NATURAL RESOURCES

It is vital that Tilton balance its natural resources against the ever-increasing pressures of development. In order to accomplish this task, the Planning Board depends on the input and advice of the Conservation Commission and the regional planning commissions to protect green spaces, preserve open lands, encourage the preservation of farmlands and historical properties, as well as protect wetlands and water resources. The town's most vital resource is water, therefore a preliminary Water Management and Protection Plan is outlined herein. Several other significant categories are essential to the preservation of Tilton's environment, aesthetics, and its rural character, and these are also discussed. In the Summary of Findings are the following recommendations:

1. The need to protect our drinking water from contaminants.
2. Retention of open space, and
3. The aggressive acquisitions of easements for wildlife and other natural resource protection.

A. Water Resource Inventory

An up-to-date inventory of all critical or sensitive area resources in Tilton and abutting communities is essential to the town's management of its natural resources. Such information provides the factual basis for any land development regulations that may be enacted to protect natural areas.

As specified in RSA 4-6:22, the natural resources section of the Master Plan may include a local water resources management and protection plan which, once adopted, will be placed on file with the N.H. Office of State Planning (NHOSP) in accordance with RSA 675:9. A preliminary draft of such a plan was initially incorporated into the 1986 version of Tilton's Master Plan, but has never been completed nor formally adopted. Subsequently, the town became part of a three-town source water protection study in November 2001. Through a grant from New Hampshire Department of Environmental Services (NHDES), the Lakes Region Planning Commission (LPRC) orchestrated a tri-town (Belmont, Northfield, Tilton) study of the aquifer under Route 140 that provides essential drinking water for all three towns. When completed, with plans and doctrine for the protection of that critical water source, the partial water resource management and protection plan (in section B below) should also be adopted pursuant to the aforementioned statute. Therefore, implementation will be through the adoption and enforcement of a municipal ordinance consistent with the plan.

Background

The town of Tilton is located within the watershed of the Merrimack River, one of five major drainage basins within the State of New Hampshire. The entire land area of the town lies within

the Winnipesaukee River sub-basin, which together with the Pemigewasset River comprise the headwaters of the Merrimack. Within Tilton, there are a number of minor surface drainage basins surrounding perennial and seasonal streams that carry surface runoff from north to south into the Winnipesaukee River, or to Winnisquam Lake and Silver Lake. Ground elevations range from 866 feet on Calef Hill on the Sanbornton town line, to a low point of approximately 400 feet on the banks of the Winnipesaukee at the Franklin town line.

Surface Water Resources and Impoundments

While Tilton is in the Lakes Region, its only lakeshore frontage is on the aforementioned Winnisquam and Silver Lakes. There are no other great ponds within Tilton and there are only a small number of perennial streams. Each water body will be described in terms of location, size, length, elevation, and impoundments thereof, if any. The Legislative Classification of all surface waters in the Winnipesaukee watershed in Tilton is Class B. Class B waters are considered acceptable for swimming and other recreational uses, and if appropriately treated, may be used for public water supplies. Tilton's surface waters are indicated on Map III-1. A description of each significant surface water source is found in Table III-1.

Table III-1: Description of Significant Surface Water Sources and Impoundments.

Name	General location	Confluence	Comments
Packer Brook	Calef Hill to down town	Winnipesaukee River	Start elevation: 800 ft. Ending elevation: 440 ft. Termination point: west of Park Street Bridge. Distance: 2.25 miles Impoundment: behind NH Veterans Home.
Hunt Brook	School St. to down town west of I93	Gulf Brook (East of I-93)	Descent: 160 feet Distance: 1.5 miles Impoundments: two, both inactive, on Sanbornton town line.
Gulf Brook	East of I93 to Exit 20	Winnipesaukee River East of Route 140	Start elevation: 700 feet Distance: 2.25 miles Impoundments: Three earthen ponds north of Rt. 3 / 11.
Bamford Brook	Lancaster Hill to Silver Lake	Silver Lake	Start elevation: 800 feet Distance: 2 miles Impoundments: None
Danforth Brook Town Line	Sanbornton town line	Winnipesaukee River	Start elevation: 700 feet Distance: 1 mile, approximately.
Wadleigh Brook (a.k.a.	Tilton /	Lake Winnisquam @	No data available

Chapman Brook)	Sanbornton town line	Jay's Marina	
Winnisquam Lake	East Tilton	Winnipesaukee River	Total area: 4,264 acres Level & outflow is regulated by the Lochmere Dam. Normal elevation: 482 feet. Shared by Sanbornton, Belmont, Laconia & Meredith.
Silver Lake	Belmont / Tilton Town line south of Lochmere Dam	Winnipesaukee River	Total area: 177 acres Level is regulated by natural downstream river hydraulic action. Subject to flooding based on Lochmere Dam discharges & heavy runoff events. Normal elevation: 464-467 feet. Shared by Tilton & Belmont.
Winnipesaukee River	Southern border of Tilton	Merrimack River	Distance: 5.6 miles to Franklin town line. Shared by Belmont and Northfield. Impoundments: Lochmere Dam between Winnisquam & Silver Lakes and Clement Dam on west side of Tilton Village. Normal elevation: 464 to 390 feet, a drop of 60 feet origin to Franklin.

Note: All elevations are above mean sea level.

Source:

Small and Unnamed Brooks and Streams

There are several small brooks within Tilton. Their names and flow directions, from west to east, are listed below.

1. Haynes Brook rises in the northwest corner of Tilton flowing southwesterly into Franklin at a point just northerly of Pest House Road.
2. Unnamed stream flowing from north of Pest House Road under both Clark Road and Route 3/11 before joining the Winnipesaukee River easterly of the town line.
3. Unnamed stream begins at an impoundment at the NH Veteran's Home at an elevation of approximately 550 feet. It flows southeasterly under Winter and Main Streets to its confluence with the Winnipesaukee River.
4. Forrest Stream flows form the Tilton School Pond under School Street and Rte 3/11 to the Winnipesaukee River.

5. Unnamed stream is impounding forming Ice House Pond just east of Bittern Lane, before flowing under Rte. 3/11 and the Railroad into the Winnipesaukee River. This brook had been thought to be the outlet of Hunt Brook, but is a separate drainage way.
6. Unnamed stream rising west of the Lochmere Golf and Country Club and flows beneath Rte 3/11 and under the railroad tracks, meandering through a wetland westerly of Noyes Road before entering Silver Lake.

B. Water Resources Management and Protection Plan

This preliminary water resource management and protection plan is comprised of three major components: (1) identification of significant surface and groundwater resources, (2) real and potential threats to the quantity and quality of water resources, and (3) a plan to reduce or eliminate the threats and ensure long-term sustainability of our clean water supply.

Present and Future Use of Surface Waters

More than half of Tilton's population receives water from the Tilton-Northfield Aqueduct Company (TNAC), which has well fields in Northfield as its source. Fire protection needs of downtown Tilton and the adjacent village in Northfield are drawn from the river and several surface ponds in Tilton. If the TNAC were to extend service to the part of Tilton lying east of I-93, additional sources would be needed at a capacity sufficient to serve domestic demand as well as fire protection needs.

There are a number of other current users of surface waters in Tilton. The Water Management Bureau of the Water Resources Division of NHDES registers users of more than 20,000 gallons of water on a daily basis. Further information can be obtained at NHDES.

With regard to any future use of surface waters, only the Winnipesaukee River with the associated lakes represents a potential source for a water user in Tilton. The N.H. Safe Drinking Water Act requires filtration and treatment of surface waters for public water supplies. The expense of establishing facilities for filtration and treatment will likely limit the use of surface waters to a large user such as the TNAC or to those who use the water for non-domestic purposes such as cooling or fire protection. However, in order to ensure water quality in the river, regulatory measures should be considered along the shoreline in order to limit sources of pollution, siltation and erosion.

Groundwater Resources

Subsurface water found in sand and gravel deposits as well as in the bedrock is an important potential source of drinking water for both public and private purposes. Aquifers, as these subsurface sources of water are known, yield the greatest return to wells, but are also susceptible to contamination from pollutants in runoff, placing the quality of well water at risk. "Stratified drift" refers to the layering of sand and gravel remaining from glacial action. Pavement and storm drainage systems can affect the recharge of aquifers, lowering the potential yield of wells.

With almost half of Tilton's households obtaining drinking water from wells, the identification and protection of groundwater resources is of concern.

Based on the most current data provided by the U.S. Geological Survey NH/VT office, there are four stratified drift aquifers in Tilton identified as high, medium, and low yield, all of which have the potential to serve as a source of municipal water supply. The largest of these stratified drift aquifers, classified as high-yield, lies just to the east of Interstate 93 along Gulf Brook, broadening to include almost the entire shoreline of Silver Lake. As illustrated on Map III-2, the above mentioned aquifers are part of a stratified drift aquifer which lies beneath the Towns of Northfield and Belmont to the south and serve as a primary drinking water source (29%) for all three towns, including Tilton.

In the Fall of 2001, with economic and industrial development rapidly encroaching on the wetlands and aquifer area along both sides of Route 140 between Tilton and Belmont, strong community interest in the preservation of these present and future drinking water supplies aided the NHDES Drinking Water Source Protection Program (DWSPP) and Lakes Region Planning Commission, aided by a Source Water Protection Grant from NH DES, to undertake a long-term planning effort regarding drinking water resources. A draft report provided the three towns with a comprehensive assessment of their stratified drift aquifer resources together with potential threats to its quality and quantity sustainability and recommendations for addressing the most significant threats. In March of 2007 (check date) the completed report, Aquifer Protection Best Management Practices Guidebook, was adopted by the Tilton Planning Board and is Appendix X to this master plan update.

Steps outlined in this handbook should be taken to protect Tilton's aquifer in order to maintain and protect water quality for non-municipal systems and to preserve options for supplemental municipal resources.

The following paragraphs are devoted to highlighting the recognized threats to present and future drinking water resources and recommendations for offsetting and mitigating those threats. This information could form the basis for a common tri-town ordinance to be incorporated into the respective Master Plans and utilized for educating the general public.

C. REAL & POTENTIAL THREATS TO WATER RESOURCES.

A thorough assessment of actual and potential threats to the stratified drift aquifer that underlies the towns of Tilton, Northfield, and Belmont has revealed that there is already extensive exposure to harmful contaminates in this sensitive area, and more will occur.

During the tri-town study, a number of specific threats to existing water sources, as well as to the water quality and quantity of the stratified drift aquifer overall, were identified and summarized in the final report. Of primary concern is the location of many of the major roads in the three towns situated directly over the aquifer recharge area. Large sections of these areas that include these major roads have been zoned for commercial and industrial use. This has increased many of the threats to the future of this drinking water source. Careful planning will be necessary to balance the needs of each community for growth and economic development against the long-

term protection of the aquifer. Once groundwater becomes contaminated, it is very difficult and extremely costly to clean, and if recharge is inadequate, quantity can diminish over time. Specific threats to water quality and quantity within the stratified drift aquifer can be divided into four broad topic areas.

Growth and Development

In the spring of 2003, the NHOSP released an updated set of population projections based on the 2000 Census data. For the 25-year span from 2000 to 2025, these projections indicate that all three towns will experience population increases. In keeping with the trend of the previous two decades, Belmont was projected to show the highest rate of growth at an additional 2,694 people by 2025. Northfield was projected to add another 1,512 and Tilton would increase by about 823 people. In the 9-year period from 1992 through 2001, commercial and industrial growth trends showed Belmont and Tilton running nearly parallel with heavy commercial growth and Northfield at a more moderate rate. Only Belmont showed industrial growth during this period. In total, 52 commercial permits and 5 industrial permits were issued in the sub-region during the 10-year period. In 2004 through 2006, Tilton had minor industrial development and continued with commercial development.

All of these figures, whether based on projections or actual demographic trends, should be viewed as a starting point for considering such things as the need for increased housing, both year-round as well as seasonal, and whether or not zoning and subdivision regulations will need to modified to best protect the areas of stratified drift. Distribution patterns and characteristics of this growth and its actual or potential impact on the stratified drift aquifer are examined in the following section.

Present and Potential Land Uses

Currently there are a total of 194.8 miles of Class I through Class VI roads located in the 3-town sub-region. Unfortunately, the three towns' major roads, including I-93, Route 140, and Route 3/11 lie over the stratified drift aquifer and within its direct recharge area. The layout of these major roads over the aquifer occurred long before the State and NH towns realized the significance of an aquifer as a potential water resource or understood the threats to a water supply from locating roads in the direct aquifer recharge area. Ironically, the realization of its significance pales by comparison to the pressures of growth and development. The expansion of Route 140 from the Northfield town line through a portion of Belmont (approximately 4.4 miles) is currently in the engineering stages. Once completed, it is estimated that the 2-way average daily traffic volume in the village of Belmont will increase by 87 percent. It is further projected that the subsequent growth of Belmont's employment base will be considerable due to the development or redevelopment of large parcels of industrially zoned land.

Potential impact of roadways on groundwater quality and quantity include road salting and sanding, the reduction of recharge and increase in potentially polluted runoff of storm water, and the potential for hazardous spill accidents by vehicles transporting hazardous materials. Consequently, the towns of Tilton, Belmont, and Northfield will need to develop techniques which allow the benefits of economic development to occur in a manner that minimizes

detrimental impacts to present and potential drinking water supplies. The Route 140 corridor is an example of where this balancing act will be important.

The zoning ordinances of the three towns describe what types of uses are permitted in delineated areas. Depicted on Map III-3 is a large area zoned commercial and industrial in the area directly above the aquifer (the direct recharge area), which follows along the major roadways. Currently, 29.2 percent of the total direct recharge area is zoned for some form of commercial or industrial use. In Tilton, the Rural Agricultural (RA) District has the highest percentage of aquifer area in a single district, at 30.2 percent. Of the total stratified drift aquifer area situated within the borders of Tilton, 54.6 percent falls within one of the following Districts: Regional Commercial (RG), Industrial (IN), Resort Commercial (RC), or General Commercial (GC).

A review of Tilton's Zoning Regulations, Site Plan Review Regulations, and Subdivision Regulations all provide positive indications that Tilton acknowledges the importance of keeping surface and groundwater free from pollution, although no specifics are provided for making this determination. While provisions are found throughout the regulations that collectively mitigate the potential for stratified drift aquifer contamination, a comprehensive Aquifer Protection District, incorporating the Aquifer Map and more specific regulations, would provide a ready reference for future zoning/development plans as well as the processing of residential, commercial, and industrial permits.

Potential Contamination Sources

Potential contamination sources range from facilities that typically use, produce, handle, or store contaminants such as auto repair facilities and junk yards, cleaning services, salt storage sheds, and waste facilities to winter road maintenance using salt or sodium chloride, septic systems, and common household chemicals. If improperly handled, these contaminants can make their way into a source of public drinking water. Potential contamination sources fall into two categories: point and non-point. Point sources of pollution are those that originate from a single, distinguishable source, such as a leaking underground storage tank. Non-point sources of pollution are those that cannot be traced to a single origin, such as fertilizer applied across many fields.

Within the tri-town sub-region, potential contamination sources must be examined on two separate plains: those found within the Wellhead Protection Area of existing public water supplies and those found throughout the entire direct recharge area of the stratified drift aquifer. Detailed information on potential contamination sources, including a map and a well analysis for the entire aquifer area of the three towns, is contained in the final tri-town study report. A close look at the vulnerability of existing wells, as well as the entire direct recharge area, to potential contamination threats or sources can assist in planning for the protection of future drinking water supplies (i.e., the quality and quantity of water stored in and moving through the aquifer).

Reduction in Recharge

This final category pertains to the ability of precipitation to enter the ground, move through the soil to the water table and contribute to the aquifers; a process that can be severely interrupted or prevented totally by impervious surfaces (e.g., cement, asphalt, roofing, etc). There are instances where impervious surfaces can prove beneficial in preventing contaminants from entering the

ground and potentially polluting the aquifer resources. This is particularly true in the industrial/commercial zones where such surfaces can prevent chemical spills, stored road salt, or other regulated substances from leaching into the ground. Currently, the zoning ordinances for all three towns in the sub-region provide useful information on the maximum impervious surface coverage allowed per lot in each town.

D. THREAT REDUCTION PLAN

The following is a listing of suggested actions developed during the tri-town study that, taken collectively, will provide for long-term protection of drinking water supplies.

a. Develop an "aquifer protection district" ordinance that meets the needs of the three overlying communities based on a consensus of requirements that are consistent across the entire aquifer. This will provide potential opportunities for collaboration on public education and possible shared enforcement.

b. Strengthen site plan review and subdivision regulations to minimize any potential impacts of the shared stratified drift aquifer. By requiring certain types of information on the application, the planning board will have the opportunity to examine the location of the stratified drift aquifer relative to the proposed site and the opportunity to impose conditions to mitigate any impacts on the water supply. Although the Wetlands Conservation District was updated and a Special Use Permit is now required for work in the wetlands or buffer areas, the Town should look for ways to increase this protection by requiring even more information from applicants wanting to develop over aquifer areas.

c. Explore opportunities for permanent land protection in the direct aquifer recharge area in order to protect current and future drinking water sources.

d. Follow Best Management Practices for developing general education and outreach programs for residents to increase awareness of potential threats to groundwater resources with emphasis on household hazardous materials, the use of chemical fertilizers, proper septic system maintenance and methods for reducing these threats.

e. Follow Best Management Practices for road salting and salt storage within the direct aquifer recharge area, including working with New Hampshire Department of Transportation to identify methods for reducing salt use on state roads.

f. The Water Resources Committee for the three towns should meet annually to update the potential contamination sources inventory, review latest surface geology maps from the United States Geological Survey, share town initiatives, reprioritize recommended actions, and work on collaborative projects.

The grant monies received from New Hampshire Department of Environmental Services enabled the creation of a "Best Management Practices" manual for homeowners as well as commercial and industrial businesses in the tri-town area. This manual was completed in early January 2007 and adopted by Tilton's Planning Board on XXXXX. Implementation strategies are incorporated in this manual, which will be available at each of the three town halls. The best management practices included in the manual are compatible with the needs of the three communities and will

help to minimize pollution from storm water runoff while enhancing recharge of the stratified drift aquifer.

E. WETLANDS

The federal definition of wetlands states in part that they are areas "inundated or saturated by surface or groundwater at a frequency and duration sufficient to support …a prevalence of vegetation typically adapted for life in saturated soil conditions." Wetlands are valued for a variety of reasons including the ability to help in maintaining the quality of surface waters and groundwater through the filtering of surface runoff, the provision of wildlife habitat and the storage of floodwaters. Because of the importance of wetlands, they are regulated at all levels of government.

Tilton has adopted a Wetlands Conservation District as part of its Zoning Ordinance, and references the Army Corp of Engineers Wetlands Delineation Manual (Zoning Ordinance 14.2.3). The ordinance was updated in 2005 and now provides for a wetland buffer and restricts uses in and around wetlands. The Planning Board also requires a Special Use Permit in order to grant relief from these restrictions under specified circumstances.

Recent satellite mapping has revealed wetland systems along surface watercourses including Hunt Brook, Gulf Brook, Packer Brook, and Bamford Brook. Some wetland areas lie adjacent to Winnisquam Lake, Silver Lake, the Winnipesaukee River, and a few isolated upland wetlands. For an overview of the wetlands in Tilton, see Map III-3.

F. FLOODPLAINS

Floodplains are those lands adjacent to surface waters that are periodically subjected to inundation by those surface waters at intervals coinciding with precipitation, spring runoff and freshets. Undeveloped floodplains store and absorb floodwaters. As development encroaches on the floodplain with structures and pavement, runoff is increased and storage and absorptive capacity is lost, and floodwaters spread to other lands that were not previously inundated.

One-hundred year floodplains were mapped for communities, which were then required to adopt regulations as a prerequisite to qualifying for flood insurance. Tilton has adopted these floodplain regulations as part of its zoning ordinance, pursuant to the requirements of the National Flood Insurance Program. A 100-year floodplain is the area that would be inundated by a storm that would theoretically occur once in 100 years, or has a one percent chance of occurring in any given year. The Federal Emergency Management Agency (FEMA), which requires the notification of state, and local agencies prior to the commencement of any work that may impact land in the 100-year floodplain, now administers the National Flood Insurance Program.

Identification and Description of Floodplains

The limits of the 100-year floodplains in Tilton were derived from the Flood Insurance rate Map and the Flood Boundary and Floodway Map for Tilton, dated 08-19-1997, as prepared by the U.S. Department of Housing and Urban Development for the National Flood Insurance Program.

The floodplains in Tilton follow the shores of the Winnipesaukee River from Winnisquam Lake to the Franklin town line. There are floodplains along the downstream portions of all of the named and unnamed streams, as they approach their respective confluences with the Winnipesaukee River. The largest section of floodplain is along an unnamed brook as it enters Silver Lake just westerly of Noyes Road. Tilton's floodplains are shown on Map III-4.

G. OTHER NATURAL RESOURCES

Within Tilton's borders are several other significant natural resources that the town needs to be mindful of when developing land use ordinances and while working with future developers. These resources, like Tilton's water resources, need to be preserved and protected for future generations and for the economic success of the town.

Agricultural Land

Nearly all of Tilton's remaining prime farmland soils are located north of the downtown area and are zoned Rural Agricultural (RA). Though considered to be the best suited for maximum crop production with the least investment of energy, equipment, and fertilizer, most of these soils, which once served agricultural needs, have either reverted to forests or succumbed to the pressures of residential development. As the pressure to find prime residential building sites mounts, we see a dramatic increase in the value of the agricultural acreage. The resulting increase in property taxes is progressively overriding the relief offered by Current Use and forcing many owners to sell off their farmlands. If this trend continues unchecked, Tilton will find more and more of its rural character irrevocably lost to development.

Fish and Wildlife Resources

Tilton's significant surface water resources and tributaries along the Winnipesaukee River are not only essential to the recharge of the underlying stratified drift aquifer, but serve as home to a myriad of wildlife and a source of year-round recreation. Shallow, undeveloped areas along the shorelines provide excellent food and cover for fisheries, waterfowl, and numerous species of small and large animals. Wetland margins that border the river are important nesting, feeding, and resting areas for many types of waterfowl.

In order to preserve the natural serenity of this precious resource, the town should investigate the establishment of a buffer zone from the average shoreline. The town should also consider ways to encourage more recreational use of the Winnipeasukee, highlighting its importance to the entire community.

Steep Slopes

Slope is a very critical consideration in land use planning because it affects the capability and suitability of land to support development, as it relates to the site and the building, septic system and building design costs, and environmental impacts. Environmental impacts include such things as runoff, erosion, sedimentation, and pollution. The planning board encourages builders to incorporate erosion control measures in any building where the slope calls for such measures, and has built into the Town Ordinances grades that are approved by the fire department for safe access by fire and emergency vehicles on roadways and driveways.

Open Spaces

Within the realm of natural resources, the preservation of open space is important not only for the enjoyment of the general public but also more importantly for the protection of our environment and the prevention of pollution. Open spaces may be in the form of wooded forestland, protected shorelines, manicured or unmanicured fields, courts, and parks. Whatever the form, open spaces are an essential element in creating and maintaining a healthy environment for humans, wildlife, drinking water resources, and natural food supplies needed to sustain all life.

Aesthetics and special view-scapes are often a bonus of open space and provide a sense of character and improved quality of life. It is important, therefore, that open space be given special consideration in any land use planning or approval process.

Existing Open Spaces

There is only limited publicly owned open space in Tilton. Some of these lands are along the Winnipesaukee River and are controlled by the State of New Hampshire. The State parcels lie east and west of Route 140 and include several islands. The State also owns a number of islands between downtown and the Franklin town line, as well as the shoreline at Lochmere, between Silver and Winnisquam Lakes.

Tilton's public open space includes the parcels that form the entry to Island Park, Civil War Park, Vest Pocket Park and Tilton River Front Park, Buffalo Park, the ball field on Route 132 and the Ice House Pond picnic area.

Open Space Opportunities

There is a need for public access to the public waters in Town. While a swimming beach would be more of an active recreational facility, water frontage is a physical and visual link to the resources that give the region its identity. Depending on the size of the parcel, there may be opportunity for passive activities. A beach and small boat launch area is a desirable goal for Tilton.

The general protection of the shoreline of the Winnipesaukee River below Silver Lake is important for protection of fish and wildlife resources, for erosion control and bank stabilization, for protection of water quality, and from a visual standpoint for those who canoe and go boating. One particular area, beginning across from the Police Station and heading westerly to downtown,

is important as a visual entrance from Route 3/11 to the downtown. Route 3/11 curves at this point, with the stonewalls and grounds of Tilton School on the north side of the road and river to the south.

G. PROTECTING NATURAL RESOURCES AND OPEN SPACE

Regulatory techniques such as zoning, subdivision regulations, and site plan review regulations are the appropriate means for protecting natural resources when the purpose is to avoid environmental hazards. Examples of these regulatory techniques are zoning provisions that limit the destruction of wetlands and require setbacks from the same; that control the type and extent of development in floodplains; that restrict certain uses when located above the aquifer, and that disallow removal of vegetation and reconfiguration of steep slopes. The main purpose of these regulations is the prevention of a public harm such as water pollution, flood damage, erosion, and siltation.

Open Space

Whether the purpose of open space acquisition and protection is for public enjoyment or aesthetics or protection of wildlife habitat or prevention of pollution, a number of options are available. Among these are the pursuit of Conservation Easements such as those listed in Table III-2, the use of the change of use penalty fund (imposed when land in Current Use is developed) to acquire open space, and the use of planning ordinances such as cluster and lot size averaging to retain optimum parcel dimensions while still giving landowners the flexibility necessary in this time of high property taxes, particularly in the Rural Agricultural (RA) District.

The Town, private individuals, or private conservation organizations such as the Society for the Protection of N.H. Forests of the N.H. Audubon Society may make open space acquisitions, and these should be encouraged by any and all entities.

Table III-2: Conservation Easements

Wetlands on John Mansville Road R-22, Lot 17. Conservation easement given by RR Kingsburg, Inc., to the Town of Tilton, consisting of 23.931 acres. The easement is to ensure that the property will be retained forever in its undeveloped, scenic and open space condition and to prevent any use of the property that would significantly impair or interfere with the conservation values of the property. **Recorded 5/8/98; Book 1468, page 71**
Land at Home Depot R-20, Lot 19. Conservation easement donated by Tilton Mac Cal, Inc., to the Town of Tilton. Easement consists of 18.31 acres as a wildlife corridor and wetland and stream corridor for the preservation of the quality of groundwater and surface water resources. **Recorded 8/27/01; Book 1678, Page 201**
Infinity Sherwood (Walmart & Ice House Pond) R-24, Lot 22. Conservation restriction donated by Infinity Sherwood Properties, LLC, to the Town of Tilton stating the intent to retain a conservation area predominantly unimproved and open condition which covers about 5.182 acres on a portion of tax map R-24 Lot 22. **Recorded 7/21/94; Book 1304, Page 760 and Book 1304, page 764; Amended 9/4/03: Book 1945, Page 241**
Rogers Development Co. R-18, Lot 25. Conservation restriction (lot 5 of subdivision) donated by Rogers Development to the Town of Tilton. Easement consists of 13.047 acres upon which the builder will not construct or place buildings, mobile homes, or any kind of structure, parking lot, or paved roadway. Conservation restriction does not give the general public any right to enter the area; only the grantee has the right of entry for the purpose of inspecting the area to assure compliance with the terms of the conservation restriction. **Recorded 7/21/1994; Book 1304, page 739**

Lochmere Golf Course R-21, Lot 1. Discretionary easement from Gerald and Anne Marie Chaille to the Town of Tilton giving permission for hiking, skiing, and other outdoor activities that would not cause damage to the greens or fairways. Hunting, horse back riding, and the use of motorized vehicles are not permitted activities. Activities are permitted from December 1 to April 1. Recorded 10/27/94; Book 1315, Page 545. Amended 6/29/99; Book 1538, Page 214
Winnisquam Regional School District U-8, Lot 15. Conservation easement from the Winnisquam Regional School District to the Town of Tilton deeding 3.6 acres of wetland and 8 acres of upland as open space conservation providing healthful and attractive outdoor environment for work and recreation. **Recorded 12/20/02; Book 1827, Page 179**
Market Basket R-24, Lot 7. Conservation easement for 8.746 acres donated by Market Basket to the Town of Tilton to preserve and protect natural vegetation, soils, hydrology, natural habitats, and scenic and aesthetic character of the property. Recorded 9/10/02; Book 1788, Page 678
Nickerson property. R-20, Lot 1.1. A deeded conservation restriction for a 19-acre swamp that has conservation value as undeveloped open space that includes wetlands and other natural habitat in which wildlife live. **Recorded 7/31/95; Drawer L23, Plan #61**
Buffalo Park. R-17, Lot 20**.** Property has conservation value as undeveloped woodlands given to the town as part of mediation of wetlands for a commercial venture by Konover Development. Conservation covenants and restrictions will allow the property to remain a natural habitat that will allow walking, running, skiing, snowshoeing, educational or similar activities, but no motorized vehicles of any kind. Property contains 55 +/- acres. **Recorded 3/28/05; Book 2154, Page 509**
NEED NAME OF PROPERTY R-7, Lot 11-100. Deeded conservation easement given by RJ Moreau Communities, LLC for the purposed of preserving and protecting in perpetuity the natural vegetation, soils, natural habitats, and the scenic and aesthetic character of the property. The easement is granted for 35.34 acres of the property. **Recorded 12/28/05; Book 2257, Page 228**

Source: Belknap County Registry of Deeds, Belknap County, NH

H. SUMMARY OF FINDINGS

1. Tilton's surface waters are all in the Winnipesaukee River Basin and consist of the river itself, Silver and Winnisquam Lakes, and a number of streams. The Winnipesaukee River represents a potential future source of drinking water and therefore should be protected from pollution.

2. A major stratified drift aquifer that lies beneath the towns of Tilton, Northfield and Belmont provides nearly half of Tilton's drinking water supply. It is essential that this stratified drift aquifer is protected from contamination to ensure that quality and quantity of stored groundwater is preserved for present and future generations.
3. Tilton now regulates floodplain development in accordance with the requirements of the National Flood Insurance program.
4. Identified hazardous waste sites as well as sites of potential sources of pollution are located adjacent to surface waters and over aquifers. These need to be cleaned up and eliminated in order to protect water quality.
5. Agricultural lands, steep slopes and wildlife habitat are in need of protective measures to avoid loss and destruction.
6. Tilton's public open spaces are important for the preservation of wildlife, public enjoyment, and the prevention of pollution. These should include access to public waters and protection of the Winnipesaukee River shoreline.
7. Regulatory techniques, as well as public acquisition of the fee title and easements, are options available to Tilton in order to protect natural resources and open space.

I. Recommendations for Future Planning

A Natural Resources Inventory, completed for the Town of Tilton in 2006, integrates various sources of resource information and identifies, quantifies, and locates important features within the town. This document mainly deals with wildlife habitat, water resources, and land use, and should be used as a guide for future planning.

Zoning districts appear to be consistent with the land cover data included in this inventory, although many areas zoned for commercial or industrial uses remain undeveloped. More than half of the Town is forested, providing valuable wildlife habitat in large unfragmented blocks. Development mainly exists along the Winnipesaukee River and along the I-93 corridor, and represents the lowest percentage of land cover in the Town. Despite the abundance of undeveloped areas, Tilton has very little conservation land. In future planning, the Town's high potential for habitat management and protection should be considered.