Chapter II: NATURAL RESOURCES

INTRODUCTION

Plainfield's natural resources contribute in a very positive way to the quality of life in Town. The Town's forests, surface and groundwater, clean air, wildlife, scenic vistas, productive soils, varied terrain and minerals are all natural resources. Following this brief introduction, this chapter documents community attitudes about natural resources, describes the natural features of the Town, sets forth goals to guide resource use, and recommends ways to guide and control the development of the Town's important natural resources so that they will be conserved for the use and enjoyment of future residents of the Town.

Planning and Zoning regulations can provide guidelines for the use of our natural resources and limit practices that threaten them. However, an educated and actively involved citizenry provides the most effective protection our natural resources can have. Educational efforts should be made to promote the ways that resources can be used on a sustainable basis with best management practices in a planned and thoughtful manner. In this way, our resources are not only protected by laws, but also by the people who use and value them on a daily basis. The recommendations in this Plan are based on the premise that Plainfield's natural heritage should be preserved and that future development of the Town be guided by the ability of the land to support that development.

COMMUNITY ATTITUDE SURVEY

Respondents to the 2006 Plainfield Master Plan Survey were nearly unanimous (96%) in the need to protect Plainfield's natural resources. Survey respondents supported regulations to protect groundwater resources (83%) and wetlands (67%) and to establish reasonable buffers around ponds and streams (69%) to protect them from pollution. They encouraged the Town to protect wildlife habitat corridors (76%) and encouraged the Conservation Commission to purchase land or conservation easements (82%) to protect natural resources generally. Thus the Town has a responsibility to maintain strong support for its natural resources through regulation and education.

SETTING AND TOPOGRAPHY

Located in the northern portion of the Connecticut River Valley, Plainfield is situated opposite the confluence of the Ottauquechee and Connecticut Rivers. Across Town, there is markedly varied terrain, including a mix of slopes, swampy lowlands, river bottom, upland terraces, and the mountain summits of Croydon Mountain. The Town is divided into three general regions, flat terrace by the River, hilly uplands, and the Croydon Mountain range.

SOILS

Soils are an important natural resource, since it is soil properties such as depth, permeability, wetness, slope and susceptibility to erosion that define the land's capability to support development. Plainfield's soils also yield sand and gravel, important for the construction industry and road maintenance, and are the foundation for the Town's agricultural sector. As shown by Map II-1, five following soil associations are found in Plainfield:

1. Windsor-Unadilla Variant-Agawam: Deep, nearly level to very steep, excessively-drained and well-drained, sandy and loamy soils formed in glacial outwash deposits; found along the Connecticut River and Blow-Me-Down Brook.

2. Bernardston-Cardigan-Kearsarge-Dutchess: Deep, moderately-deep, and shallow gently-sloping to very steep, well-drained and somewhat excessively-drained, loamy soils formed in glacial till; found between the foot of Grantham Mountain and the Connecticut River; most common association in Plainfield.

3. Colton-Adams-Rumney: Deep, nearly level to very steep, excessively-drained and poorly-drained, loamy and sandy soils formed in glacial outwash deposits and alluvium; found in Meriden Village and just below the headwaters of the Blow-Me-Down Brook

4. Monadnock-Marlow-Lyman: Deep and shallow, gently sloping to very steep, well-drained and somewhat excessively-drained, loamy soils formed in glacial till; found on the west slope of Grantham Mountain.

5. Monadnock-Lyman-Rock Outcrop: Deep and shallow, moderately steep to very steep, well-drained to somewhat excessively-drained, loamy soils formed in glacial till; found on the eastern mountain ridge of the town.

SLOPE

Plainfield has areas of steep slopes throughout Town. A slope greater than 15 percent creates problems for most development. Site preparation, road maintenance, snow removal, and other municipal service provisions are difficult and costly in steep areas.

Areas with slopes greater than 25 percent grade should be left as open space for forestry, wildlife habitat, and outdoor recreational uses. Erosion, the loss of soil, and sedimentation, the flushing of sediment into waterways, are two of the most serious negative impacts of developing steep slopes. Any development in a steeply sloped area, but especially the installation of a road or driveway, should be carefully planned and closely monitored in order to prevent erosion and its consequent sedimentation. Provisions should be adopted in the Subdivision Regulations, Site Plan Review Regulations and Zoning Ordinance that reference the standards contained in the "New Hampshire Stormwater Manual" available from the Department of Environmental Services. The submission of an erosion and sedimentation plan in conformance with those standards should be required for development in even moderately sloped areas. Local officials can be trained to monitor sites for erosion and sedimentation control compliance. Or, the Town

can pass on to the applicant the expense of having an engineer inspect the site while development is underway, and afterward, to ensure that the erosion and sedimentation control plan has been followed.

Since steep slopes are associated with Plainfield's scenic hillsides, aesthetic concerns are also raised by the development of steep areas. The Town's scenic resources, their values, and approaches to preservation are discussed in a later section of this Chapter.

CONSTRUCTION MATERIALS

The bulk of Plainfield's sand and gravel resource is on the western side of Town, along the Connecticut River. Commercial excavation operations are currently conducted both to the north and south of Plainfield on both sides of the Connecticut River. In addition, Plainfield operates a municipal pit along the River in the southwestern corner of the Town (see Map II-2).

The current Plainfield Zoning Ordinance allows, by special exception, "removal of natural material operations" in three of the Town's five specifically delineated zoning districts (Rural Residential Zone, Rural Conservation I Zone, and the Rural Conservation II zone). Once a use permit has been granted, applicants then move to the Planning Board, designated as the "regulator" per RSA 155-E, for a site plan review procedure.

Pursuant to RSA 155-E, in September of 1992, the Plainfield Planning Board adopted specific regulations to govern earth excavations. Compliance with these regulations has become part of the site plan review process for proposed operations. Currently two commercial pits are registered: Meriden Gravel -Willow Brook Road and Temple Route 12A. These two, combined with the municipal pit, constitute the three "approved" operations in Plainfield as of August 2009.

Records from the annual reports filed by the private operations indicate that an average of 3000 yards a year are removed from these pits. These same annual reports indicate that the two remaining pits have about 80,000 yards of commercially viable material remaining.

The Town removes between 10,000 and 13,000 yards of sand and gravel per year from the pit for municipal operations. A Town funded study of the Town pit indicated that gravel resources should last through 2030 +/-. However, the Town recently added 10 acres to the municipal pit and hopes to add another 10 acres in the future. The quantity of gravel in these acquistions has not been assessed; but they will, no doubt, extend the availability of this important resource to the town. Likewise, the Town expects to find sand but this is generally a more limited resource so the supply may be exhausted sooner. For planning purposes, the Town should conduct an assessment of the sand and gravel resources available from the newly acquired property.

AGRICULTURAL SOILS

Agricultural soils are an important natural resource, which is both highly productive and limited in quantity. On the basis of soil quality, moisture supply, availability, and slope, the Soil Conservation Service has defined important farmland in three categories: 1) prime soils; 2)

agricultural soils of statewide importance; and 3) agricultural soils of local importance. Soil types with the prime soils classification are listed in Table II-1. Not surprisingly, Plainfield's most productive agricultural soils are located along the Connecticut River and in areas, which now support development, such as Plainfield Village.

Since areas with good agricultural soils are often cleared and easily accessible, they are also easily developed. Preservation of farmland is more than a romantic notion. Land with a high or good potential for agricultural uses is a natural resource, which is being depleted and cannot be replaced. Our present food production system functions in a way that it is now more cost effective to rely on land out of the Region. However, we are fortunate in Plainfield to have many local food options, and we recognize the economic, environmental, and health benefits of maintaining this resource. We support our produce, pick-your-own / cut-your-own, and dairy businesses; and our goal is to make sure that local businesses such as these have the land resources they need to grow to meet future needs.

Farmland protection strategies include acquisition of development rights, land banking, zoning, involvement of land trusts and cluster subdivision; however, it is important that the Town assign values to its farmland to focus its protection efforts in a reasonable way. The Soil Conservation Service has developed a land evaluation and site assessment system (LESA) to aid towns in developing policies and programs concerning agricultural land. LESA considers the soil potential to produce an agricultural crop and non-soil factors, such as size of a parcel of land, access, availability of public services, agricultural infrastructure, and investment in agriculture. Ranking farmland in this way would give the Town the database to discriminate between development proposals on different parcels of farmland and to direct preservation efforts. A LESA evaluation should be undertaken to establish a priority system for protection of farmland and water resources in Town.

MAP- 1- Prime Agricultural Lands

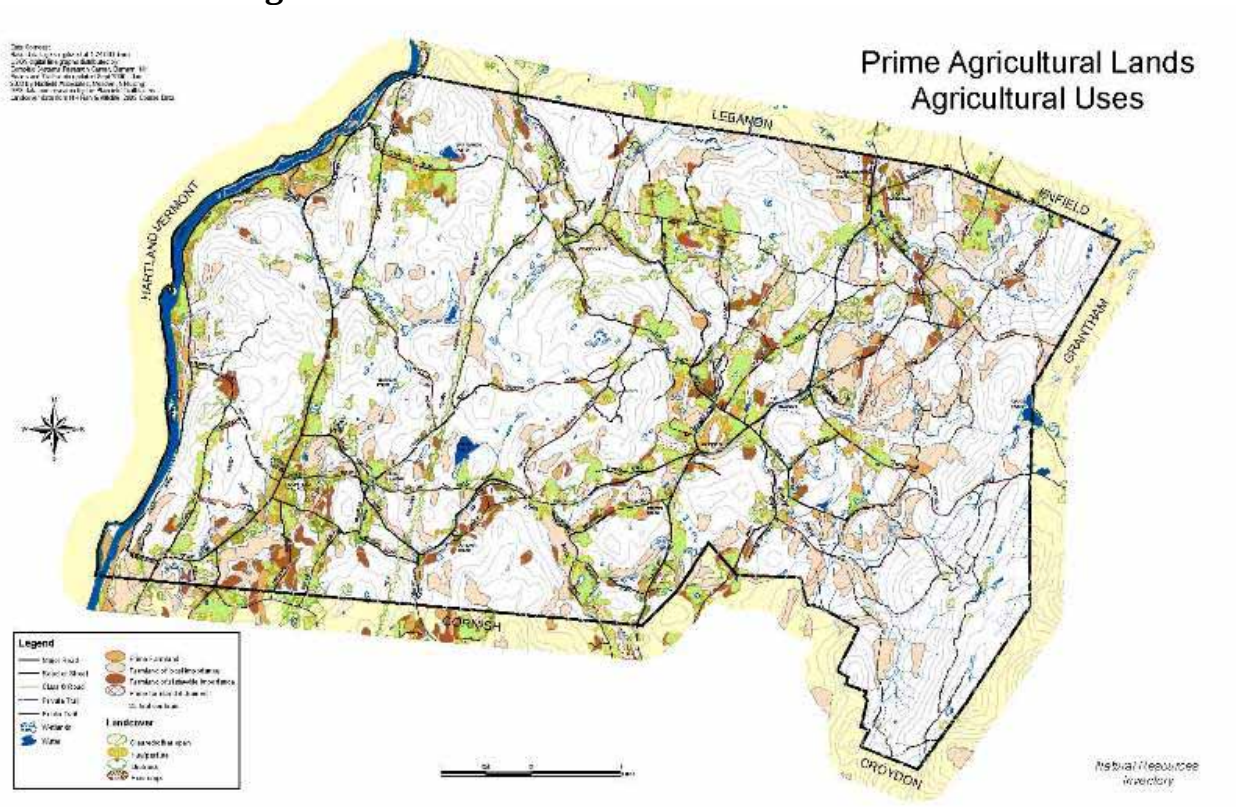
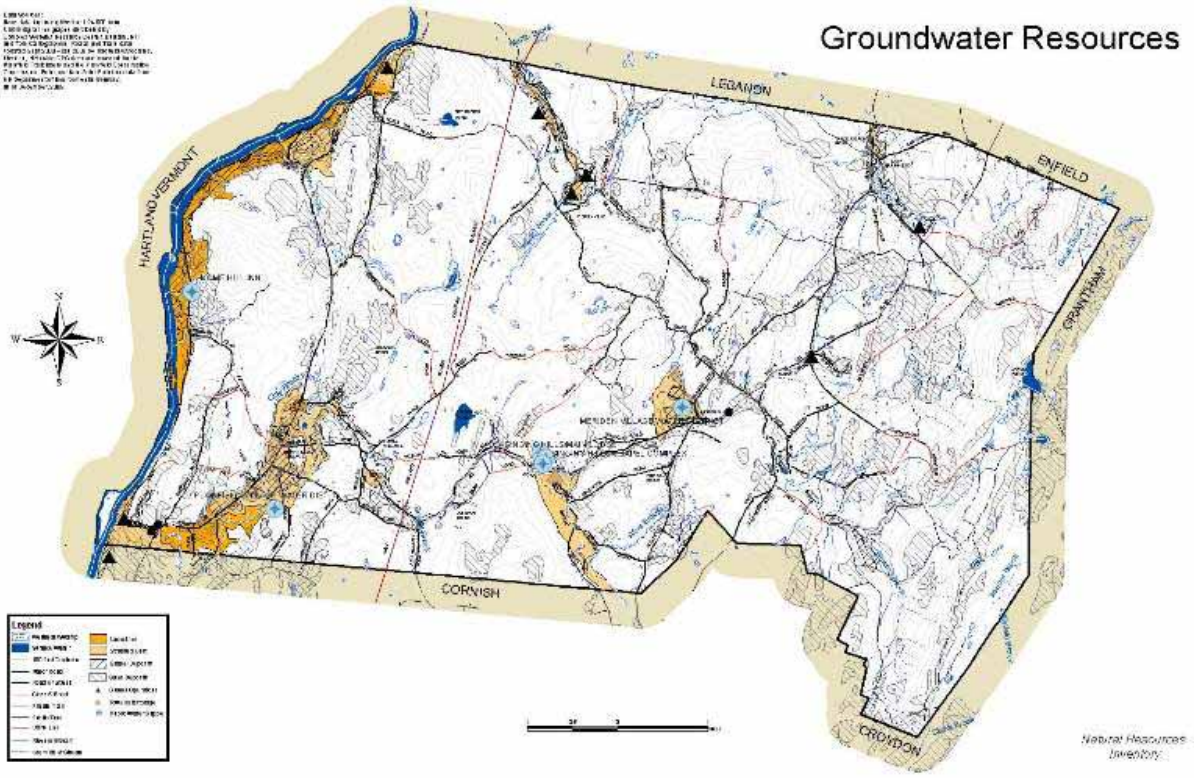


TABLE II-1-PRIME AGRICULTURAL SOILS

Map Symbol	**Soil Name**
AgA	Agawam very fine sandy loam, 0 to 3 percent slopes
AgB	Agawam very fine sandy loam, 3 to 8 percent slopes
BdB	Bernardston silt loam, 3 to 8 percent slopes
DtB	Dutchess silt loam, 3 to 8 percent slopes
Ha	Hadley silt loam, frequently flooded
HcA	Haven very fine sandy loam, 0 to 3 percent slopes
MaB	Marlow loam, 3 to 8 percent slopes
McB	Monadnock fine sandy loam, 3 to 8 percent slopes
NnA	Ninigret fine sandy loam, 0 to 5 percent slopes
Of	Ondawa fine sandy loam
PcA	Peru loam, 0 to 3 percent slopes
PcB	Peru loam, 3 to 8 percent slopes
PtA	Pittstown silt loam, 0 to 3 percent slopes
PtB	Pittstown silt loam, 3 to 8 percent slopes
SdA	Scio silt loam, 0 to 3 percent slopes
SnA	Sunapee fine sandy loam, 0 to 3 percent slopes
SnB	Sunapee fine sandy loam, 3 to 8 percent slopes
Wn	Winooski silt loam

Source: Soil Survey of Sullivan County

MAP 2- GROUNDWATER RESOURCES



WATER RESOURCES

Plainfield's water resources include its surface waters, aquifers, wetlands and floodplains. With reports of water shortages and aquifer contamination across the State, New Hampshire towns are becoming increasingly concerned about their water resources. Plainfield needs to be protective of water resources to ensure continued potability of its groundwater and continued use of its surface waters by people and wildlife.

Plainfield's ponds, brooks, streams and the Connecticut River are one type of water resource: surface water. Historically, surface water, being easily accessible, was used for domestic purposes, to water farm animals and for waste disposal. Today, surface waters are best appreciated for their recreation and scenic value; they are also important for fire fighting and wildlife. Plainfield also has one of the largest fish hatcheries in the state.

Plainfield has two large ponds, Moses Pond and Mud Pond, and a number of smaller ponds, including Chase Pond and Sky Ranch Pond. Moses Pond covers nearly 25 acres. It is remote with no easy access and only one house on its shores. Mud Pond is situated in a low area. It is home to at least one lodge of beavers and a variety of waterfowl. Chase Pond, located just west of the Grantham Town Line, is a deep pond accessible via an old woods way. Plainfield is

fortunate to have these undeveloped water bodies. Efforts to protect their character should continue.

Plainfield's streams and brooks drain four major watersheds. Ultimately, all of Plainfield's surface water flows into the Connecticut River. Table II-2 presents Plainfield's streams and brooks by watershed.

TABLE II-2-PLAINFIELD'S STREAMS AND BROOKS BY WATERSHED

Blow-Me-Down Brook	Blood's Brook	Mascoma River	Connecticut River
Bryant Brook	Cole Brook	Great Brook	Beaver Brook
Burr Brook	Daniels Brook		Hanchette Brook
Clay Brook	Hibbard Brook		
Penniman Brook	Hilliard Brook		
Shipman Brook	Newton Brook		
Wine Brook			

The Connecticut River is Plainfield's most valuable and under-utilized water resource. Since the River quality has markedly improved, due to the installation of sewage treatment plants upriver and more careful use of the riverbank, Plainfield has a relatively clean recreation resource along its entire western border. Road salt, erosion, agricultural runoff and failed septic systems still pose pollution threats to the River. Efforts should be made to control these sources of contamination. The Sumner Falls area of the River is unique and should be preserved.

In 2007 Plainfield residents acknowledged the need to protect the Town's water resources by amending the zoning ordinances to include a 50 foot, no-build buffer around water bodies and wetlands greater than ½ acre in size and along the banks of perennial streams. While this ordinance added significant protection against pollution and sedimentation, we encourage individual land owners to maintain a 100 foot buffer where that is feasible. The resulting green ways would provide wildlife habitat and both active and passive recreation opportunities. Buffer areas of at least 125 feet should be maintained between surface waters and septic systems to decrease the risk of contamination from septic effluent.

GROUNDWATER AND AQUIFERS

All Plainfield residents, even those who are served by community water systems, rely on groundwater for drinking. According to the 1990 U.S. Census, only 26 households in Plainfield take drinking water from a source other than a community water system or private well. Thus, while over 750 households tap into a groundwater source, very little is known about aquifers in Town. An aquifer is simply a water-bearing geologic formation. Water moves into and out of an aquifer. If water is pumped from an aquifer more quickly than it is recharged, users may experience a water shortage.

There are two types of aquifers, unconsolidated glacial deposits, and crystalline bedrock. Unconsolidated glacial deposits, made up of sand and gravel, both store and transmit large

quantities of water, and form the most productive aquifers in New Hampshire. The unconsolidated aquifer of sand or gravel is commonly capable of yielding more than 200 gallons per minute. The water level in a stratified drift aquifer can usually be found at between 40' to 80' beneath the surface, but can exceed 100' in gravel, sand, silt and clay deposits which are common to valley bottoms.

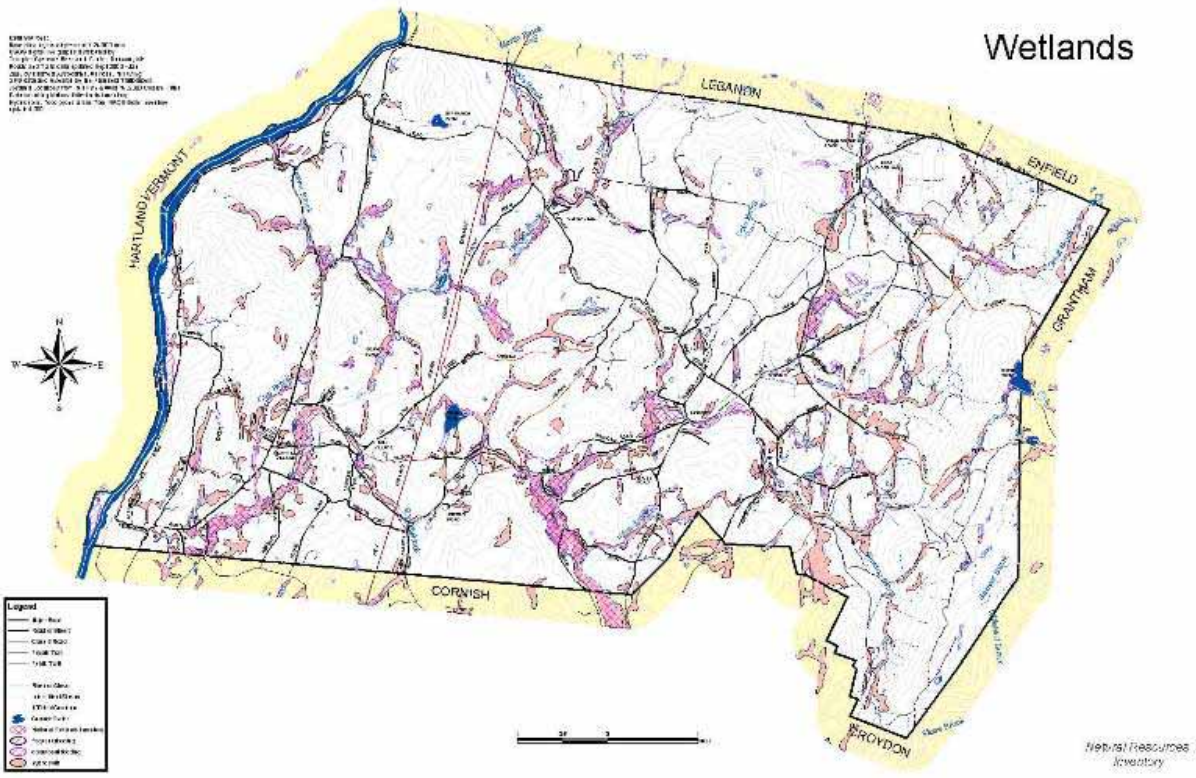
The crystalline bedrock aquifer is a complex of igneous and metamorphic rock that contains economic yields of water only in open fractures. Wells that penetrate bedrock commonly yield dependable supplies of water suitable for single-family domestic needs. For this reason, bedrock is the principal aquifer for domestic wells. These generally range in depth of 100' to 600' and yield around 10 gallons per minute or less.

The United States Geologic Survey has mapped areas of high groundwater availability. These areas are shown on Map II-3. They are located at the confluence of Blood's and Daniels Brooks, Pratt's Corner, Meriden Village and the eastern portion of the Blow-Me-Down Brook. Areas of low, but good, groundwater availability occur along Blow-Me-Down Brook east of 12A and along the Connecticut River.

An in-depth study of Plainfield's aquifers should be undertaken to identify recharge areas, aquifer and subsurface movement of water. Consideration should be given to land banking areas of high water yield near existing settlements for use as a well field, should individual wells or the existing community wells no longer be suitable sources of drinking water.

Map II-3 also presents information compiled by the New Hampshire Water Supply and Pollution Control Division pertaining to potential sources of non-point pollutants, which could threaten the quality of Plainfield's groundwater. Non-point threats to water quality include septic systems, salted roads and uncovered salt piles, leaky underground storage tanks, industrial sites, waste disposal facilities, agricultural land, and highways. Underground storage tanks are now recognized as serious threats to groundwater quality. Research has shown it is not uncommon for underground tanks to develop leaks. Given New England's acidic soils and rain, most tanks over 15 years old are expected to have leaks. Unfortunately, toxic substances, such as gasoline and fuel, are commonly stored in underground tanks. State regulation of tanks with volumes larger than 1,100 gallons has been adopted. New tanks have to meet strict design standards and all tanks are subject to regular testing. Regulation of tanks with volumes less than 1,100 gallons is left to localities. Since most residential storage tanks would not be monitored by the State, Plainfield should take the initiative to protect its residents' wells by sponsoring a leak detection and tank replacement program.

Development controls should prevent uses which present risks to water quality from locating in aquifer recharge areas. Educating residents and businesses about the proper disposal of hazardous wastes is an important safeguard. The Town should continue to promote regional hazardous waste collections and to encourage residents and businesses to participate.



WETLANDS

Wetlands are any area that is inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal conditions does support, a predominance of vegetation typically adapted for life in saturated soil conditions, as set forth in RSA 674:55 and as further prescribed in rules adopted under RSA 482-A . Basically, they are areas where water is a primary factor controlling the environment and associated plant and animal life. Wetlands can be thought of as the transitional habitat, which occurs between upland, and aquatic environments where the water table is at or near the surface of the land, and where the land is covered by shallow water that may be up to a few feet deep. Swamps, marshes and bogs are all wetlands. Most wetlands can be identified by hydrophytes, wetland plants, which tolerate various degrees of flooding or live in frequently saturated areas. Habitats with flowing or deep waters, such as rivers, streams and ponds, are closely associated with wetlands. (See Map II-4.)
Wetlands were long considered to be wastelands, but are now recognized and valued for their:

- ability to provide temporary water storage for flood waters;
- contribution to the quality of the surface and groundwater by chemical and physical actions;
- ability to buffer the effects of erosion and runoff;
- important role in providing habitat, spawning grounds and feeding areas for aquatic life,

waterfowl and other wildlife;
- provision of outdoor recreation opportunities; and
- contribution to community open space and scenic beauty.

Filling or draining wetlands changes the natural drainage pattern (displacing water so it ends up somewhere else), and inhibits groundwater recharge and floodwater retention.
Thus, wetlands are best left alone to function as nature's sponges and filters. Development should not occur in wetlands or compromise their important position in the water cycle and life cycle of many animals.

FLOODPLAINS

Floodplains are areas prone to flooding. Formed along rivers and streams, they are among the most productive agricultural lands in the world. When flooding occurs, often in the springtime, high water carries and deposits on floodplains enriched silt from overflowing rivers and streams. The soil is, therefore, regularly rejuvenated with the result, in many cases, that it is very good for agriculture. Vegetative, floodplains are different from swamps, marshes and bogs, because woody plants, such as silver maple, fir and spruce, dominate them. Floodplains serve as storage areas for water during times of flooding and provide travel corridors for wildlife. Plainfield's floodplains are shown on Map II-4.

The federal government takes a special interest in the development of floodplains because it makes available federal flood insurance. The federal government's position is that no development should occur in the floodplain, which would increase the flood hazard downstream or would increase by more than 50% the value of a property located in the floodplain. Increasing the value of a property in the floodplain only sets the federal government up for greater loss in the event of a flood.

In order to enable landowners to qualify for federally insured flood insurance, the Town, in its administration of site plan review, subdivision regulations and zoning, must regulate development in the floodplain using federal standards. Communities may prevent all development in the floodplain. This approach is recommended in special flood hazard areas as defined by the Federal Emergency Management Agency. Carefully regulated uses should be allowed in floodplain areas where flooding is less frequent. Certain uses, such as hazardous waste storage sites and landfills, would be inappropriate for a floodplain location because of the long-term potential for water contamination in the event of a flood.

WIND RESOURCES

Plainfield supports the development of alternative energy sources including wind turbines for residential use. However, because of the hilly nature of Plainfield’s environment, the efficacy of wind turbines as an energy source will vary greatly from property to property. In addition, the rural and scenic nature of our community is important to our residents; they must be protected from any unreasonable visual or aural impact resulting from the installation of wind energy systems. To the extent that wind resources will support small wind energy systems and in accordance with RSA 674:62-66, Town building and zoning ordinances should support their use.

SCENIC RESOURCES

Another of Plainfield's important assets is the way the Town looks. Its varied terrain and traditional settlement pattern are of high visual quality. Individual landscape elements, as well as the overall pattern of structures, open space and vegetation; contribute significantly to the quality of life.

Plainfield's hills and tree-lined rural roads offer scenic views in all directions, often as far distant to the west as the Killington Range in Vermont. Plainfield's agricultural heritage is evident in its open fields, although more and more, stonewalls which used to delineate pastures are now becoming hidden by forest and brush. With the changes in the Town's economic base and growth in population, it is imperative that the Town assess its scenic resources and develop a scenery preservation plan.

The 1993 Community Survey questioned residents about which scenic areas and views they felt deserved protection. Examples given included: Read's Hill, Rte.12A (north of Plainfield Village), French's Ledges and views along the Connecticut River. Eighty-two percent (82%) of those who responded to this question supported using the Zoning Ordinance to protect these views. In the 2006 survey French's Ledges, the view from Read's Hill on Rte. 12A, and scenic resources were again listed as Community Cornerstones. In addition, the survey respondents saw scenic views as an important resource (71%) and supported restrictions on ridge-line development (55%).

Landscape quality is an elusive but important consideration in land use decision-making. There are many benefits to be derived from identifying and improving key elements of the Town's visual quality:

- a high quality Town landscape is one that can be viewed and appreciated by both residents and visitors;

- retaining a high quality landscape encourages community pride. Plainfield's desire for thoughtful use of its land is closely linked to the high quality of the Town's landscape;

- when seeking to attract development that will enhance the Town's tax base, a community that has retained a high quality landscape will have an advantage over a town that has not chosen to do so; and

- the development of tourism and tourist related services in a community having an attractive landscape is often possible if the community preserves its landscape.

In order to prevent important visual elements of the Town from being destroyed or compromised, they should be inventoried and their aesthetic qualities identified and understood. The Upper Valley Lake Sunapee Regional Planning Commission can provide assistance for this

inventory work. State legislation clearly enables towns to consider the aesthetic impacts of development. The importance of a visual resources inventory and evaluation, if the Town is to use aesthetics as a component of its review of proposed developments under site plan review, cannot be over emphasized.

In assessing visual resources, the following categories should be considered:

- distant views - views with a distant background or large scale panoramas;
- details at short or medium distance - waterfalls, wetlands, rock formations, rivers and streams; and
- characteristic scenes - the mixture of pasture, crop, woods, villages, mountains and/or valleys.

The views listed in Table II-3, on the following page, are some of Plainfield's best. Telecommunications structures pose a special threat to ridge top scenery. Given the current use of Craft's Hill in Lebanon and Mt. Ascutney in Vermont for such towers and antennae, it is recommended that these sites be used rather than hillsides in Plainfield

TABLE II-3-VIEWS AND SCENERY IN PLAINFIELD

Viewing Point	Direction	View
Rte. 12A	Southerly	View of Plainfield Village, Mt. Ascutney valley and Mt. Ascutney
Rte. 12A	Northerly	Connecticut River
River Road	Southerly	Connecticut River, old cemeteries, fishing, Wildflower Sanctuary
Freeman Hill View to west: Vermont, Killington	Top view	View to southeast: Cornish valley
Kenyon Road	Northeast	Center of Town Road landscape; nice at foliage viewing time
Black Hill Road	Westerly	Ascutney,Killington and other Mountains in Vermont
Ladieu Hill Road	Westerly	West to Vermont, Killington
Dodge Road	Northwest	View to Prospect Hill, Plainfield Village
Whitaker Road	Westerly	West to Vermont hills
Penniman Road	Cornish line, east	Grantham Mountain
Colby Hill Road	Easterly	Meriden Village, KUA
Columbus Jordan Rd.	Northeast	Hiking, hunting, conservation land
Bonner Road	Westerly	Views of French's Ledges
Daniels Road	Westerly (from Stage)	Lovely view of Mt. Ascutney
Chellis Road	Westerly	Croydon and Green Mountains
Route 120	North of trailer park/ridge line	Bald Peak Mountain
Route 120	Blinking light	Southwest to Mt. Ascutney
Bean Road Guest House	KUA's Brewster	West and Southwest toward Meriden
French's Ledges Mountains	Any	Vermont, neighboring towns, White

Source: Plainfield Conservation Commission

ENVIRONMENTAL HAZARDS

In response to concern about the quality of Plainfield's environment, an assessment of environmental hazards in Town was prepared for inclusion in the Master Plan. A summary of this assessment, and the findings and recommendations of the Town's Emergency Management Team, is reported below to provide further guidance for the protection of the Town's natural resources and the general health and safety of its citizens.

The potential environmental hazards identified include production and transportation of materials in the Town, underground and above ground fuel storage tanks, and acid rain.

Consultation with several sources suggests that groundwater is probably the most threatened resource over which the Town has any degree of control. The threats to groundwater come from several sources, including spills or improper disposal of hazardous materials (both on a residential and commercial scale), leaking underground and above-ground fuel storage tanks, and use in excess of the recharge rate.

The Plainfield Emergency Management Team has considered production and transportation of hazardous materials. Both transportation and production of hazardous materials are presently regulated in New Hampshire; however, enforcement and monitoring activities should be improved.

In the case of transportation, better enforcement of existing regulations, together with making available on a statewide basis more personnel trained to respond to an emergency involving hazardous materials, are ways to safeguard the environment of a town like Plainfield. Both the Plainfield and Meriden fire chiefs have received limited training in managing a hazardous spill site. However, the State has only one hazardous materials response team (qualified to actually clean up a spill) serving our area; that team is located in Concord.

With respect to production of hazardous materials within the Town, it is desirable to afford officials and citizens in the Town with an opportunity to review and control the disposal practices of a potential user of hazardous materials. The Hazardous Materials Study Committee recommends that storage and production of hazardous wastes be included in the list of special exceptions in the Town Zoning Ordinance. Initial reviews and approval of plans for production or storage of hazardous materials seems best done by the Zoning Board: continued monitoring and verification of safety and disposal practices seems best done by the Meriden and Plainfield fire department Chiefs.

It is estimated that 20 to 40 percent of underground storage tanks in place are leaking undetected on a nationwide basis. The problem of leaking underground storage tanks is especially acute in rural areas, where owners generally have neither the resources nor the training to test and maintain their tanks. To complement State legislation, a local testing program should be implemented. A preliminary measure that should be taken is an inventory of the number and type of tanks within the Town.

SPECIAL PLACES

The natural areas of Plainfield each hold a set of characteristics that appeal to certain groups of people in Town. Respondents to the 1993 and 2006 Community Attitude Surveys have identified special places in Town, and these are the places where protection efforts in Town should be focused. Protection efforts may take the form of working with landowners to protect the land through the voluntary donation of conservation easements or fee simple title to the Town or a land trust, or purchasing conservation easements or the property from the landowners. It may be, for some of the places, that a public access agreement or educational outreach about the values of the place would be most beneficial. The Conservation Commission should assess the need associated with each and develop a plan to promote, protect, or make accessible each of the identified special places.

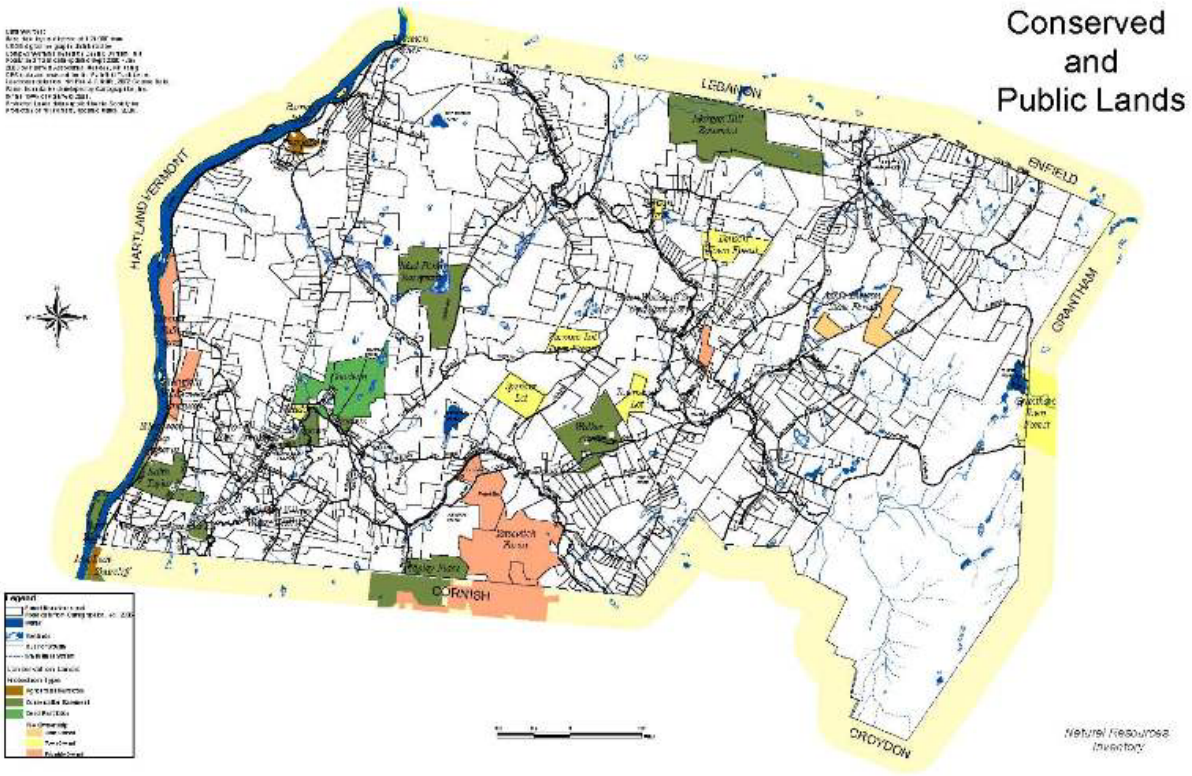
The special places are:

French's Ledges	View of Plainfield Village from 12A north of the Village
Prime farm land	Connecticut River
Mud Pond	Penniman Road wetland
Route 12A wetlands	Snow Mt. Area
Sumner's Falls	

WILDLIFE HABITAT

Plainfield is unique in the State as being one of the few communities to designate an official town mollusk, the dwarf wedge mussel, an official town insect, the cobblestone tiger beetle, and an official town plant, Jessup's milk vetch. This, along with the strong support for habitat protection voiced in the 1993 and 2006 Attitude Surveys, suggests that Plainfield residents do care about wildlife and the pressure placed on wildlife by the loss of wildlife habitat. The 1987 Master Plan lists the endangered, threatened and rare species found in Plainfield. These, along with the more common species, such as grouse, white tail deer, fox, bear, etc., must be considered in the Town's future development. The Town should encourage the survival of endangered, threatened and rare species by protecting habitat and insulating these areas from disruptive land uses.

MAPII-5 PROTECTED LANDS



GOALS

1. Plainfield's important natural resources should be conserved for the use and enjoyment of residents of the Town.

2. Prime agricultural land should be protected from development and should remain in agricultural use.

3. Wildlife habitat should be protected and insulated from disruptive land uses and over development.

RECOMMENDATIONS

1. Plainfield's land use controls should be structured to conserve the Town's natural resources.
   Update A: In 2007, Phase I of Plainfield's Natural Resource Inventory was completed and made available on the Town website at http://www.plainfieldnh.org/NRI/BNRI_Intro.html. Each section of the NRI contains suggestions for further study and implementation which should be reviewed and acted upon by Town Boards and the Conservation Commission (See Appendix II-A).

   Update B: In 2007, the Town voted to amend Zoning regulations to include a 50',

naturally vegetated, no-build buffer around surface waters and wetlands greater than ½ acre in size and along the banks of perrenial streams.

Update C: The Planning Board added a 'dark sky' component to the Site Plan Review Process which requires the use of full-cutoff fixtures on buildings which are subject to review. In addition the Town, in cooperation with utility providers, has replaced streetlights and outside light fixtures on municipal buildings with fixtures which reduce power consumption and which comply with 'dark-sky' standards.

2. The Town should encourage donations of conservation and agricultural easements to preserve the Community's natural heritage, and should consider selective acquisition of land for public use.
   Update: Since 2003, 818 acres of land have been placed under conservation easements along with trail easements including the French's Ledges trail group. In addition, ten acres of land was donated to the Town for the expansion of the Town gravel pit; and the Town, with the approval of the voters, acquired 2.39 acres at the corner of Bonner Road and School Street to preserve that property for public use.

3. Development on slopes over 15 percent should be restricted, and carefully planned and monitored.
   Update: No action taken.

4. Land with slopes greater than 25 percent should remain undeveloped.
   Update: No action taken.
5. Provisions should be adopted in the Subdivision Regulations, Site Plan Review Regulations, and Zoning Ordinance which reference the erosion and sedimentation control standards contained in the New Hampshire Stormwater Manual available from the Department of Environmental Services at http://des.nh.gov/organization/divisions/water/stormwater/manual.htm.

6. An in-depth study of Plainfield's aquifers should be undertaken to identify aquifer recharge areas and subsurface movement of water. Consideration should be given to land banking areas of high water yield near existing settlements for use as a well field, should individual wells or the existing community wells no longer be suitable sources of drinking water.
   Update: No action taken.

7. Development controls should prevent uses which present risks to water quality from locating in aquifer recharge areas.
   Update: No action taken.

8. Best management practices for the use of road salt should be implemented.
   Update: Limited implementation of BMPs for road salt have occurred. Plainfield's use of road salt should be evaluated using the standards in the New Hampshire Stormwater Manual.

9. The Conservation Commission should study and make recommendations to the Planning and Zoning Boards regarding the protection of Plainfield's most important scenic views.
   Update: No action taken.

10. The Conservation Commission should assess the need associated with each of the identified special places and develop a plan to promote, protect and make accessible each of them.
    Update: No action taken.

11. The Town garage sits on the edge of the Penniman wetland which is among the largest wetland areas in Plainfield. The Conservation Commission, Select Board, and Planning Board, in cooperation with the Road Agent, should fund and direct a comprehensive evaluation of the Town Garage buildings and practices to identify good practices and to determine what needs to be improved or changed, if anything, to protect the wetland. The Town Garage should become a model site for the management of toxic materials.

12. Town Boards and the Conservation Commission should organize forums and provide materials which promote the use of sustainable practices and which highlight the economic as well as environmental benefits of using best management practices (BMPs) in agriculture, construction, and other activities.