TOWN OF WILTON MASTER PLAN

CHAPTER II: Natural Resources

NATURAL RESOURCES

Introduction

This section examines the existing natural resources of the Town of Wilton. The Town's natural features are identified herein as they may impose limitations or constraints to development. Particular emphasis is placed upon those natural features that determine *land capability* to support land uses of different intensities. Just as important and also covered in this section are the Town's natural features of local importance and worthy of future planning considerations for their protection.

TOPOGRAPHIC FEATURES

The Town of Wilton lies within an area that encompasses the Souhegan River watershed (which also is part of the larger Merrimack River watershed), and is located in the lower Merrimack River valley. Like the other communities in the Nashua Region, Wilton's undulating, hilly topography is the result of past glacial activity. As the glacial ice mass advanced over the region, it carved out of the underlying bedrock the general landform seen today. As the glaciers retreated some 10,000 years ago, they left behind a covering or blanket of glacial till and stratified drift materials on top of the exposed bedrock surface.

Glacial till is a mixture of clay to gravel sized particles, formed from glacier-crushed bedrock and deposited in a shallow layer over the exposed bedrock. Glacial stratified drift materials are melt water sorted deposits that, because of their origin and method of formation, tend to be thicker deposits of equal-sized particles (e.g. deposits of uniform sized fine to coarse sands or gravels).

Thus, Wilton's topography, in addition to its soils, surface water and groundwater resources, and existing land use, have been greatly influenced by the historic advance and retreat of glaciers.

The topography of Wilton can best be described as consisting of four areas (one in each of the Town's corner quadrants) with sloping or rolling hills separated by central, river-carved low-land areas running north-south and east-west through Town. The topographic features of concern here include elevation and slope. Both are further examined below, as well as their relevance to land use and natural resource planning.

Elevation

Elevation is a measure of the height (in this case expressed as feet) of a given point on the land surface relative to Mean Sea Level (MSL). The elevations for the land area within Wilton's borders are presented on a separate "Elevation Map" at a scale of 1" = 1000'. The Elevation Map shows with colors the successive 100' contour elevations that occur in Wilton from 400 to 1200 feet above Mean Sea Level (ft. aMSL). Actually, the lowest point in Wilton is about 320 ft. aMSL and is located in the area of the Town's center at the Wilton-Milford boundary. The highest point in Town is just over 1140 ft. and is found in southwest Wilton as you approach the top of Fisk Hill that is just over the line in Temple. Most of the significant elevations in Wilton are located in the western half of the Town and include many 1000+ ft. heights. The eastern half of Town has generally much lower elevations with only a few hills that exceed 800+ to 900+ ft. aMSL.

From a land use planning and development perspective, it is worth noting that roads and settlement patterns have followed a "path of least resistance" governed by surface topography. The Town's higher elevations impose significant obstacles to building roads and limit development that may occur on and around them.

A large portion of the Town's present development has taken place within the lower elevations and flatter terrain found along the Souhegan River and NH Route 101. As these low-lying, more easily

developed areas become "saturated," it is reasonable to expect that development may spread out from these areas at a *faster* rate than the Town is already experiencing. Future development may head into other, more remote, low-lying areas, or into the surrounding higher elevation areas. Both of these aspects of future development can create problems. Further development in remote low-lying areas may damage wetlands and lead to scattered and premature development. Building in higher elevation areas with steep slopes pose problems for septic systems, access and water supply due to thin soil cover and shallow depth to the water table.

The higher elevation areas within Wilton are also important as they provide a vantagepoint from which to view the area's scenic vistas, and they are also scenic in themselves.

Due to the large geographical areas involved when dealing with scenic vistas, and the difficulty in defining just what is scenic, to categorize and preserve the scenic resource is never an easy task. Conservation and preservation efforts are helping to ensure that these scenic areas will continue to be "worthy of the climb". The Town should consider all the available options to retain areas at higher elevation as open space and provide access to these areas and to establish sound forest management to maximize their open space/recreational value. One way of preserving these higher elevation areas would be to purchase conservation easements or the development rights to the lands involved. The method that offers the most protection assurance would be the outright fee simple purchase or acquisition of the land. Neither option is inexpensive, unless the owner happens to offer the easements, development rights, or land as a gift or contribution to the Town's future. However, these are the options that offer the greatest level of protection and public use of this unique resource. Not only would this *ensure* that these elevated sights remain the beautiful, scenic sight they are today, it would create places where someone could go to see the distant vistas described above.

New Hampshire is very fortunate to have recently initiated the Trust for New Hampshire Lands Program. The Trust is a non-profit corporation formed by leaders in business, government, and conservation, with a goal of protecting the State's threatened, yet most cherished, natural land for conservation and recreation purposes. The Trust will also enable communities to identify and retain the natural landscape integral to its character. Although the higher elevation areas in Wilton may not be considered of statewide importance, they surely have regional and local significance. For this reason, the assistance and matching funds provided through the Trust program should be actively sought to protect and preserve these important resource areas.

Another way to limit and direct development of Wilton's higher elevations would be for the Town to adopt a conservation overlay zoning district which prohibits development for these areas. While this is a feasible option for protecting this resource, it must be adopted by the community at a Town Meeting. However, an overlay designation does not necessarily provide for public access. Physical improvements to these areas, including the clearing of trees or the building of a tower, can be done to enhance the scenic view for the public.

Slope

Slope is a measure of the pitch or steepness of the surface between two given points. Slope is calculated by dividing the change in elevation (rise) between two separate points by the distance (run) between the same two points (Rise/Run = Slope). For example, if two points are 50' feet apart (Run) and one point is 10 feet higher in elevation (Rise) than the other, the slope of the land between them is 10'/50' = 0.20. Multiplying this figure by 100 gives the percent slope of the land surface as it is more commonly found. (0.20 X 100 = 20% slope) Land with 0% slope is level, while land with 100% slope has a pitch equal to a 45 degree angle.

The slope or relative steepness of a parcel of land is a critical determinant of its ability to support certain land uses. For this reason, areas of land within certain slope categories have been mapped for the Town of Wilton. This way, the more sensitive or vulnerable areas can be identified and given special consideration.

A separate "Slope Map" has been prepared which shows areas with slopes from 0–8%, 8–15%, 15–25%, and greater than 25%. For town planning purposes, land areas with slopes exceeding 15% are important to consider because their development can create major problems for the developer, an abutting property owner, or the Town. Even low slope areas may pose certain problems such as poor drainage and local flooding. The four slope categories mapped and the potential problems with the development of the areas within each category are discussed in further detail below.

25 Percent and Greater Slopes

Land areas in this category are among the most difficult to develop. These areas will require extreme care and usually need special engineering and landscaping to be developed properly. The major problem of development on slopes of 25% or more is that *generally* steep slopes have only a very shallow layer of soil covering bedrock. Because of this, safe septic system installation is very difficult, storm water run-off is accelerated rather than absorbed, and soil erosion potential increases. Road and driveway construction to steep slope sites is more difficult and costly, and also increases the amount and velocity of surface run-off. Proper safeguards must be applied to such sites to minimize hazards to downslope properties, and these safeguards usually mean costly and often problematic engineering and landscaping solutions.

For these reasons, active use of steep slope sites should be avoided wherever possible, or approached with extreme caution and subjected to a thorough review of the safeguards to be employed. If possible, the Planning Board and Town should consider preserving such areas as open space and not allowing their use for intensive development. Where slopes in this category are to be developed, those involved should consult the principles, methods, and practices found in *the Erosion and Sediment Control Design Handbook for Developing Areas of New Hampshire* (1981 and amended in 1987). That has been prepared by the Hillsborough County Conservation District.

15-25 Percent Slopes

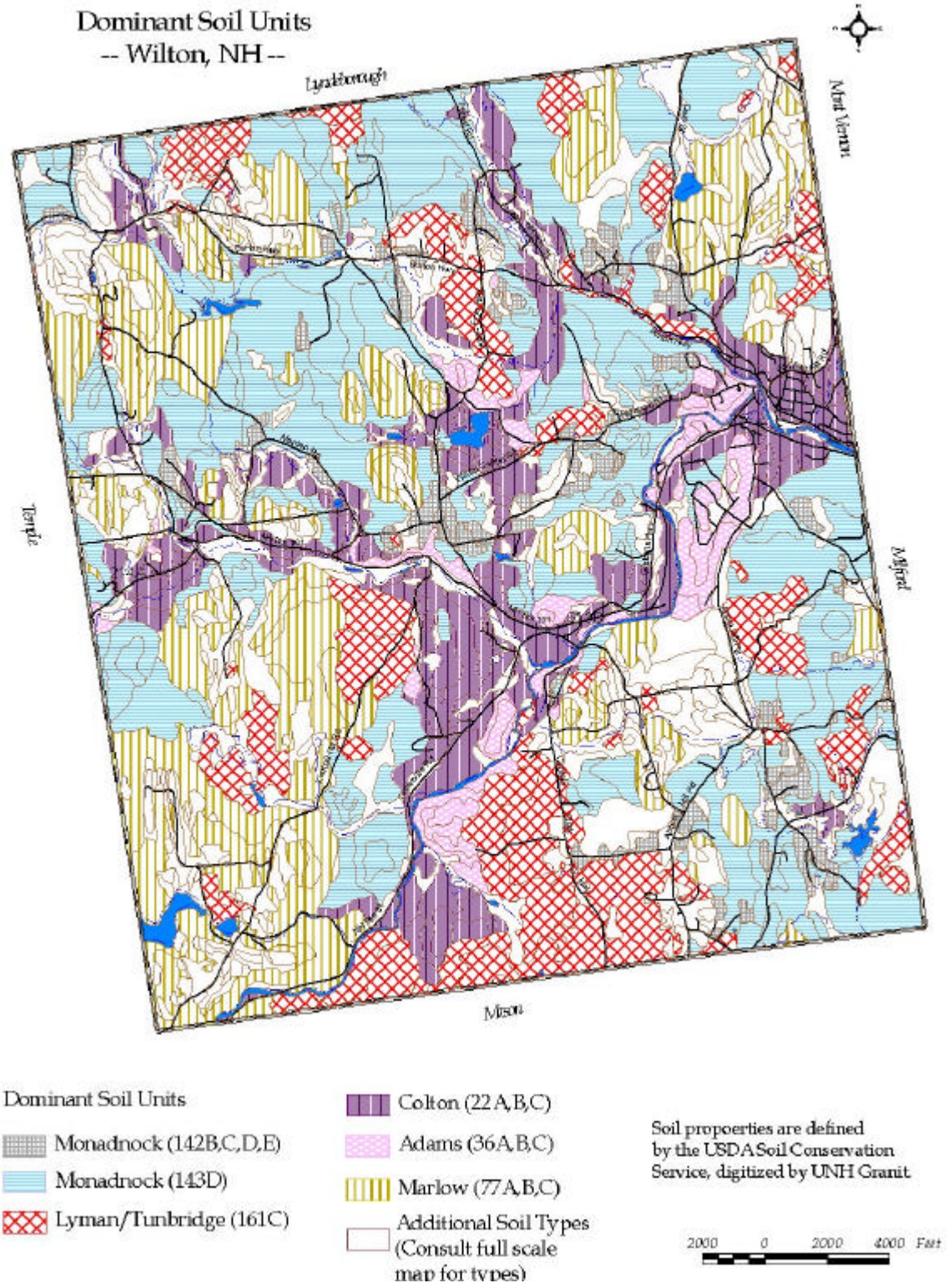
While somewhat less severe, the same problems and concerns expressed above regarding slopes in excess of 25% apply to slopes in the 15-25% category. The soil layer over bedrock on 15-25% slopes may be slightly deeper, but in many cases it may be insufficient to properly support the safe installation of a subsurface waste disposal system. Accelerated surface water run-off and soil erosion will be legitimate concerns of development proposals for these areas. Road construction will also encounter the same problems as in the 25% slope category.

Land areas within the 15-25% slope category should be subject to thorough reviews of the proposed safeguards needed to protect downslope properties from insufficient septic system treatment of wastes, soil erosion and accelerated surface water run-off. Where possible, such areas should be preserved and not used for intensive development. To the extent possible, natural vegetative cover should remain undisturbed to minimize erosion and enhance surface water absorption on all slopes in excess of 15%.

8–15 Percent Slopes

Land areas in this slope category will exhibit, to a lesser extent, similar difficulties to those of steeper slopes; however, in many cases the costs to overcome these problems make the development of such slopes much more feasible. Development potential of such sites will, in most cases, be determined

by specific site characteristics, such as depth and type of soils and the intensity of the proposed



development. For these reasons, specific site investigations and a close review of proposed septic and erosion safeguards are urged for any development proposals on parcels in this category. It is reasonable to expect that more and more proposals to develop such sites will arise as the more suitable low and flat land becomes saturated with development.

0–8 Percent Slopes

Land areas within this slope category are generally the most capable of active development, provided soil types are suitable (discussed next). With few exceptions, slopes of 0 to 8% are generally overlain by soil layers of sufficient depth to adequately purity septic system effluent and provide for absorption of surface water run-off. Land in this slope category will generally be capable of supporting the most active or intensive land uses in Town, unless specific site characteristics, other than slope, impose constraints upon its use.

One notable exception would be for land of 0 to 3% slope at low elevations overlaid by poorly or very poorly drained soils. These areas will, in all probability, have a water table that is at or very near the surface for prolonged periods. In fact, pooling or standing water may be seen in such areas. Land areas of this type present significant problems for site preparation, drainage, construction, and septic system installation and operation. For this reason, proposals for their development should be carefully reviewed, and it may be more appropriate to protect such areas from development through the use of the Town's wetlands conservation district overlay.

The purpose of establishing these slope categories and delineating steep slopes on a map is not to preclude the use of such areas, but rather to identify such areas and provide a general guide to the potential problems which development of such areas may face. The mapping and descriptions of such slope categories is not a definitive guide as to where development should be investigated to determine the extent to which the potential problems identified herein must be overcome in the course of development. The slope data must be used along with soils and water resources information to determine a specific site's natural capability to support a proposed use.

SOIL FEATURES

Soil types are perhaps the single most critical determinant of a parcel's ability to support development. In those areas beyond where public water and sewer presently exist, soils serve as the sole medium of sewage purification. Additionally, each soil type has different physical and chemical properties that influence the ways in which that soil may be used. The Soil Conservation Service (SCS) of the US Department of Agriculture has conducted extensive surveys and analyses of the soils found in Hillsborough County. From this research, the SCS has identified the characteristics of each soil type and determined the capabilities and limitations of each for particular land uses. The results of this analyses are presented in the SCS publication entitled "Soil Survey of Hillsborough County New Hampshire — Western Part" (1985).

For planning purposes, soils are examined here relative to their ability to support a proper functioning subsurface septic system, and their ability to support a building with a basement. This is accomplished by determining and applying the limitations and potentials that are inherent in each soil type. In addition, this discussion will include those soils that can be an important natural resource of the Town. This includes those soils having wetland, floodplain and farmland significance.

Soils and Septic Limitations

For many years, the Town has relied on a soils analysis method prepared by the SCS and recommended for local planning boards to use. This method examines the limitations of each soil type and slope combination imposed on its potential use for subsurface septic system installation and operation. It is important to remember that this analysis combined information regarding both soil types and slope, and that it did so at a scale unsuitable for site-specific analysis and decision making. This analysis in no way replaced or eliminated the need for site investigation to determine land capability. This method gave a broad overview of the potential for a soil's development and served as a

warning system to the planning board, alerting them to potential problems that certain land areas may present.

While SCS soil types are delineated with a reasonable degree of accuracy, specific soil types referred to are those of the predominant soil type within the mapped area. Actual boundaries between soils on the ground are not so easily discernible and will vary from those mapped. Thus, site inspections and a more thorough study of the soils of any site are very important.

Although a new soil classification system was developed by the SCS recently, it is useful to briefly review the former methods which was used for so many years. For the earlier method, the SCS evaluated the following characteristics or properties of land areas for their capability to support the safe installation and operation of subsurface septic systems:

permeability of soil;
depth to water table;
depth to bedrock;
steepness of slope;
stoniness or rockiness of soil; and,
susceptibility to flooding.

Land areas were categorized as possessing either *slight*, *moderate*, or *severe* limitations to proper septic system operation due to the combined effect of these six characteristics.

Slight Limitations

Land areas designated as having slight limitations were considered the most capable of supporting the safe operation of septic systems. Any limitations within these areas were considered to be easy and inexpensive to overcome. Unless other site characteristics limit their suitability, they were recommended for active use and development. In fact, because there was often so little land available with this classification, these parcels should be used as efficiently as possible, perhaps by clustering residential or commercial uses to maximize the efficient use of these most buildable land areas.

Moderate Limitations

Land areas in this category had moderate limitations or constraints to septic system installation or operation. Their development and use required planning, careful review, and usually remedial engineering or landscaping work to overcome the limitations imposed. These limitations did not preclude the development of these parcels and they were identified to alert interested parties that special considerations and potentially expensive remedial work may be required to safely develop such sites. Land areas in this category were often scattered among the hilly uplands, and usually located in more plentiful supply than parcels of slight limitation. Because there was often only a small portion of the land available within this category, SCS recommended that these land areas be used as efficiently as feasible while recognizing that limitations to their use exist. Moderate-density clustering may be feasible on selected sites so designated.

Severe Limitations

Land areas with this designation had the poorest capability to be used for septic system operations due to one or more of the characteristics used to evaluate their potential. This designation did not mean that these land areas were incapable of supporting development. Rather, the “severe” designation alerts the developer and planning board of the need to identify the limitation(s) and make sure that any and all remedial actions to overcome the limitations were made. Again, the importance of site inspections in this case could not be over-emphasized. Active enforcement of Town standards for septic system operations will help to prevent problems of system failures.

The Town of Wilton has adopted and presently utilizes this classification in its zoning ordinance for making lot size determinations. However, as mentioned above, applying this classification to Wilton’s soils shows that much of the Town’s soils are rated as severely limited. Depending on which

soil property warranted the severe rating (wetland, floodplain, coarse, shallow, hardpan, or stony), will be reflected in the economical and technological requirements necessary to use the soil for septic system leachfields. SCS has found that even though a group of soils may be rated severe, the economical or technological requirements to overcome the soils limiting factors may not really justify a severe rating. A limitation caused by stones or wetness can be more easily and economically engineered around than is one caused by slope. For this reason the SCS has developed and is now recommending towns use a recently published soil classification system that evaluates a soils potential for development.

Soil Potential Ratings

The Hillsborough County Conservation District recently (1986) developed a program aimed at providing local Planning Boards with better soils information for decision-making. A new rating system of soil "potential" has been developed that indicates the relative quality of a soil for a particular use compared to other soils within the County. The criteria used for this system better address local soils characteristics, performance, and corrective measures than the present survey's Soil Limitations Ratings. To date, the program has been completed for Cheshire, Grafton, Hillsborough, and Rockingham Counties.

Soil potential ratings for Hillsborough County have been developed for three basic kinds of land use (septic installation, building of dwellings with basements, and road construction). This discussion will focus on the first two kinds of land use mentioned.

The system rates the quality of a soil for a particular use relative to the type designated as the area's "standard" or optimum soil for each use. The system uses local criteria relating to a specific set of soil characteristics, providing information about soils that emphasizes feasibility of use rather than avoidance of use. The final publication for Hillsborough County assembles in one document information on soils, corrective measures to overcome problem soil properties, and the relative costs of the corrective measures for each use. This system makes the Soil Survey information more applicable and easier to use, thereby strengthening resource planning efforts through more effective matching of the soil information to that of contemporary development methods and needs.

In the system's evaluation of soils potential relative to the three selected uses previously mentioned, consideration is given to individual soil properties such as texture, slope, water table, depth to bedrock, permeability, flooding and drainage. The reference soil selected for each use category has soil properties that favor the lowest cost when considering any applicable corrective measures. Other soil types in the county are then indexed based on their potential use, soil properties, use of corrective measures, and any continuing limitations (i.e. septic system maintenance and erosion stabilization). Finally, a five unit rating class is matched to the soil's numerical index value to see if, for a particular use, the soil has *Very High* potential (lowest cost), *High* potential, *Medium* potential, *Low* potential, and *Very Low* potential (greatest corrective cost to overcome soil properties).

Soil potential ratings for both septic systems and buildings with basements have been mapped separately at a scale of 1" = 10001. While both sets of information are useful to evaluate the location of development in Wilton, the latter is more applicable in those areas of Town serviced by public water and sewer. Even in these areas development must be evaluated to ensure that slope and soil problems aren't ignored to the detriment of the land, an abutter, or the Town.

Looking at the septic system soil potential map, the soils classified as having very low and low potential ratings cover a significant portion of the Town. However, a much smaller portion of Town is covered by the same two categories on the soil potential map for dwellings. This shows the importance of regulating septic systems in areas not covered by the Town's public sewer system, and can point to areas where the sewer may need to be extended. In addition, these lower ratings do not say that the soil cannot be used for its intended purpose, just that it may require more detailed engineering or money to address problem soil properties.

The Town's current zoning ordinance assigns lot size based on the earlier soil limitation rating method (slight, moderate, severe). Wilton should seriously consider adopting the new, more detailed classification of soil potential ratings for septic systems, and adopt a new lot size breakdown relative to a soils potential rating. The lower the potential rating a soils has, the larger the lot size that will be necessary to adequately handle the installation and operation of a septic system. Conversely, the higher the potential rating a soil has, the smaller the lot size necessary. Proper planning practice would suggest that the best soils be utilized to their fullest extent in order to elsewhere protect the poorer soils from development pressures.

Wetland Soils

Existing wetland soils include those areas particularly sensitive to development. Wetlands perform a unique function within the hydrologic system of each watershed. Wetlands provide: a vital link between incoming precipitation and aquifer recharge; flood storage and prevention; erosion control; and water purification of sediment, contaminants and problem nutrients. They also provide important habitat to a variety of vegetation and animal life including aquatic plants, insects, amphibians, fish, and waterfowl.

The role education plays in understanding the importance and sensitivity of wetlands cannot be overestimated. Promoting the development of school and public environmental education programs that utilize the outdoors as natural classrooms is one way of increasing community awareness.

The designation of wetland areas is the first step in developing any kind of protection plan or strategy. Wetland designation involves determining the location or extent of any areas that support typical wetland soils and vegetation. The existence of either wetland soils or vegetation is the result of high water table characteristics which cause frequent or constant saturation of the soil.

Nothing can replace the field survey when it comes to identifying wetlands. Trained botanists, ecologists, soil scientists, and hydrologists, when working in the field, can provide the highest level of information needed. If available, this information should be incorporated into any land use decision making process. However, the reality of most local Planning Boards is that the costs involved greatly outweigh the applicability of using this approach in developing an information base.

There are two sources of information and technical assistance presently available to local Planning Boards. One is the Hillsborough County Soil Conservation District and SCS Soil Survey. The other is the US Fish and Wildlife Service, National Wetlands Inventory classification system and map products.

Significant technical and scientific expertise has gone into the development of the Hillsborough County Soil Survey. The District also offers technical assistance at the local and regional levels to make the best use of this information. In mapping the region's soils, the SCS has delineated those soils having poor to very poor drainage based on individual soil properties. Soils in these categories include:

Very Poorly Drained	Poorly Drained
Borohemists (197)	Lyme (246B, 247B)
Chocorua (395)	Naumburg (214A, 214B)
Greenwood (29S)	Pillsbury (646B, 647B)
Peacham (549)	
Searsport (15)	

The proximity of these soils to low-lying areas or to surface waters is evidence supporting the sensitivity of these areas and their importance as wetlands. The amount and location of incoming run-off, slope, accessibility of natural drainage features, and seasonal wet conditions are all important points to consider in documenting the importance of sensitivity of a particular wetland.

The Wilton Soils Potential Map has highlighted those SCS wetland soils that exist within the Town. From this map, major concentrations of these soils are found to exist. Wetland areas are most

frequently located adjacent to or very near open water, and found next to or near the Town's rivers, streams, and ponds. This relationship is the result of a localized higher water table and the source of greater quantities of soil water during periods of high stream flow. There are also some scattered pockets of wetland soils throughout the Town, usually at the bottom of low-lying areas or depressions.

Additional information of value in delineating wetlands comes from recent efforts of the US Fish and Wildlife Services National Wetlands Inventory Project. The National Wetlands Inventory (NWI) provides a detailed and tested system of classifying wetlands through the use of aerial photo interpretation. By combining field investigation, photo- interpretation, quality control of interpreted photos, and draft map review, final NWI maps are produced. The quality control process undertaken in producing the wetland maps greatly adds to the accuracy of information presented. The USFWS is presently updating these maps utilizing 1986 color infrared photography at a much better scale.

The NWI classification defines wetlands according to ecological vegetation-type characteristics that include: (1) the presence of wetland plants; (2) the presence of saturated soil; or (3) periodic flooding. Wetlands are naturally diverse and complex, and the NWI system presents a method for grouping ecologically similar wetlands, making it easier to determine wetland type than if only using SCS soils information.

The NWI classification system begins by dividing wetlands into five groups or broad systems. These include Marine, Estuarine, Riverine, Lacustrine, and Palustrine. Since Wilton is far beyond the coastal tide influence, only the latter three groups apply. Basically the Riverine system covers streams and rivers, the Lacustrine system covers lakes and large ponds, and the Palustrine system covers small ponds and typical vegetative wetlands. After being assigned to a particular system, a wetland is further classified by subsystem to reflect hydrologic conditions. Below subsystem is the Class level, which describes the appearance of a wetland in terms of vegetation or substrate. Finally, each class is further subdivided into subclass and includes modifiers to better describe hydrology and man's activities as they relate to the existence of the wetland.

NWI maps are available from the Office of State Planning in Concord. USGS topographic maps are used as the base with wetland information added to this. Wilton is covered by two map sheets, the east half is on the Milford, NH quadrangle (1:24,000) and the west half is on the Peterborough, NH quadrangle (1:24,000). Wetland areas are outlined (or traced if a linear stream) and labeled using the NWI classification system. A detailed legend accompanies each map to explain the map symbols used. The Wilton Conservation Commission should obtain a set of the NWI maps to use in evaluating the Town's wetland resources and guiding future education and protection efforts.

The next step in protecting wetlands is be the prioritization of wetland areas based on their location and the need of the benefits they provide. For example, wetlands adjacent to a surface water body may warrant a higher priority for protection than an isolated wetland "pocket". The outcome of these efforts in Wilton has been a wetlands protection plan, a strategy involving where and how protection is needed. Town action to implement this plan would involve the adoption of a wetland protection ordinance. Other available ways to gain better control of wetland areas considered important would be through conservation easements, deed restrictions, and the fee-simple purchase of development rights or land.

Agricultural Soils

In New Hampshire, as in the rest of the New England States, undeveloped lands (this includes both agricultural and forestry lands) are being converted to non–agricultural-forestry uses at an alarming rate. New Hampshire's Secretary of Agriculture, referring to a recent public review draft of a USDA publication entitled "The Second RCE Appraisal: Soil, Water., and Related Resources on Non-federal Land in the U.S. — Analysis of Conditions and Trends", has stated that New Hampshire's agricultural future is being threatened by the loss of important natural resource lands as they are *forever* converted to other non-agricultural land uses. The USDA report referred to projects that the State's 425,000 acres of *non*-agricultural uses existing in 1982 will become 561,000 acres by the year 1990, 741,000

acres by 2000, and 1,324,000 by the year 2030. This computes to a 136,000 acre increase from 1982–1990, a 316,000 acre increase from 1982–2000, and a 899,000 acre increase from 1982-2030.From these figures one can also conclude that with a substantial increase in lands developed for non-agricultural uses (New Hampshire is second with 212% only to Nevada in percent change), there will be a substantial *decrease* in the acreage amounts of agricultural and forestry uses.

With each town contributing to the State's total agricultural and forestry resources, it is important that efforts are made to protect and preserve these irreplaceable resources at the local level. Doing so will not only help maintain the State's agricultural and forestry economy but, just as important, it will help maintain the local agricultural and forest resources that have contributed to the development of many New Hampshire communities' rural character, economy, and life style. With this need in mind, protecting the resource lands that have helped shape what Wilton is today should be a priority.

One way to ensure that farming choices and options will exist for future generations is to actively limit the division and conversion of usable farm lands within the Town. With reversion back to local production of some agricultural crops likely to be emphasized in the near future, the protection of this resource must be protected for future generations and to provide community continuity with Wilton's historic development as a rural/farm community.

Certain soils in Wilton have been classified by the SCS as having Prime or statewide agricultural significance. Wilton's soils or prime agricultural importance include: Groveton (27B); Madawaska (28B); Becket (56B); Marlow (76B); Peru (78B); Ondawa (101); Podunk (104); Monadnock (142B); and, Skerry (558B). The soils statewide agricultural importance include: Becket (56C); Marlow (76C); and, Monadnock (142C).

The presence of Prime agricultural soils in Wilton is perhaps due to the floodplain areas in Town which contribute to the development of these soils. Review of the Soil Potential Map shows where Prime and statewide agricultural soils are located throughout Wilton. Like other communities along the Souhegan, Merrimack, and Nashua Rivers, Wilton has considerable amounts of both Prime and statewide importance soils for agriculture. However, in Wilton's case the Prime agricultural soils do not appear to be as abundant as are the soils of statewide importance.

In addition, certain land areas in Wilton are currently being used for agricultural purposes. (Shown on the existing natural resource land use map and discussed later.) Though the soils being used in these areas may not be the best available, they definitely are of local importance. Since they are being actively farmed they are important to the role agriculture plays in the Town's economic, cultural, and conservation picture. Existing agricultural use areas help add to the Town's present aesthetic and rural character by providing open space environments. The Hillsborough County Conservation District has compiled a listing of the soils being used as active farmland and considered to be of "local" importance. These include: Adams (36A, 36B); Becket (57B, 57C); Marlow (77B, 77C); Peru (79B); Rumney (105); Monadnock (143B, 143C); Skerry (559B); and Croghan (613A, 613B).

There are a variety of options available for preserving farmland relative to the importance of the resource and the amount of control a Town desires to have over the resource. The costs of these are directly proportional to the level of control desired. Options include agricultural zoning, conservation easements, clustering, transferable development rights, tax stabilization contracts, compensable regulations, actual fee-simple purchase of the property, and private or State land trusts like the Trust of New Hampshire Lands. The method of protection chosen will reflect the importance of the agricultural resource, the desired level of control the Town wishes, and its ability to compensate the owner for the control. Continued efforts on providing tax incentives, purchase of development rights, and land trust programs may insure continued agricultural use of these lands.

WATER RESOURCES

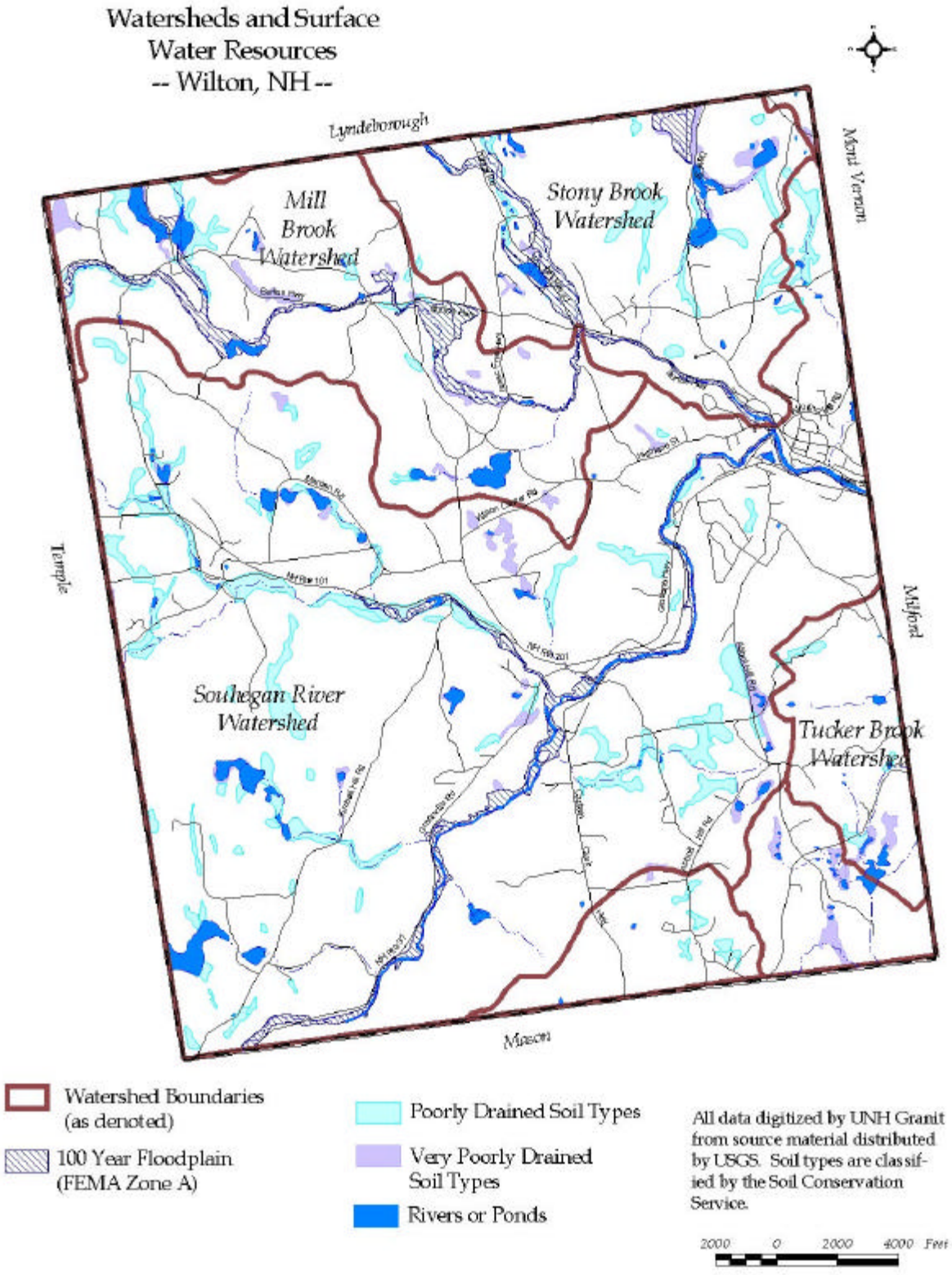
Water is essential to every element of community life. Like air, water is constantly in motion - running above and below the ground's surface across town, state and national boundaries. The system of water in Wilton is extremely important in planning for growth, as the ground is the sole medium through which wastewater is purified and from which drinking water is drawn. The safe conduct of both of these practices must be enforced if hazards to the health and well being of community residents are to be avoided. The first step toward ensuring the protection of the Town's water quality is the inventorying of the water resources within the community and their importance.

Surface Water Resources

Surface water resources provide storm drainage, groundwater recharge, wildlife habitat, water supplies, and active or passive recreation. The Town's surface water resources including the Souhegan River, Batchelder Pond, Flood Control Reservoir, and the Old and New Wilton Reservoirs, are especially important due to their size and their current or potential uses. Because of the inter-connection between surface waters and groundwater, all are very important when you consider the need to protect local and municipal water supplies.

Surface water resources in Wilton may represent a small portion of the Town's land area, but, because of the extensive network they form, they are an important resource to consider relative to the Town's existing and future growth. Although complex and extensive, the Town's natural drainage system has been depicted in a simplified form in Figure II-1 below.

FIGURE II-1
INTER-RELATIONSHIP OF WILTON'S SURFACE WATER RESOURCES


Watersheds and Surface
Water Resources
-- Wilton, NH --
Lyndeborough
Mont Vernon
Temple
Milford
Mason
Mill
Brook
Watershed
Stony Brook
Watershed
Souhegan River
Watershed
Tucker Brook
Watershed
Watershed Boundaries
(as denoted)
100 Year Floodplain
(FEMA Zone A)
Poorly Drained Soil Types
Very Poorly Drained
Soil Types
Rivers or Ponds
All data digitized by UNH Granit
from source material distributed
by USGS. Soil types are classi-
ied by the Soil Conservation
Service.
2000 0 2000 4000 Feet

Wilton's ponds and reservoirs are a very important surface water resource providing wildlife habitat, water supply, flood control, and outdoor recreational opportunities. Of particular importance are Wilton's Old and New Reservoirs. These two reservoirs are part of the Town's original public water supply system, and are connected by a pipeline that allows surface water to be pumped from the Old to the New Reservoir as necessary. The Town has recently put into service its new gravel packed well. The existing Reservoir System will be maintained as a backup water supply and for a reserve should future demand require its use. Therefore, protective land use regulations should be maintained around both reservoirs to maintain good water quality in case of emergency and/or future need.

An inventory of Wilton's pond and reservoirs is presented below:

Name of Water Body	**Size**
Heald Pond	Area: 3 acres Length: Elevation: 720 feet Avg. Depth: 5 feet Max. Depth: 7 feet
New Wilton Reservoir	Area: 18 acres Length: 0.9 mile Elevation: 608 feet
Old Wilton Reservoir	Area: 2-3 acres Length: Elevation: 600 feet ±
NH WRB Flood Control Site Site 15	Area: 69 acres Length: .9 miles Elevation: 835 feet
Batchelder Pond	Area: 6 acres Length: 0.15 mile Elevation: 825 feet
NH WRB Flood Control Pond (Temple-Wilton) Site 25-B	Area: Normal 45 acres Length: Normal 0.75 mile Elevation: Normal 830 feet Storage: Normal: 74 ac-ft
Beaver Dam Brook Flood Control Pond Site 33	Area: 5 acres Length: 0.25 mile Elevation: 680 feet
Burton Brook Flood Control Pond Site 10	Area: +/- 1.5 acres Length: 0.3 mile Elevation: 800 feet
Rhododendron Swamp	Area: 30 acres Length: 0.3 mile Elevation: 580 feet
Unnamed Pond (Tax Lot G-1)	Area: +/- 1.0 acre Length: 0.3 mile Elevation: 740 feet
Unnamed Pond (Tax Lot C-7)	Area: +/- 0.3 acre Length: 0.1 mile Elevation: 800 feet

Unnamed Pond (Tax Lot C-51)	Area: 3 acres Length: .3 miles Elevation: 640 feet.
Anne Jackson Pond (Tax Lot F-2)	Area: 2 acres Length: .1 mile Elevation: 600 feet
Frog Pond (Tax Lot D-93)	Acres: 3 acres Length: .2 miles Elevation: 400 feet

Approximately 50 unnamed ponds, all under 2 acres, can be located on the Planning Board Map.

The importance of surface water resources in the protection of water quality requires that these resources be constantly considered in the land use planning process. It is recommended that land areas adjacent to surface water resources be protected by restricting intense development in these areas. Limited development will help the Town maintain the community's needs for recreation and open space. They will also provide protection greenways that buffer or minimize any land use impacts that may be created by allowed development. This not only protects the water quality, but also enhances the value of the surface water resources by allowing them to continue to support the community of wildlife within and around them. In addition, the connected surface water resources then serve as the basis for a natural system of open space around which development can occur. In Wilton, this would provide open space areas for most of the developable land in Town. To accomplish this, development should be concentrated where Town water and sewer are available or readily extendable.

Groundwater Resources

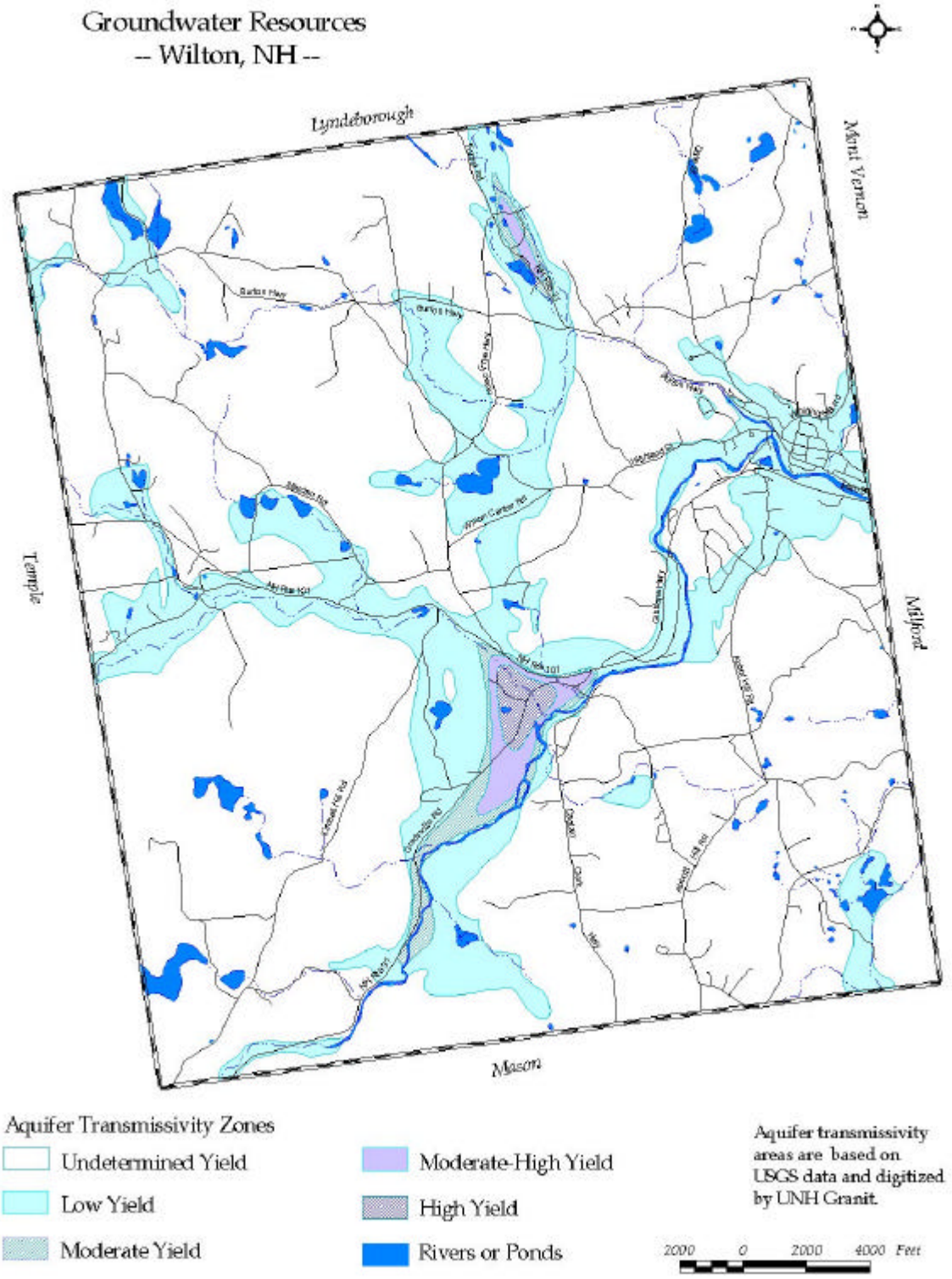
A substantial portion of water in Wilton is below the ground's surface. Groundwater is water that is stored in the pore or fracture spaces between the individual particles of soil, sand, gravel, bedrock, etc. In essence then, the ground acts as a sponge (or more correctly, *aquifer*) which filters and stores large amounts of potable water. These supplies are tapped by drilling or digging wells to obtain water for domestic consumption. The amount of water that can be obtained in this manner is determined by the nature of the material holding the water. For example, per unit volume of material, sand and gravel deposits generally have a higher potential for yielding large amounts of water than do till deposits or bedrock.

Stratified Drift Aquifer

Stratified drift aquifers are made up of sand and gravel materials. The materials were deposited by the melting of glacial ice similar to rivers that deposit sand or gravel bars today. The deposits may be quite extensive, and are layered or "stratified." Their course texture allows for large volumes of water to be stored and their high porosity allows groundwater to flow through quite readily. For these reasons, stratified drift aquifers are a prime source of water for municipal and other large volume users as they have a potential to yield large volumes of water to a well.

The ease with which the groundwater may be recovered and used relates directly to the development potential of the area. Water usage, however, will vary depending on the type of development. Single family residential and light commercial development use a relatively small amount of water in relation to the available potential of the aquifer. Higher density residential and heavy

commercial and industrial uses usually require larger amounts of water for consumption and for fire



protection. Thus, in the absence of a municipal water supply system, the mapping of groundwater potential can be helpful in deciding where various land uses might be best located.

Aquifers, however, are porous and transmit water along with any pollutants or contaminants it may contain. The potential for contamination will depend on the nature and intensity of the uses located over the aquifer. These are uses that in many cases depend on the aquifer for potable water supplies. The potential for contamination is also further compounded by the dynamic nature of water. Pollutants discovered at one point may originate from a distant up-water gradient source. Thus, the delineation of aquifers and the drainage basins which feed them can help officials in determining the impact of uses which occupy land areas important to the recharge of groundwater supplies.

The aquifers delineated on the Water Resources Map from the previous master plan were taken from a 1977 study that identified underground water supply potential according to soil types. (Ref. 5) Three categories of groundwater sources were identified:

High Potential — Wells located within these areas by systematic groundwater exploration should yield sufficient quantities of water to meet or augment municipal and industrial requirements.

Medium Potential — Shallow wells and infiltration galleries located in these areas by systematic groundwater exploration should yield sufficient water for small municipal and rural water districts, commercial and light industrial use.

Low Potential — These areas, in which hardpan and ledge are at or near the surface, have low potential to yield water. Wells in till and bedrock commonly yield sufficient water for single family domestic use. In places where wells penetrate saturated zones or fractures in bedrock, wells may yield more than 40 gals./min. Wells in these areas will not support large sustained yields.

Since this information was made available, and the previous master plan was prepared, another more detailed study of the glacial stratified drift aquifers within the Nashua Region was completed and published by the U.S. Geological Survey in 1987. The Aquifer Delineation Study for the Nashua area is an expansion of the USGS Groundwater Availability mapping. Based on the hydrogeologic information supplied by this earlier study, the USGS first considered the availability of existing hydrogeologic information in and around these potential areas. Additional field mapping, well borings (50), and material sample testing were completed to fill data gaps. Field work included twenty-two seismic refraction lines (a combined total length of almost eight miles). This was done to provide depth-to-watertable and bedrock subsurface information.

Due to the unpredictable nature of till and bedrock aquifers and the cost of exploring them geophysically, they were not included in this study. This study covers only stratified drift deposit aquifers located within the region. The principal new data developed in this study include: the location and extent of watershed areas; the location and extent of the stratified drift material (both surface area and depth); water table elevation; saturated thickness of stratified drift deposits; individual aquifer characteristics including type of material, transmissivity and direction of groundwater flow; and, groundwater quality sampling results.

Location and Extent of Watershed Areas

As mentioned previously, surface water and groundwater are interrelated. Precipitation falls in areas referred to as watersheds formed by a series of connecting ridges. Surface water, flowing through a system of interconnected wetlands, brooks, streams, and rivers, is encompassed by a drainage basin or watershed. An aquifer is located in a watershed, and, depending on the size of the aquifer, the watershed may be very large. A watershed can be subdivided into smaller subwatersheds for each individual brook or stream.

Watersheds are particularly important to consider when production wells are located adjacent to surface water bodies. Watershed management and protection may provide a framework for a

comprehensive water resource strategy, of which aquifer protection is but a part. However, caution should be exercised in the use of watershed protection exclusively as a groundwater strategy.

Groundwater is recharged in stratified drift aquifers in two ways. The area of direct recharge is the land surface directly overlying the stratified drift deposit. Water infiltrating the earth materials within this area has a "direct" route to the groundwater resource. The indirect recharge is the land surface outside the direct recharge area, but within the surrounding watershed, which contributes water to the groundwater system.

Location and Extent of Stratified Drift Deposits

Location and extent of stratified drift deposits are determined from existing surficial geology mapping, SCS Soil Survey information, and additional fieldwork. The extent of these deposits are delineated on a USGS 7.5 minute (7.5'), 1:24,000 scale (one inch = 2000 feet) topographic base map.

The map line showing the deposit boundary actually represents the location where the composition of the glacial deposit changes from stratified drift to till or bedrock. The actual width of this change (represented by a line on the map) may vary. In some cases, the geologist conducting the surficial geology mapping noticed a "clean break," while in other instances a "transition zone" was identified.

The depth of existing stratified drift deposits is important information used in evaluating an aquifer. To determine this, the hydrogeologist does "seismic profiling" while in the field. From the results of this field work a subsurface profile or cross-section is developed. Using numerous seismic lines and consulting other data, a better picture is put together of what actually exists below the ground.

Water Table Elevation

Water table elevation is the position of the water table in relation to the Mean Sea Level reference point. Similar to mapping the ground surface with topographic contours, the water table is mapped in feet above Mean Sea Level (ft. aMSL). The water table contour interval (vertical space between lines) is ten feet.

The contour information was developed from seismic profiling, well completion and test boring reports. These reports have limitations that the hydrogeologist must incorporate into the analysis. The contour information was developed from seismic profiling, well completion and test boring reports. These reports have limitations that the hydrogeologist must incorporate into the analysis. These include seasonal variations of well measurements, the effects of nearby pumping wells, and the reliability factor of well completion reports submitted to the NH Water Well Board (WWB).

Saturated Thickness of Stratified Drift Materials

From the information provided on the maps, it is possible to determine how far one would have to dig through the unsaturated materials to hit the water table. A location is identified from the topographic contours, and then the ground surface elevation is established (e.g., 350 ft. aMSL). Then the water table elevation is subtracted from the ground surface elevation. This results in the number of feet of unsaturated material (e.g., 350 ft. – 300 ft. = 50 ft.).

Saturated thickness is determined by combining depth to bedrock and water table level information. Within the total thickness of a stratified drift deposit, this is the zone of saturation. Saturated thickness is shown on the aquifer maps using contour lines of 10, 20, 40, 60, 80, and 100 feet.

Material Type, Transmissivity, and Rate and Direction of Flow

The type of material (fine, coarse sand, gravel, etc.) is an important factor in determining the quantitative characteristics of an individual aquifer. In classifying aquifers for this study, the hydrogeologist mapped four categories of material type: predominantly coarse; predominantly fine;

coarse over fine with coarse materials over 25% of total thickness; and, fine over coarse with buried coarse materials at least ten feet thick.

The capacity of an aquifer to transmit water is referred to as its rate of transmission, or transmissivity. A transmissivity value for an aquifer is determined from the material samples test data. Aquifer transmissivity values are mapped using contour lines representing 0–2, 2–4, 4–8, and over 8 thousand square feet per day. The greater the "T" value, the more groundwater the aquifer will transmit.

Velocity or rate of groundwater flow is also a function of material type, porosity, and slope (hydraulic gradient) of the water table. Very coarse (porous) materials with steeper hydraulic gradients are expected to have higher anticipated rates of flow. In reverse, finer (less porous) materials with flatter hydraulic gradients are expected to have lower rates of flow.

Direction of flow is determined from reading the groundwater table contours. Groundwater flow does not always follow surface topography so having water table contour information will help alleviate the guesswork. Arrows are used to show direction of groundwater flow on the maps.

Groundwater Quality Sampling Results

Groundwater quality monitoring was done in conjunction with USGS fieldwork. Testing of samples collected was made possible through EPA grant funds. A total of 46 water samples were tested. The results show that overall water quality in the Nashua region is very good. Localized groundwater contamination incidents have been recorded at certain sites within the region. These incidents have been associated with specific land use problems on or near the site. The water quality study done for the region analyzed past information, located new sampling sites, performed water quality testing, and prepared final analysis, findings and recommendations. The three wells tested in Wilton were found to have levels of Sodium (Na) slightly higher than the USEPA recommended Toxic Contaminant Level. The wells were likely contaminated by either road salt or septic leachate, which are both a possible source of Sodium.

The following excerpt is the USGS aquifer study description of Wilton's stratified drift aquifers:

"Permeable stratified drift covers 5.2 mi^2 or about 20 percent of Wilton. These stratified-drift deposits are found in continuous bands along Stony Brook, Blood Brook, a Stony Brook tributary, and the Souhegan River (pls. 1 and 2).

The most important aquifer available for additional development is along the Souhegan River near New Hampshire State Route 101 and 31 (pls. 1 and 2). This aquifer extends from the Massachusetts border northward toward Wilton Center and westward up the valley on Blood Brook. Seismic-refraction and test-well data indicate the presence of about 80 ft. of saturated sand and gravel in this area. Well W-6 in this aquifer has a yield of 500 gal/min. Transmissivity in the most thickly saturated part of this aquifer is greater than 8,000 ft^2/d.

The aquifer along Stony Brook south of the Wi1ton-Lyndeborough town line is of limited area extent but contains at least 40 ft. of saturated sand and gravel. Potential exists for induced recharge from Stony Brook to supplement the yield of this aquifer. Although the transmissivity of this aquifer is less than 8,000 ft^2/d, the aquifer may, upon testing, have the capacity to sustain one large-yielding well.

All other stratified-drift aquifers in Wilton, including those in the valleys of upper Blood Brook, Stony Brook tributary and lower Souhegan River contain stratified drift with transmissivity generally less than 2,000 ft^2/d; this stratified drift is best suited for supplying water to individual households or other small users."

Till Aquifers

Till aquifers are also made up of glacial deposited earth materials. The main differences between till and stratified drift aquifers are material porosity and thickness. Till is a mixture of clay, silt, and gravel materials. These materials were ground-up from solid rock by the glacier. Because there is a mixture of different sized particles, the available pore space is limited. Little groundwater can be stored in or flow through such small individual pore spaces. In addition, till was deposited by glaciers on the tops and sides of valleys, making till deposits relatively thin compared to those of stratified drift. Wells drilled in till usually yield only small volumes of groundwater which may be adequate for private residential use.

Aquifers composed of glacial till materials may not be considered as good a water supply source as stratified drift aquifers, but for individual home owner needs they may supply shallow drilled or dry wells with marginal to adequate water yields. For the most part, those areas within Wilton not mapped in the USGS aquifer study, would be considered as till deposits. (There may also be small, scattered areas where bedrock is not covered by glacial till and is exposed at the surface. Glacial till deposits have also been mapped and can be delineated using USGS and Dept. of Resource and Economic Development (DRED) surficial geology maps. The SCS Soil Survey also lists those soil series that likely have developed from glacial till deposits. These soil series and their corresponding soil symbol include:

Becket Series	56B, 56C, 57B, 57C, 57D
Lyme Series	246B, 247B
Marlow Series	76B, 76C, 76D, 77B, 77C, 77D
Monadnock Series	142B, 142C, 143B, 143C, 143D, 145C,145D
Peacham Series	549
Peru Series	78B, 79B, 79C, 79D
Pillsbury Series	646B, 647B
Skerry Series	558B, 559B, 559C
Tunbridge-Lyman-Monadnock Complex	160B, 160C, 160D
Lyman Tunbridge Rock Out-Crop Complex	161C, 161D

In those areas not mapped as stratified drift, any water supply wells relying on till deposits will be shallow in depth, and possibly seasonal in duration. The water table levels and yields will likely fluctuate greatly, corresponding to the seasonal variations in precipitation and drought. Because these wells are also close to the surface of the ground, they are very susceptible to land use related contamination (septic systems, fuel storage, fertilizers, road salt, etc.). The Town should consider increasing the setback of future land uses to these water supply wells in order to prevent the unnecessary contamination of someone's water supply.

Bedrock Aquifers

Bedrock aquifers are composed of fractured rock or ledge with groundwater stored in the fractures. These aquifers are very complex because bedrock fractures decrease with depth, "pinchout" over short distances, and do not carry much water. Wells drilled in bedrock that do not "hit" a fractured area will come up dry. If the well encounters an extensive fracture system, then groundwater yields may be high. On the average, bedrock aquifers yield smaller volumes of groundwater than wells drilled in stratified drift.

As mentioned above, it is the fractures in the solid bedrock that carry groundwater. Unfortunately, locating bedrock fractures requires high-technology fieldwork and is very costly. Bedrock fractures are also hard to locate because of all the glacial material that may be covering them. The presence of fractures also depends on the type of bedrock involved and depth.

Bedrock aquifers are recharged from the same source as stratified drift and till aquifers. Surface water can directly enter the fractures exposed at the surface, or soak into the overlying material and then enter any fractures that may exist along the material-bedrock contact. The latter is the main way bedrock aquifers are recharged. Knowing just where this takes place for a particular fracture or fracture

zone is extremely difficult, primarily due to the complex interconnecting nature of fractures, and the large area they may cover (e.g., an entire watershed).

Locating water supply wells in bedrock is often a hit or miss proposition. If you are drilling in a high fracture area, then there is a good chance your well will intercept a fracture and yield sufficient quantities of water. However, if the bedrock is not highly fractured, the chance of hitting a fracture decrease substantially.

In the case of Wilton, where you have both stratified drift and till bedrock aquifers available, bedrock aquifers are a viable and already highly used option for providing individual water supplies. Again, due to the complex nature of bedrock aquifers, the Town should be cautious about allowing existing and future land uses to dispose of waste products that may find their way into surface water and groundwater supplies. Wilton may also consider having a bedrock aquifer study prepared by a private hydrogeologic consulting firm, similar to what the Town of Amherst has had done, in order to provide a more completed picture of Wilton's groundwater resources.

Floodplains

Floodplains are areas adjacent to watercourses and water bodies that are susceptible to the natural phenomenon of flooding during periods of excessive water run-off. Flooding is the process through which the exchange of water from surface to groundwater stores is accomplished. The unpredictable nature of flooding requires the application of precautionary measures to avoid substantial damage to life and property in areas susceptible to floods.

Two methods are available to avoid the problems presented by periodic flooding. Protective measures can be applied to structures already located, or proposed for location, on floodplain areas. Preventive measures can also be used to regulate the types of development permitted in these areas so as to minimize the potential hazards to life and property of community residents and landowners. To employ either approach requires the identification of affected properties.

Due to the amount of land in Town which is susceptible to flooding, the Federal Emergency Management Administration and the Federal Insurance Administration has prepared a flood insurance study of the community. The areas delineated on the flood insurance map are susceptible to flooding during the 100-year flood event. It is recommended that these areas be removed from consideration for development for active use. This restriction will eliminate the potential threats to health and property by being reserved for open space or agricultural uses. In addition, the Planning Board may waive this restriction, upon proof by an owner that the designated area is no longer subject to flooding, although it may have been at one time.

Significant Natural Resources of Local Importance

The Town of Wilton is fortunate to be relatively rich with valuable natural resource lands. However, unless the proper actions or remedies are taken, these resource lands will soon be converted to "non-agricultural" uses, and, therefore, no longer able to contribute to the Town's history, culture, recreation, and economy. Fortunately, some of these lands are already under State, Town, other quasi-public, or private agency, group, or individual ownership that fosters their proper protection and management. These lands, some of which were included in the recreation discussion in the community facilities and services section, are listed below:

State Owned

State Forest	Hiking, picnicking, boating, and hunting, among other daytime activities are allowed in the 433 acre State Forest. However, campfires and barbecues are prohibited. The State Forest is located in the southern section of Town to the east of NH Route 31. Part of the State Forest is in the Town of Mason.
NH DOT Scenic Highway Easement	A scenic highway easement along NH Route 31S. This easement protects the scenic, forested roadsides from being altered.

Town Owned

Town Forest	A 50+/- acre forested tract which can be used for picnicking and short hikes during the day. Fires of any kind are prohibited in the forest.
Carnival Hill	A 36 acre area that has historically been the location of winter recreational activities such as sledding and skiing.

Quasi-publicly Owned

Society for the Protection of New Hampshire Forest Lands	A 300+ acre tract of land located partially within the Town's of Wilton and Temple. The tract includes a pond, wetland areas, forests, and other natural resources which provide fishing, canoeing, and hiking recreation opportunities for the public. A 46-acre tract of land located on NH Route 31S. The tract includes forest, water) and other natural resources.
Stevens	A ____-acre tract of land located sough of Mason Road accessed by Stevens Road.
New England Forestry Foundation	A small tract of land managed for conservation and forestry uses.

Unfortunately, the lands listed above do not include all the various types and acreages of natural resource lands that actually exist in Wilton. There are numerous acres of forest and agricultural (both active and historically important) land; ponds, streams, and waterfalls (at least three of the latter); extensive wildlife habitat for game and non-game animals; and other cultural-natural resources (historic trails, cemeteries, mills, and, camps) under private ownership. Because they are privately owned their level or adequacy of protection could be questionable. This is not to say that privately owned land in Wilton is not being protected or managed improperly. There are a number of landholders in Wilton who are actively managing their lands, often with available Federal, State, and local assistance, to the benefit of the resource, the Town, and themselves. Wilton is also very fortunate that some of the public and quasi-public land holdings listed above were made possible through private *donations* from respective landholders.

The Wilton Conservation Commission is taking a more active interest and role in preserving the natural resources that are of particular importance to the Town. The Conservation Commission is in the process of inventorying these resources — their locations, extent, ownership, etc. With this information the Conservation Commission intends to prioritize these resources as there is only so much time and

money available to help protect them, and it is important that the Conservation Commission focus its efforts and available funds on the different types of natural resources that are of greatest importance to the Town. Once the Conservation Commission has completed its inventory and set its priorities, it hopes to begin a more intense campaign, with staff and financial assistance from the Trust for New Hampshire Lands Program, to negotiate with the private landowner who holds the rights to the Town's most important natural resources to obtain more of a say as to how these valuable resources are preserved for the Town's future generations.

RECOMMENDATIONS

Topography

Elevation

To protect the visual quality of Wilton, the Town should consider the various options for protecting and maintaining the higher elevation areas in their existing natural state through easements, development rights or fee-simple land purchases, and/or zoning ordinance-subdivision regulation.

To utilize the higher elevation areas in Wilton as a location to observe the scenic views Wilton has to offer, the town should consider obtaining an easement for or the purchase of a small area at the top of one or two higher elevations, or a scenic vista overlook, providing access (pedestrian or vehicular) to these areas, and landscape or build an observation tower, if necessary, to allow for better visibility.

Slope

Slopes of greater than 25% should be regulated in every zoning district so that development or other land surface alteration is limited.

Slopes of 15-25% should be regulated in every zoning district so that development or other land surface alteration is done with the least amount of environmental damage. Strict application of and conformance with the Town's newly adopted sediment and erosion control regulations is a necessity.

Slopes of 8-15% should be examined when developed in every zoning district so that the development or other land surface alteration is done with the least amount of environmental damage. Application of and conformance with the Town's newly adopted sediment and erosion control regulations should be considered where necessary.

Slopes of less than 3% should be regulated in every district so that development or other land surface alteration is done in a manner that will allow natural drainage to continue and not create flooding problems for abutters.

Soils

Wilton should revise its zoning ordinance to require variable lot sizes based on the SCS Soil Potential Rating System where onsite sewer and water are to be used. Soils rated as having very low and low potential for use as septic tank absorption fields should be developed with extreme caution, if at all, recognizing their unsuitability for such use. Development requiring septic systems should be encouraged in areas containing soils rated as having medium, high or very high potential for use as septic tank leachfields. Serious consideration should be given to various methods of clustering land uses in the development of these areas as a means of deriving maximum benefit from this scarce community resource.

Wilton should revise its zoning ordinances based on HCCD soil potential ratings for dwellings to allow higher densities of development in districts where public sewer and water are provided. In cases where this is done, slope should be used as a factor in determining lot size.

Wilton should revise its subdivision regulation to allow for greater than State minimum setbacks of septic leachfields from surface waters, wetlands, and water supply wells in gravelly or rapidly permeable soils.

Adhere to the newly adopted sediment and erosion control regulations for instances where vegetated soils are disturbed in the process of their being developed.

The Town should consider developing a plan from available land protection options (easements, transfer of development rights, and purchase of development rights or land) for the active management of its natural resources, and encourage the use of a private landtrust(s) to assist with this endeavor.

Wetlands

Wetland soils should be evaluated for their natural resource value to the Town, and protection measures developed (purchase, easements, etc.) relative to their pre-determined value.
The Town should continue with its present wetlands conservation ordinance, and periodically monitor its effectiveness and how it is enforced.

Agricultural Importance

Agricultural soils should be evaluated for their agricultural value to the Town, and protection measures developed (purchase, easements, tax incentives, etc.) relative to their pre-determined value.
Because of the key role agricultural and orchard lands play in providing food, employment, and scenic character to Wilton, the Town should encourage the preservation and conservation of priority agricultural lands and operations. Special incentives should be developed that would encourage agricultural land and open space preservation through mechanisms such as conservation easements, purchase or transfer of development rights, or the fee simple purchase of land.
As a condition of approval for all new homes built upon or in the vicinity of agricultural lands, it should be required of all applicants to sign a non-remonstrance agreement stating they they will not complain about, object to or protest against commonly accepted agricultural practices and impacts. Such agreements will allow productive agricultural lands to continue to be actively farmed without undue interference from non-farm neighbors.
Development near existing agricultural operations should be carefully evaluated, preferably clustered buffering provided, to ensure that this development does not conflict with or impair the agricultural use's ability to economically operate.

Water Resources

Continued consideration be given to the protection of surface water and groundwater supplies within the Town's boundaries, especially the Old and New Wilton Reservoir water supply system, within the recharge area for the Town's new municipal well, and in areas where there is the absence of a municipal waste treatment system, as they are the life-blood of the community. Protect the Town's existing water supply well aquifer source and their surface water reservoir backup system with additional water supply overlay zoning and other land use regulations, reduction of the amounts of road salt applied to State and local roads, or through the purchase of protective land buffers. Review the Town's existing watershed protection zoning ordinance to incorporate surface water setback, lot frontage, and other applicable performance standards.
Create a surface water shoreline protection overlay zoning district that protects the shoreline vegetation and soils from erosion and other water quality degradation caused by too close development.
Continue with the Town's Wetland Conservation, Floodplain, Watershed, and Aquifer Protection Districts. Evaluate each ordinance's effectiveness and the method of enforcement of each for any necessary revisions.

Floodplains

Areas composed of soils designated as being susceptible to flooding should be removed from consideration for active use other than open space, recreation, and agricultural.

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