such as road salt, gravel, paint, and so on are purchased every year by towns, if they worked together towns could save money by purchasing items together.

3) From time to time surplus tools that the Town could use become available. It ultimately saves the Town money if they purchase the surplus equipment instead of buying new.

Recommended Actions;

1) The Road Foreman and Selectboard should consider the costs and benefits of doing major repairs to equipment prior to purchasing new.

2) The Road Foreman and Selectboard should consider setting up a buyer's cooperative and joining with other communities to buy specialized equipment.

3) A small fund should be continued to purchase surplus tools and equipment as needed and as it becomes available.

17) WATER SUPPLY

Numerous free flowing springs, ground water from wells, and reasonably pure lakes, ponds and streams make it possible for residents to depend exclusively upon private sources of water. The State Forest campgrounds and day-use facilities have public drinking water. State and federal regulations of community water systems discouraged the creation and expansion of water systems.

When water is drawn from a well in the ground, it creates a "cone of depression" as the water is removed. New water will fill in the cone as the existing water is drawn out. As more camps on small lots are installing shallow surface water wells, there is a growing concern about the separation distance of septic systems, leach fields and wells. It is very possible that some wells are drawing in inadequately treated waste water. Not only is this practice distasteful, it presents real public health concerns.

In general, water which is located deep in the ground (ground water) is travelling in underground rivers or aquifers. The water originates from "recharge areas" of surface water such as

wetlands, ponds, and areas with gravel soils. The recharge areas which restore the water may be a long way from where people pump the water from the ground into a house or barn. Protecting these recharge areas from inappropriate development and pollution is vital to those people who drink the water, and assume it is pure.

Availability of water for fire fighting is a problem, particularly in the winter, in many locations. Installing "dry hydrants" should be a priority for the Town.

Planning Goal:

Ensure adequate and safe drinking water is available to Groton residents.

Issues/Concerns:

1) Many of the soils in the Northeast Kingdom are not suitable for treating sewage, and once the waste is put into the ground water it can contaminate a large area. Also finding suitable drinking water is an important consideration when constructing new buildings especially if there are inadequate septic systems nearby.

2) Most homes use deep water wells for drinking water. However, this water begins on the surface and is "recharged" into the ground through certain areas ie. gravel deposits. Protecting these areas from incompatible development is important for people using the water.

Recommended Actions:

1) The zoning by-law should be revised to ensure that new developments be required to prove an adequate water supply and waste water disposal facilities prior to receiving permits.

2) Groundwater recharge areas should be identified and protected from inappropriate development.

18) SEWAGE DISPOSAL

Individual owners have always been responsible for the installation and maintenance of sewage disposal systems that meet existing standards in order to ensure the sanitary protection of the community. Inspection of these systems has only been on the basis of complaints registered by offended parties or by state agencies involved in licensing or approval functions. Except for in Groton State Forest, no public sewer system exists.

The State has acknowledged the inadequacy of the sewage system at

Boulder Beach during a hot summer days when hundreds of people are flushing the toilets. The State of Vermont, Department of Forest Parks and Recreation is currently working to increase the capacity of the septic system at Boulder Beach.

Planning Goal:

Ensure that all septic systems are adequately functioning in Groton.

Issues/Concerns:

1) Failing septic systems can impact the ground water and public health and safety.

2) Updating and improving septic systems can be a very expensive endeavor. There are public programs available to assist low and moderate income homeowners.

3) If homes are significantly enlarged or the use changes from seasonal to year round, the septic systems should be adequately functioning prior to any local permits being issued.

Recommended Actions:

1) Every effort should be made to ensure that private systems are functioning effectively.

2) Look into ways to assist home owners in updating their septic systems, especially in sensitive areas.

3) Revise the zoning by-law to ensure that homes which are significantly enlarged have an adequate septic system.

19) FIRE PROTECTION

Fire protection is a concern to every small community in Vermont. Groton has three trucks (see Town Vehicles section) and a trained volunteer crew of fire fighters. As with every department, new volunteers are always needed and encouraged. The crew continually works on maintaining the equipment and training. Groton is part of the Twin State and Capital Mutual Aid Agreements.

With the town 87 percent forested, there is a real concern about forest fires, especially in the State Forest. Currently the State of Vermont pays only 50% of the costs for fighting fire on their land. The small 20 acre fire which occurred in 1987 cost the Town of Groton over \$5,000 and tied up the equipment and fire fighters for several days. it seems that the Town should be a first response team to a fire but within a given time frame, the State of Vermont would take over responsibility and the expense of fighting fires within the State Forest. ponds to supply water when needed.

The Wells River dam at the pump house was recently purchased and

needs to be renovated.

The Enhanced 911 service would allow for quick and accurate response to -fires or other emergencies. It is a complicated and expensive service to set up but one that would be very valuable once in place. Groton should look into joining a regional compact to set up and administer an E911 service.

Planning Goal:

Protect Groton residents and real estate from fire to the greatest extent possible.

Issues/Concerns:

1) Groton has a mutual aid agreement with the surrounding towns to assist in fighting fires.

This allows for greater public safety for less cost.

2) Fire fighting technology is continuously being improved and the members of the volunteer fire department need ongoing training to ensure they are an effective team.

3) There was a forest fire in Groton State Forest which consumed a lot of time and money to control. The Town of Groton ended up with thousands of dollars in non-reimbursed expenses from the fire. There is concern that future forest fires could bankrupt the Town.

Recommended Actions:

1) The mutual aid agreements should be maintained.

2) ongoing training and equipment upgrading should be supported by the Town.

3) The Groton Fire Department, Selectboard, the Vermont League of Cities and Towns, and State Officials should meet with the Vermont Department of Forest Parks and Recreation regarding the costs and expenses of fighting forest fires.

4) Accessing water for fighting fires can be a time consuming and dangerous activity - especially in the winter. A system of dry hydrants could save a lot of time and property value by making it easier to access water to put out fires.

4) A system of dry hydrants should be designed and constructed.

5) The Wells River dam at the pumphouse should be rebuilt.

6) In 1994 the Vermont Legislature began a program to develop E911 emergency response system throughout Vermont. It will be most cost effective and consistent to work closely with neighboring communities.

6) Groton should work with the adjacent communities to set up E911 in town.

20) POLICE PROTECTION

Police protection is currently provided by the Vermont State Police, Caledonia County Sheriff, and local constables. A vote was taken a few years ago asking about adding additional police coverage but the voters turned it down. Fortunately, Groton has a low crime rate, and the current level of protection seems adequate.

21) MEDICAL CARE/AMBULANCE SERVICE

Medical services are provided at the hospital in Woodsville, NH and in the nearby communities of St. Johnsbury and Berlin, VT; and Monroe and Littleton, NH. Emergency medical services are provided by the volunteers of the Groton/Ryegate First Aid Stabilization Team Squad and the Barnet Fast Squad, which are supported by the town through an annual appropriation. Ambulance services are provided by the Woodsville Ambulance Service.

22) SOLID WASTE

Groton is a member of the Northeast Kingdom Solid Waste District. Since the situation with solid waste in Vermont is so dynamic, the Selectboard should continue to stay informed and involved with this issue.

In the near future there is a need to develop a multi-town transfer station. The station would be owned and run jointly by the municipalities. The small local waste haulers provide an important service of picking up people's trash at their homes. The transfer station should accommodate and encourage these local haulers. The transfer station site should also include a

recycling center and information bulletin board that provides information about recycling, storage and disposal of household hazardous and so on. The Waste District sponsors appliance and hazardous waste collection days. These are important to Groton residence and should be encouraged to continue.

By simply transferring the solid waste from Groton to another town does not reduce the citizen's responsibility to reduce the amount of trash they produce and dispose of it in a responsible manner. When considering hauling and disposal contracts, the Selectboard should consider both the economic and ecological factors of a contract and of particular companies. What might seem the least expensive option today, could lead to future expenses if the waste is handled or disposed of improperly.

Planning Goal:

Maintain convenient and cost effective waste disposal for Groton residents.

Issues/Concerns:

1) To achieve cost savings by taking advantage of volume discounts, the Town should work together with surrounding towns on solid waste issues.

2) There are many factors to consider when choosing a waste hauler. The Selectmen should consider all the factors not just the cheapest short term option.

Recommended Actions:

1) Work to establish a joint transfer station and recycling center with adjacent communities.

2) Selectboard should consider both economic and ecological factors reviewing contracts.

23) CEMETERIES

The cemetery space available in town is limited and will need to be expanded within the next few years. Due to complexities of locating a cemetery, the town should start looking for a new or expanded site. All donations of land are graciously considered.

24) ENERGY

There is a growing awareness of the long-term costs - economic, environmental and social - of our energy choices. The use of energy is an important consideration in local decisions about municipal services and facilities, land use, building standards, and our local economy.

The Town should ensure that the town buildings are energy efficient and meet contemporary building standards.

The cost of renovating and retrofitting existing homes is often

too expensive for the homeowner. The Town could work with public and private agencies to bring programs to Groton to assist the low-income residents.

Planning Goal:

Promote a reduction in local dependence upon non-renewable energy resources by encouraging conservation and the use of local, renewable energy resources.

Issues/Concerns:

- 1) Energy audit can identify inefficient parts of buildings and ways to save the Town money.

- 2) There many public programs available to improve the housing stock in Groton. It is difficult to identify and work with these programs.

- 3) It is expensive to construct or modify a building to use wind and solar power. Access to the wind and sun and the landowner's investment should be protected.

Recommended Actions:

- 1) Complete an energy audit of the town buildings to identify areas where improvements could be made. Set up a time schedule to make the needed improvements

- 2) Contact the Public Service Board, Vermont Housing Authority, Northeast Kingdom Community Action and other agencies about state and federal programs that would help defray the cost of building renovation.

- 3) Ensure that local regulations allow building modifications for solar and wind energy. Modify local regulations to protect landowner's access to renewable energy resources (wind, solar, water, wood energy).

25) HISTORIC BUILDINGS

The unique character of a community comes from both is natural and built environments. Groton is blessed with rolling topography and fertile soils that provide for a variety of land uses. The community is also fortunate to have many historic and interesting buildings. These add to the "specialness" of the community as much as the scenery

Planning Goal:

Maintain the historic character to Groton's buildings and landmarks.

26) ADJACENT COMMUNITIES

Groton depends on the adjacent communities for many services. The town is part of a mutual aid agreement for fire fighting and emergency services, students all go out of town for their education, and many residents rely on out of town jobs. Groton has always maintained an excellent relationship with our neighbors, a relationship that should continue.

27) IMPLEMENTATION PLAN

The plan recommends many actions to work toward our vision for the future. The implementation plan lists a summary of each recommendation and suggests a time frame in which it will be accomplished. Since planning is a dynamic process, the priorities may change somewhat over time and cost constraints.

NOTE: These are an abbreviated form of the full recommendations which are in the text of the document.

The symbols are as follows: 1=1995, 2=1996, 3=1997-98, 4=beyond 1998, 5=ongoing.

PC=Planning Commission, S=Selectboard, SB=School Board, L=Listers, CC=Conservation Commission, LA=Lake Association, ZA Zoning Administrator, RF = Road Foreman, TC = Town Clerk, FD Fire Dept.

Recommendation	When	Who
STATE LANDS		
1) Become more involved with planning and management of Groton State Forest.	1,5	PC,S,CC
2) Encourage the public land managers to take a broad, multi-use perspective when developing and implementing management plans.	5	PC,S,CC
3) Complete a study regarding the costs and benefits of increasing the winter use of Groton State Forest.	2	PC
FORESTRY		
1) Consider incorporating the AMPs into the local zoning by-law.	1	PC
2) Provide landowners with information on forest management, consulting foresters.	5	CC,PC
3) Work with the public land managers to modify management techniques to increase the rotation of harvest in the State Forest.	1,5	PC,CC
AGRICULTURE		
1) Work with non-agricultural landowners to stabilize lease agreements and conserve their lands which are vital to the farming community.	5	CC
2) Review the mechanisms that other municipalities are using to maintain and enhance their agricultural lands to see if any would be appropriate in Groton.	1,5	CC
3) Reclamation of fields and pastures, and the creation of new ones, should be encouraged.	5	PC,CC

WATER QUALITY

- | | | |
|--|---|-------|
| 1. Erosion control standards should be considered. | 1 | PC |
| 2. The zoning by-law should be revised. Revisions to be considered include:
* reducing the side set backs, requiring a properly engineered and installed septic system, restricting additions or expansion of existing camps from getting closer to the water's edge, maintaining significant setbacks from the water for all new structures, encouraging creation of vegetative buffer strips along the lakes and streams, | 1 | PC |
| 3. Revise the current zoning by-law to include the standards set forth in the <u>Acceptable Management Practices for Logging Practices in Vermont</u> . | 1 | PC |
| 4. Work closely with the lake associations to encourage the maintenance of water quality. | 5 | PC,LA |
| 5. Boulder Beach septic system should be monitored regularly. | 5 | S,CC |

NATURAL AREAS

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|---|---|----|
| 1) Establish local conservation fund which can be used for conservation projects. | 1 | S |
| 2) Hold workshops on natural resources management, estate planning, woodlot management, and land conservation techniques. | 2 | CC |
| 3) Establish conservation areas in local by-laws and create a special review process for projects within certain areas of town. | 1 | PC |

LAND CONSTRAINTS

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|---|---|-------|
| 1) Consider the information provided on the land constraints map when revising or creating local by-laws. | 5 | PC,ZA |
|---|---|-------|

TRANSPORTATION

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|---|---|------|
| 1) Work with the State of Vermont to improve the S-curves along US Route 302. | 1 | PC,S |
| 2) Inform the State of Vermont that the Town of Groton does not want the State to take over the Groton/Peacham Road. | 5 | S |
| 3) Town should adopt a road policy that states the following items:
* how roads will be picked up/thrown-up by the Town, the existing paved roads that are properly designed and constructed should be maintained but, in general, a road should not be paved unless the existing road bad has been brought up to standard, road matting should be use very carefully and only after the road has been brought up to the proper standards. | 1 | S |
| 4) Inventory of the existing roads to determine the following items:
* hazardous and/or narrow spots that need improvement, the volume and type of use, the placement, size and quality of culverts and bridges should be documented so a replacement scheme can be designed. | 2 | S |
| 5) More speed limit signs are needed. | 1 | S |
| 6) Road crew has done an excellent job of cleaning out ditches. This should be encouraged. | 5 | S,PC |

7) Clearing the roadside brush has traditionally been contracted out. This practice should continue, the Town's effort should be coordinated with the utilities companies.	5	RF,S
8) Cross Vermont Bike path should be encouraged, problem of the gate at Ricker Pond resolved.	1,5	PC,CC,S
9) The entrance/exit to the Boulder Beach Road is hazardous, following changes 1 should occur: the "Lake Groton" sign should be moved, traffic signs along the Groton State Forest Road should be added.		RF,S
10) Town's Equipment Fund should be funded annually.	5	S
11) Utility companies should work with the town road commissioner to determine the proper placement of buried cables.	5	RF
12) The utility lines (above and below ground) should be put on the Town's maps.	2	PC
RECREATION		
1) A boat access area needs to be developed on Groton Lake.	2	PC,S,CC
2) Groton should work to protect the undeveloped shoreline.	5	PC,CC
3) The Town should encourage the responsible public use of private land.	5	CC
4) Recreation activities should be encouraged on the river that runs through town.	5	CC
5) The gravel pit should be used for recreation once the gravel has been exhausted.	4	S
6) Boaters should be encourage to check their boats and motors for eurasian milfoil.	5	CC
ECONOMIC DEVELOPMENT		
1. Create an inventory of the existing and potential recreational opportunities in the town.	3	PC
2. Encourage a diversity of sustainable uses through zoning which would allow variety of low-impact commercial and recreational uses in a range of districts.	1	PC
3. Inform local entrepreneurs about the availability of business development services and funds.	5	PC, S
4. Encourage a diversity of local commercial and service enterprises which use local labor.	5	PC, S
EDUCATION		
1) The situation should be monitored to ensure the Town continues to provide the best and most cost effective educational opportunities to our children.	5	SB
2) Support a statewide effort to reform the way schools are funded such as reducing the reliance on property taxes.	1,5	SB, S
HOUSING		
1) Work with community action programs to establish a rehabilitation program in Groton.	4	PC
2) Ensure the residents are aware of federal and state programs for weatherizing and home	5	PC, TC

financing by making information available through the town clerks office.

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| 3) Review zoning by-law to ensure that it does not discriminate against affordable housing. | 1 | PC |
| 4) Areas most suitable for residential development should be identified and building encouraged. | 1 | PC |
| 5) A committee should be formed to look into the balance between promoting affordable housing and the cost of educating school children. | 3 | S |

PUBLIC PROPERTIES

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|---|------|-------|
| 1) A fund should be set up to replace the town garage within the next five years. | 1,4 | S, RF |
| 2) The town hall/gymnasium should be properly maintained on a regular basis. | 5 | S |
| 3) Study the space requirements of the town clerk's office and library. | 3 | S |
| 4) Recommend installing electricity in the Pump house. | 1, 3 | S |
| 5) Energy audits should be completed on all heated public buildings. | 2 | CC, S |
| 6) The old Groton landfill should be monitored for leaching wastes. | 5 | S |
| 7) Encourage the enforcement of state regulations of private dumps. | 2 | S |

TOWN VEHICLES

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|--|-----|-------|
| 1) Consider the costs and benefits of doing major repairs to equipment prior to purchasing new. | 5 | S, RF |
| 2) Consider setting up a buyer's cooperative and joining with other communities to buy specialized equipment. | 2,5 | S, RF |
| 3) A small fund should be continued to purchase surplus tools and equipment as needed and as it becomes available. | 1 | S |

WATER SUPPLY

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| 1) The zoning by-law should be revised to ensure that new developments be required to prove an adequate water supply and waste water disposal facilities prior to receiving permits. | 1 | PC |
| 2) Groundwater recharge areas should be identified and protected from inappropriate development. | 1 | PC |

SEWAGE DISPOSAL

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|---|-----|----|
| 1) Every effort should be made to ensure that private systems are functioning effectively. | 2,5 | CC |
| 2) Look into ways to assist hose owners in updating their septic systems. | 2 | CC |
| 3) if homes are significantly enlarged or the use changes from seasonal to year round, the septic systems should be adequately functioning prior to any local permits being issued. | 1 | PC |

FIRE PROTECTION

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|--|---|---|
| 1) The mutual aid agreements should be maintained. | 5 | S |
| 2) Ongoing training and equipment upgrading should be supported by the Town. | 5 | S |

3) Meet with the Vermont Department of Forest Parks and Recreation regarding the costs and expenses of fighting forest fires.	2	FD, S
4) A system of dry hydrants should be designed and constructed.	1	FD
5) The Wells River dam at the pumphouse should be rebuilt.	2	FD,S
6) Groton should work with the adjacent communities to set up E911 in town.	1	FD,S,PC
SOLID WASTE		
1) Work to establish a joint transfer station and recycling center with adjacent communities.	2	PC,S
2) Selectboard should consider both economic and ecological factors reviewing contracts.	5	S
ENERGY		
1. Complete an energy audit of the town buildings to identify areas where improvements could be made. Set up a time schedule to make the needed improvements.	2	CC
2. Contact the Public Service Board, Vermont Housing Authority, Northeast Kingdom Community Action and other agencies about state and federal programs that would help defray the cost of renovation.	3	PC
3. Ensure that local regulations allow building modifications for solar and wind energy.	1	PC
4. Modify local regulations to protect landowner's access to renewable energy resources.	1	PC

28) Appendix 1. Ten Elements of Chapter 117

Vermont Statute Title 24, Chapter 117 (the enabling legislation for local land use planning and regulation in Vermont) requires the ten elements in section 4302 be address in a municipal plan. Each has been addressed within the plan; the following list gives its location.

- (1) A statement of objectives, policies and programs
 - * entire document presents policies and objectives
- (2) A land use plan, consisting of a map and statement
 - * pages 4, 6-29, 51
- (3) A transportation plan
 - * pages 4, 24-27, 51
- (4) A utility and facility plan
 - * pages 4, 34-42, 51
- (5) Policies on the preservation of natural areas, scenic and historic features and resources
 - * pages 4, 12-23, 43, 51
- (6) An educational facilities plan
 - * pages 4, 31
- (7) A implementation program
 - * pages 45-49
- (8) Adjacent municipalities
 - * page 44
- (9) An energy plan
 - * page 42
- (10) A housing element
 - * page 32-33

¹. Northeastern Forest Alliance, **The Economic Importance of Vermont's Forest**, NEFA, Inc. Saranac Lake, NY, 1993.