WASHINGTON, CONNECTICUT

NATURAL RESOURCE INVENTORY REPORT AND RECOMMENDATIONS

Town of Washington, Connecticut Ad Hoc Conservation Committee

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TOWN OF WASHINGTON, CONNECTICUT

AD HOC CONSERVATION COMMITTEE

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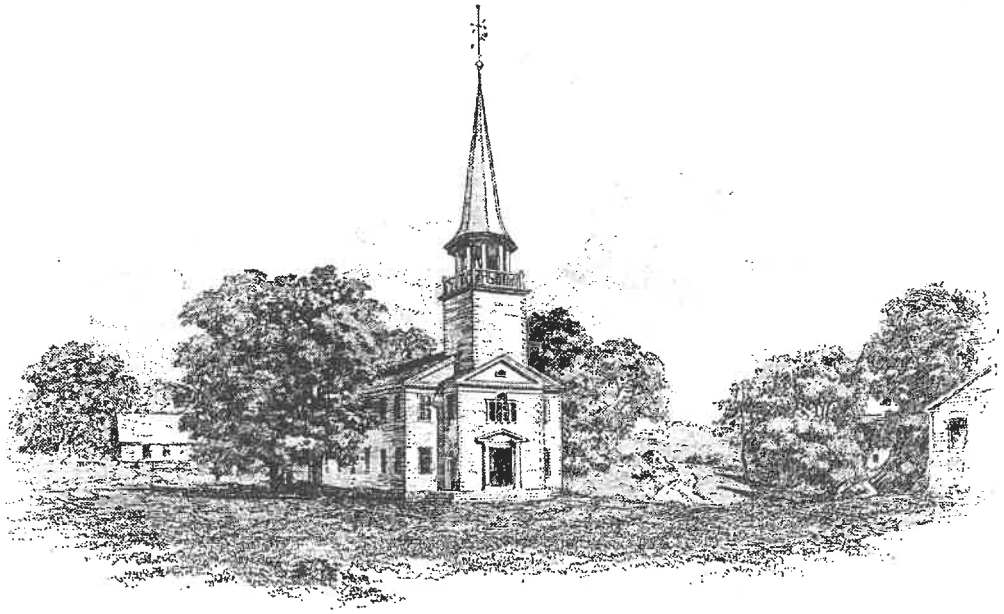
NOVEMBER, 2000



JUDEA MEETING-HOUSE.

DEDICATION

This report is dedicated to the Town's Land Use staff and volunteers: past, present and future, who have helped shape and will continue to shape the landscape of our Town. We also dedicate it to those citizens who will inherit the Town from us.

That said, we also wish to thank a few people whose selfless efforts have enhanced the beauty of the Town of Washington for the enjoyment of all. Our Town is a better place because of their citizenship:

William Hamilton Gibson
Frederick Gunn
Michael Harwood
Ehrick Rossiter
George Ward
The Van Sinderen Family

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS AND PHOTOGRAPHS

PHOTOGRAPHS BY DIRK W. SABIN

ILLUSTRATIONS BY WILLIAM HAMILTON GIBSON

VINTAGE PHOTOGRAPHS

ACKNOWLEDGMENTS

We would like to thank the many individuals who contributed to this project over the years. Without their skills and dogged enthusiasm this document would never have seen the light of day.

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An immense thank you goes to the Housatonic Valley Association who provided GIS mapping services. Special thanks to Elaine LaBella who offered guidance, and Kirk Sinclair for his technical expertise and enthusiasm. HVA generously opened their office and computer system to Ad Hoc volunteers in an effort to control costs. The maps of this report were created by the Ad Hoc Conservation Committee with the assistance of HVA.

Maps were also generated by the Litchfield County Conservation District. Many thanks to Jean Cronauer, Sean Hayden, and to Chris Fray who provided invaluable assistance with GPS technology in the field as well as his extensive GIS mapping capabilities.

Thanks are due to the Steep Rock Association and to Susan Branson in particular who graciously offered the parcel map and the PA 490 map of the Town and who consistently provided valuable information and insight.

A special note of thanks to Dorothy Hill and Susan Hamilton who provided secretarial assistance above and beyond the call of duty.

The preparation of this report and its maps was made possible by hours of computer time, research, collation and the good humor of Marguerite Purnell with the assistance of Simba and Nefertiti.

Other individuals who graciously volunteered their time and expertise are:

Bill Bader, Arborist, Author of *An American Village: The Light at the North End of the Tunnel*
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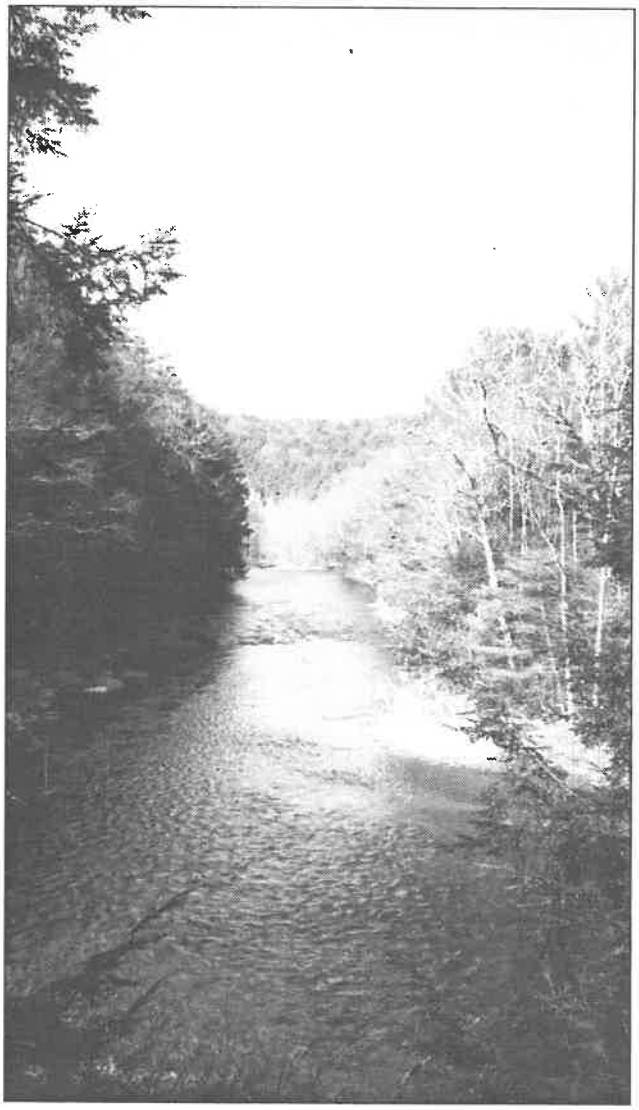
The Lake & Watershed Management Group

Last, but not least, thanks go to all the members of the Ad Hoc Conservation Committee for their selfless expenditure of time and effort over the past four and a half years. Thanks especially go to Dirk Sabin and Susie Payne for their leadership and perseverence.

A BRIEF HISTORY OF THE AD HOC CONSERVATION COMMITTEE

In 1961, the State Legislature enacted Public Act 310 which allowed towns to establish a Conservation Commission. Enabling legislation for this act is found in the Connecticut General Statutes Chapter 97 Section 7-131a (the full text is in Appendix B).



An Ad Hoc Conservation Committee was formed in September 1995. Members of each land use committee of the Town and of local interest groups, as well as concerned citizens, were asked to participate. At the initial meeting some 20 - 25 categories for evaluation were discussed and ultimately refined to the 12 mapping categories listed in the table of contents. A subcommittee was formed for each of these areas of concern and a timeline and procedure were established to inventory and map these resources. Throughout the following years the committee exchanged ideas and information with other groups and was recognized in October 1998 for its initiative and accomplishments by the Litchfield County Conservation District Conservation Award.

What you will find within the following pages are the fruits of the Ad Hoc Conservation Committee's labor:

- Maps depicting the various natural and man-made resources that comprise the landscape of the Town of Washington. These maps, when overlain, depict areas of special concern and/or value when planning for future development.
- Recommendations for future study and action.

It is hoped that the information contained herein can be utilized by all citizens and land use commissions when reviewing the projects before them or when contemplating long range land use planning. The mapped information can be manipulated and updated as the need arises, by utilizing computer technology.

It is also hoped that this report will inspire unified natural resource-based land use management that will enable balanced growth, while sustaining the Town's rural character, diverse population and economic viability.

This report is available in both printed and digital form as a resource and reference for all to use.

I. INTRODUCTION

The most valuable natural resource in the Town of Washington does not appear on any map contained in this report. It cannot be clearly defined, assessed, surveyed or quantified by any panel of experts, consultants or Ad Hoc group, and yet it is a core value of the community.

What is this rare and elusive commodity? Simply put, it is *Quality of Life.* No other single term so completely expresses the sentiment of every citizen, and no other term encompasses the experience of living here. It is in the air we breathe, the water we drink, the forests and fields we walk through, the land we each own and the land left by benevolent ancestors for us to use communally.

But even these things alone do not add up to *Quality of Life.* They simply define a part of it. We do not live in a nature preserve, we live in a town. A town with a long and varied history, populated by people of every class, background, religion, race and opinion. Ask any neighbor what *Quality of Life* means and you'll get a different answer from each, yet we all agree *that* is what makes living here worthwhile.

Since the end of the local industrial age, Washington has not produced a matchstick, not a bolt of cloth, not a tool or a bar of soap; yet, it continues to thrive. Why? Certainly not convenience. No, it's because living here has some indefinable quality. That is what we produce, that is our natural resource and, like a vein of silver, we have been mining it for the last seventy or eighty years. However, unlike the coal towns of West Virginia or the Comstock load of Nevada, the value of our resource has risen steadily, and we are far from a ghost town.

Our largest industries are education and real estate. Where once we produced more milk than any other area of the state, we now have only two or three working farms, but the remaining unused land may now be worth more than the goods it produced over several lifetimes. Land is always valuable, but here its value is higher because of the perceived *Quality of Life* the community offers.

This precious and elusive resource is neither inexhaustible nor self-perpetuating. Like any natural resource it is subject to change, it can be depleted or even destroyed. It is up to us, the citizens of this community, to husband this valuable resource for ourselves and future generations. Let us begin first by evaluating what we have.

II. NATURAL RESOURCE INVENTORY

A. GEOLOGY

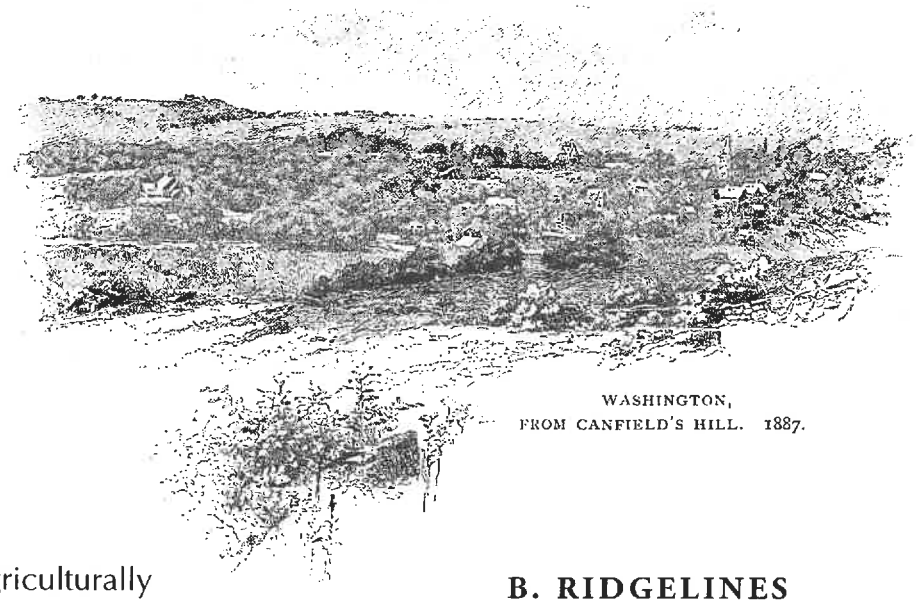
Washington lies in the southernmost foothills of the ancient Berkshire Mountains. Our bedrock is intensely folded as a result of past continental plate collisions and outcrops are frequently seen to punctuate the countryside.

Cameron's Line, an ancient fault, slices through the northwest corner of the Town, roughly running along the East Aspetuck River and Meeker Swamp hollows. This deep fault demarcates the plate contact zone between the Paleo-North American and European Continental plates. Soft Stockbridge marble bedrock follows the East Aspetuck River valley up through the abandoned quarries of Marbledale and onward into Meeker Swamp. The lowland marble is flanked by highlands of gneiss to the northwest, which can also be seen in rock outcrops from Central Park through Putnam County, and highlands of mica schist to the southeast, seen throughout southern Connecticut. The marble is the remains of sea creatures deposited on an ancient ocean bed; the gneiss and mica schist are folded metamorphic rock pushed up during ancient continental formations. Other areas of bedrock, such as quartz and Ratlum schist, can also be found. Quartz is present in enough quantity to have supported a small mining industry in the 19th century. Abandoned quartz mines can be found in Hidden Valley as well as in the West Church Hill Road area.

Underlying rocks are important for four reasons:

1. The marble valley land is agriculturally rich. Marble bedrock creates neutral, or basic, soil pH chemistry. This in turn enhances the efficiency of nutrient uptake by the overlying vegetation.
2. Bedrock outcrops are scenic. Our rocky landscape creates considerable visual interest and, often, some of the best views occur from major outcrops such as the Pinnacle and Steep Rock.
3. Rock outcrop zones provide specialized habitat for some forms of plant and animal life.
4. Significant areas of rock outcrops often require blasting and rock excavation to accommodate development. Blasting, if uncontrolled, can damage adjacent properties and impact adjacent wells.

The geology map depicts bedrock geology as delineated by the Connecticut Department of Environmental Protection (DEP) Natural Resource Inventory mapping. In addition, surficial rock outcrop features of note such as Steep Rock, The Pinnacle (Waramaug's Rock) and the ravine along Nettleton Hollow are shown based upon field inventory.



WASHINGTON,
FROM CANFIELD'S HILL. 1887.

B. RIDGELINES

Ridgelines are a dominant feature of our scenery. Washington has approximately eight long ridgelines running primarily north-south,

plus many smaller, more peak-like heights. In their natural state — i.e., unbuilt and forested — they are vital to the overall rural quality of our Town's appearance, an appearance which changes dramatically with the four seasons.

Some feel they ought to be preserved at all cost in order to retain the scenic character of our landscape. But on closer examination, we see they are not now totally preserved, but have been built on over the course of our history. However, for the most part, the buildings now existing on our ridgelines manage to be in harmony with our scenic values and do not detract from the Town's rural character.

In Washington, one cannot simply select areas over a certain elevation above sea level and call them "ridgelines." Unlike the Trap Rock ridge region of Central Connecticut, many of our highest points are broad, level and plain-like. The Popple Swamp hilltop, Fenn Hill and Calhoun Hill are all of high elevations but are not necessarily ridge-like. Here houses do exist without significant scenic impact. However, these higher elevations are desired by telecommunications companies for tower sites, which could have negative visual impact.

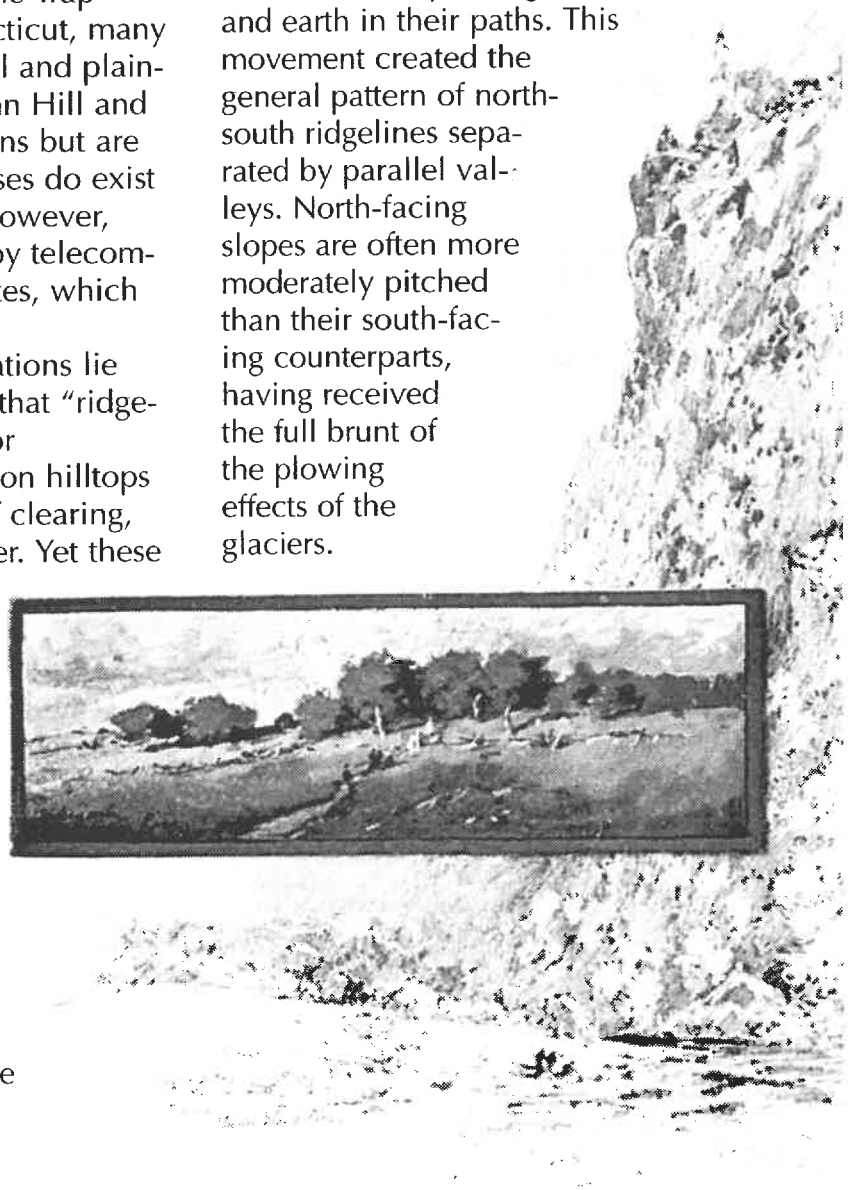
It is primarily where higher elevations lie adjacent to steeply dropping slopes that "ridgelines" become an area of concern for Washington. Large houses, perched on hilltops over steep slopes with large areas of clearing, can seriously impact scenic character. Yet these places are in great demand for the views they afford. A sensitively designed house with a beautiful view from a hilltop is not automatically unappealing; a poorly planned house on a hilltop or hillside with excessive clearing and extensive earthwork is.

The accompanying map illustrates ridgelines and ridge areas adjacent to steeper slopes (prominence areas), as well as the highest elevations of our flatter, more plain-like hilltops.

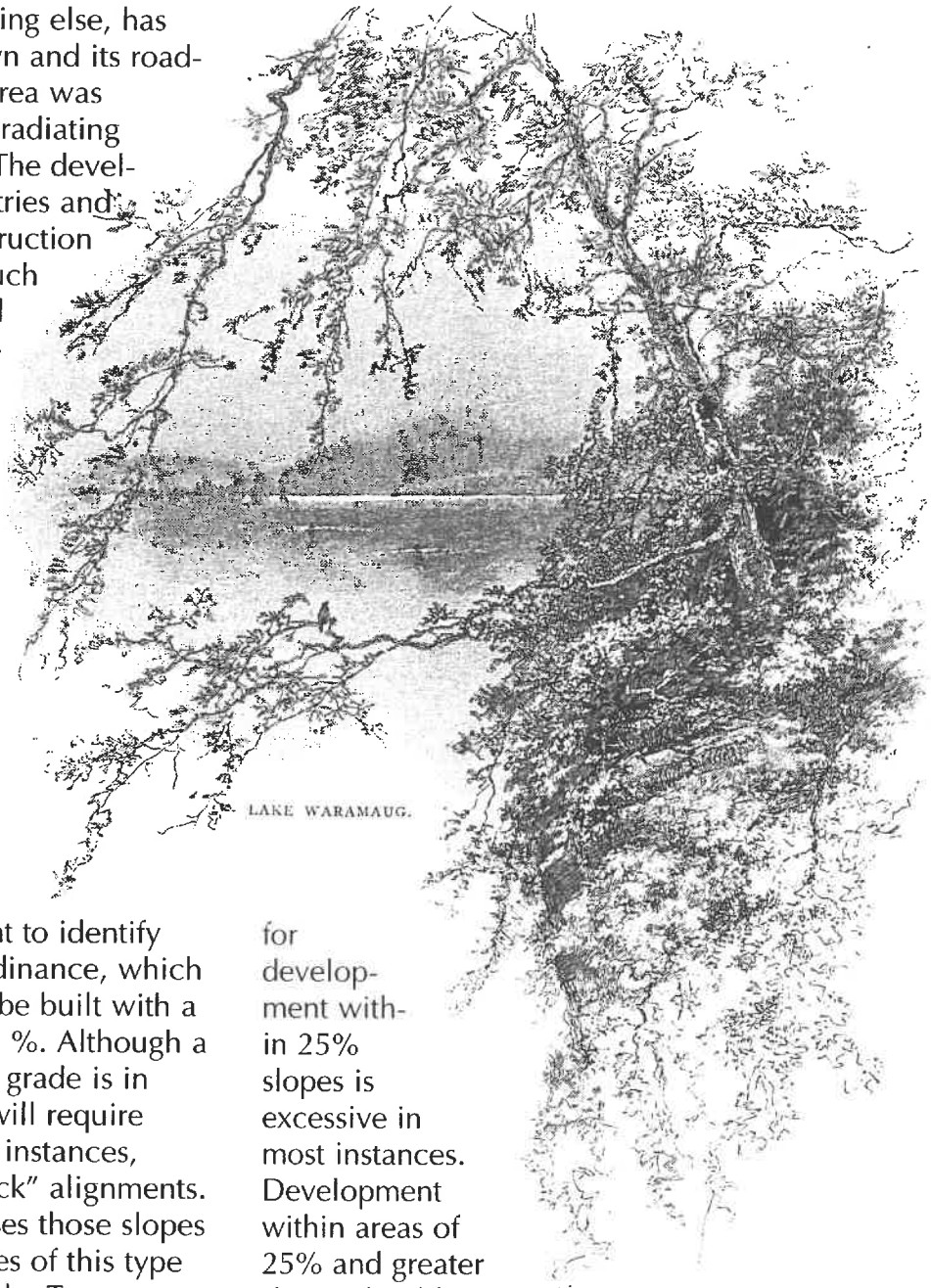
C. SLOPES

The topography of Washington is one of its most endearing features. The variety of landform, from hilltops to hollows and the steep hillsides in between, creates a great diversity of spatial character. Varying slopes and terrain increase the apparent extent of the landscape. If one were to stretch this small but corrugated town out flat, it would likely cover a Nebraska county! Intimate, inward-oriented hollows lie in contrast to expansive, outward-viewing hilltops and ridgelines.

The predominant event (aside from plate tectonics) that created our terrain was glaciation. The ice sheets, a mile thick, moved down from the north pushing tons of rock and earth in their paths. This movement created the general pattern of north-south ridgelines separated by parallel valleys. North-facing slopes are often more moderately pitched than their south-facing counterparts, having received the full brunt of the plowing effects of the glaciers.



The terrain, more than anything else, has influenced the layout of the Town and its roadways. The level hilltop Green area was developed first, with farm fields radiating outward over moderate slopes. The development of water-powered industries and, later, the railroad, brought construction next to river-centered hollows such as Marbledale, New Preston and Washington Depot. Steep woodlands remain largely free from development and offer us extensive forest buffers, such as Steep Rock Reservation, to this day.



The slope map identifies three categories of slope, each important because of its impact on development. The first category represents areas possessing gentle to moderate slopes ranging from 0 to 15 % (a one-foot rise or drop over approximately six-feet eight-inches horizontally). This category of slopes covers approximately 66.65% of the Town and is chiefly important to identify given Washington's driveway ordinance, which stipulates that no driveway may be built with a finished gradient steeper than 15 %. Although a driveway can be built where the grade is in excess of 15%, its construction will require earthwork cuts, fill and, in some instances, retaining walls and/or "switchback" alignments.

The second category comprises those slopes ranging from 15 % to 25%; slopes of this type cover approximately 25.60% of the Town. Development within these areas should incorporate architectural and site plan solutions for irregular terrain. Sedimentation and erosion control planning become more important here.

The third category of slopes shown are those exceeding a 25% gradient (a one-foot rise or drop over four-feet horizontally). This category of slopes encompasses approximately 7.75% of the Town's area. While development can feasibly occur on these steep slopes, it is not recommended. Soil erosion control is critical for work here, and the extent of the earthwork required for development within 25% slopes is excessive in most instances. Development within areas of 25% and greater slopes should proceed with extreme caution, if at all, and only after thorough engineering and planning.

D. RIVERS, BROOKS, LAKES AND PONDS

Washington is graced with a multitude of waterways including the Shepaug, Bantam and East Aspetuck Rivers, approximately half of the shoreline of Lake Waramaug, an abundance of brooks that were the sites of major industry in

the 18th and 19th centuries, and numerous ponds of varying sizes. Today these waterbodies contribute to plant and animal life, the water supply, the natural beauty, the recreational pleasures and hence, the quality of the Town. Preservation of these abundant water resources requires ongoing monitoring, sensitive land use regulations and development planning in order to guarantee their quality and availability to future generations.

Some steps have already been taken:

- The Steep Rock Association, a private land trust founded in 1925, continues to seek protection of the river corridors through conservation easements and gifts of land.
- The 1974 and 1993 Washington Plans of Development support streambelt protection.
- In April of 1998 Washington's Inland Wetlands and Conservation Commission adopted a uniform 100 foot wide regulated area surrounding all wetlands and watercourses. The Commission also reserved the right to extend review further into upland areas in applicable instances.

The Shepaug River

The Shepaug River slices diagonally across the Town from northeast to southwest. This river is a primary component of our Town's identity and has played a major role in shaping our history. The West Branch originates in Cornwall and flows through the Upper Shepaug Reservoir. The East Branch originates in Goshen and flows through Litchfield on its way to its confluence with the West Branch at the Lower Shepaug Reservoir. From this reservoir, a single river flows through the towns of Washington, Roxbury and Southbury, joining the Housatonic at Lake Lillinonah in Southbury. Sometimes placid and slow moving, at times rocky and filled with rapids, the river provides wildlife habitat, recreational opportunity, scenic value, floodwater conveyance, atmospheric cooling and water supply.

In 1921 Washington entered into an agreement with the Town of Waterbury, authorizing Waterbury to store and divert water from the Shepaug for use by the growing city. It was agreed that the City of Waterbury would release no less than 1.5 million gallons of water per day to areas downstream of the Shepaug Reservoir. While 1.5 million gallons might sound like an immense amount of water, when spread over miles of riverbed the river is reduced to a small trickle. Dry hot summers further reduce the river to a warm, lethargic shallow stream. Scenic values are reduced, fisheries habitat is significantly compromised and recreational use is hampered. Research indicates that Waterbury has sufficient water resources to accommodate growth while allowing a far greater quantity of water to be released during the drier summer months. In February 2000, following a lengthy and technically complex lawsuit, a decision was handed down requiring the city of Waterbury to release substantially more water into the river.

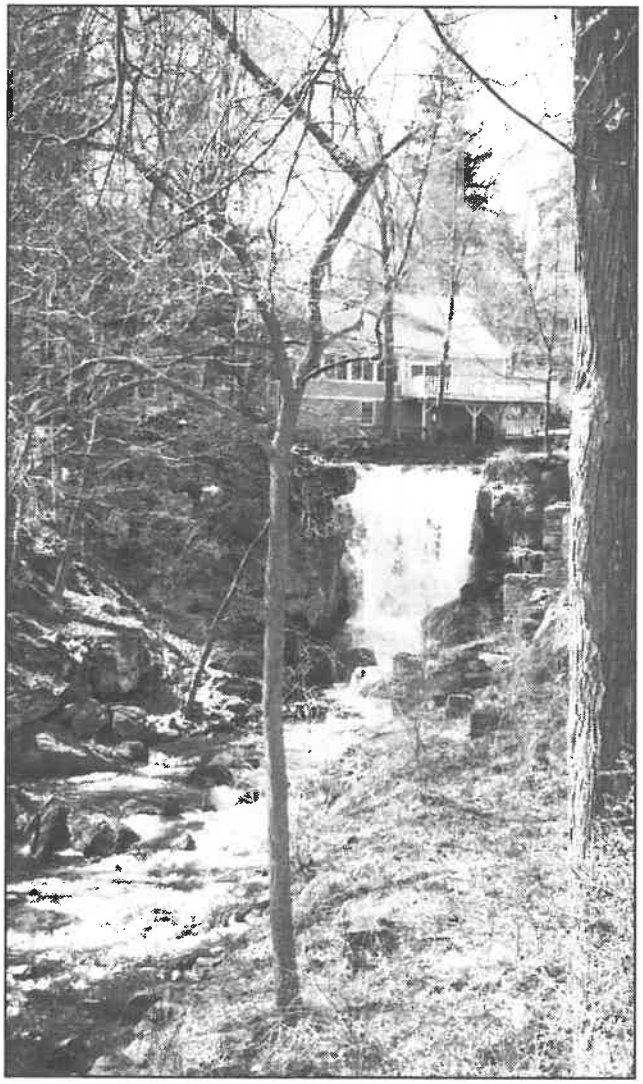
In 1955, a fall hurricane combined with extended precipitation resulted in a disastrous flood which changed the face of Washington Depot. Floodwaters raced through the Depot, washing roads out, floating homes downstream and killing two townspeople. Damage to the Depot was almost irreparable. What was once a vibrant commercial district with shops and housing along River Road is now a park. The current 1950's era brick architecture, which won a national planning award, replaced many of the 18th and 19th century buildings destroyed by the flood.

Flood disaster and low flow issues notwithstanding, the Shepaug remains a centerpoint of our scenic landscape. Fortunately, much of the river's course through Washington is permanently protected in the Steep Rock and Hidden Valley Preserves.

Bantam River

The headwaters of the Bantam River arise in southern Goshen, and the river flows south into Litchfield. After flowing through an extensive wetland system south of the center of Litchfield, the river enters Bantam Lake in Morris. From

Bantam Lake, the river flows westward through the borough of Bantam to Mt. Tom State Park in Morris and then into the northeast corner of Washington to a confluence with the Shepaug just north of Rumsey Hall School. Without the contribution of the Bantam River during low flow periods, the Shepaug would undoubtedly nearly disappear each summer. Although often surrounded by commercial, recreational and residential areas in Litchfield and Morris, the river runs through quite remote and natural areas in Washington.



East Aspetuck River

The East Aspetuck River originates at Lake Waramaug and flows southwest along the Route 202 corridor into New Milford where it joins the West Aspetuck River and then flows into the Housatonic River.

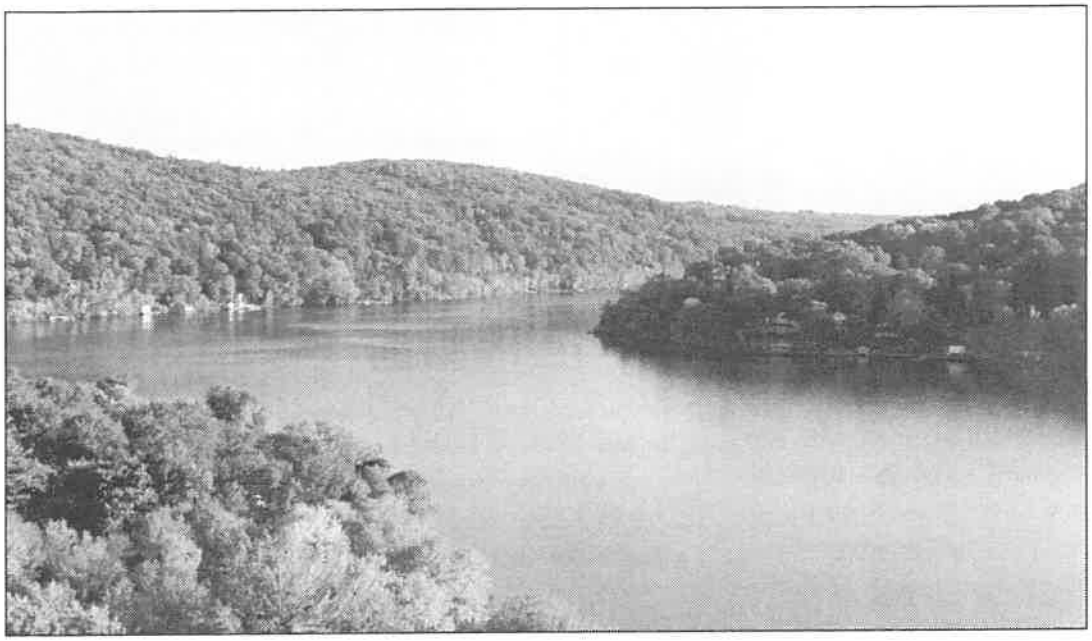
This river has been significantly worked and surrounded by development since the 18th century. At one time, there were approximately nineteen water-powered mills in the short stretch from New Preston to Marbledale. Although no mills exist today, the rocky, steeply pitched river continues to be surrounded by development impacts in the form of houses and commercial development. However, it offers fishing and beautiful views along its entire length and is an important conduit for floodwaters.

Bee, Kirby, Mallory, Sprain and Walker Brooks

After our rivers, there are five brooks which are important resources for the Town. All but the Sprain Brook are tributary to the Shepaug. The Sprain Brook, located in the southeastern valley known as Nettleton Hollow, flows to the Weekeepeemee River of Woodbury. The Bee Brook originates in the valley along Route 202, flows westward through Meeker Swamp and then southward to a confluence with the Shepaug at the southwest corner of the Hidden Valley Preserve. Kirby Brook originates in a wetland system off Wykeham Road and flows southwest along Wykeham, past the Gunnery School and the Mayflower Inn, along Roxbury Road and to a confluence with the Shepaug south of the Riding Ring at Steep Rock. Mallory Brook arises in swamps along Romford and Nettleton Hollow Roads and then flows westerly along Blackville Road to a confluence with the Shepaug just east of the Depot. Walker Brook occupies a long narrow valley running between New Milford and Washington. It winds through both towns beginning just north of Route 109, joining the Shepaug River in Roxbury. In addition to these brooks, there are many other intermittent and perennial streams throughout the Town.

These brooks and streams are important scenic assets, wildlife corridors, flood conduits and water supplies. They vary from slow-moving muddy-bottomed streams within large wetland systems to rocky, fast-moving, almost river-like conditions. Portions of Mallory Brook along Blackville Road, Kirby Brook along Roxbury

Road, Bee Brook off of Route 47, and Sprain Brook off Nettleton Hollow Road offer great scenic beauty for the abutting residences as well as motorists traveling about Town.



Lake Waramaug

The three towns of Washington, Warren and Kent share the shores of Lake Waramaug, the second-largest natural lake in Connecticut. The State of Connecticut designated Lake Waramaug as the state's first Heritage Lake in September, 2000. Possessing a surface area of approximately 680 acres and depths down to 40 feet (with an average depth of 22 feet), Lake Waramaug impounds approximately 4.8 billion gallons of water (CT DEP and USGS, 1987). It is fed by groundwater, numerous small intermittent streams and six perennial brooks, the largest of which is Sucker Brook (also known as Lake Waramaug Brook) in Warren. The watershed contributing to the lake is a little over 14 square miles (9,190 acres), a figure which is considered to be small for a lake of this size. Information from 1987 indicates that 74% (6,800 acres) of the watershed is forested, 10% (920 acres) is wetland or watercourse while 16% (1,470 acres) has been developed (low density residential, commercial or agricultural use) (CT DEP and USGS, 1987).

Located on the northwestern-most end of the lake is Lake Waramaug State Park, which provides campsites and public access to the lake. There is also a limited public access boat ramp at the Washington Town Beach. Warren and Washington each have town beaches, which are available to the residents of those two towns.

Lake Waramaug has long been known as a summer destination. Residents and visitors alike derive pleasure from walking, biking and driving around the shore of the lake because the surrounding roads afford a multitude of scenic views. Throughout the past century there has been several inns that have taken advantage of these scenic views.

Lake Waramaug is valued for many other reasons. It provides habitat for many species of flora and fauna and serves as a valuable recreational fishery resource. Its waters offer opportunities for educational studies and scientific research, and for some it even serves as a supply of household water.

Numerous boaters, under sail, oar or motor, enjoy the waters. The crew teams of local schools can often be seen practicing on the placid waters of the lake.

Although nutrient rich, characterized as either eutrophic (CT College Arboretum, 1995) or late mesotrophic (CT DEP, 1996), the 680-acre lake has reasonably clean and clear water which is currently free from invasive aquatic plant life of the type that hinders boating and swimming. The Lake Waramaug Task Force has for many years promoted watershed management as well as a lake cleanup program, both of which have contributed to steady water quality improvements.

A potential threat to the health of the lake has been identified: nonnative invasive aquatic plants and animals such as Eurasian Milfoil, Water Chestnut, Zebra Mussel, etc. Once these aggressive species establish a toehold, they can dramatically change the character and quality of the lake in a few short years, drastically limiting the types of activities that can be enjoyed in and around the lake. Sites of public access to lakes are where these invasive species are most often introduced, having hitched a ride on trailered boats. With increased demand for public boat launches, we must be ever vigilant for these pests and take whatever measures are necessary to prevent their introduction. If introduction does occur, they should be vigorously fought. Attention should be focused on the two major public access areas on Lake Waramaug: Washington Town Beach and Lake Waramaug State Park. The Town of Washington has recently adopted an inspection policy at the Town Boat Launch.

The lake is part of a larger system of wetlands and watercourses. At its southernmost end it empties into the East Aspetuck River which flows to a confluence with the West Aspetuck River in New Milford and then into the Housatonic River. Eventually, the water from Lake Waramaug finds its way into Long Island Sound after passing through a number of communities. Any land use organization or other group or individual making decisions about the lake and its watershed obviously needs to consider how their actions will affect all aspects of Lake Waramaug so that many people, in a diversity of ways, can continue to enjoy the lake in the future.

Mt. Tom Pond

While located primarily in Morris, this 31.5 acre natural pond with a well-utilized State Park lies partially in the northeast corner of the Town of Washington. Mt. Tom Pond was formed during the last glaciation; the pressure of the overlying ice sheet formed a localized depression termed a glacial kettle, and when the glacier retreated, the small basin filled with meltwater; currently, it is fed predominantly by springwater. Despite its relatively small surface area, the pond itself is quite deep with an average depth of 21 feet and maximum depth nearing 46 feet (CT College Arboretum, 1995). Its water quality is quite good, characterized as early mesotrophic by CT DEP (1996). As a result, it affords great habitat and recreational value. The protected forest land ringing the majority of the pond should continue to protect the water.

Smaller Ponds

There are numerous ponds scattered throughout the Town. Varying from small excavated farm ponds to large stream-fed impoundments, ponds act as important water supplies, flood storage basins, fire-fighting water sources and wildlife habitats. Ponds can be quite susceptible to negative impacts and wildly fluctuating water quality.

Ponds should never be created on a whim. Their health and sustainability require proper study, siting and construction. Wherever possible, ponds should be protected from nutrient-rich farm and residential landscape runoff. While a well-manicured lawn running down to the edge of a beautiful pond may be an alluring sight, the lawn's fertilizer-laden runoff can have undesirable impacts upon the pond.

E. AQUIFERS AND WETLANDS

Aquifers

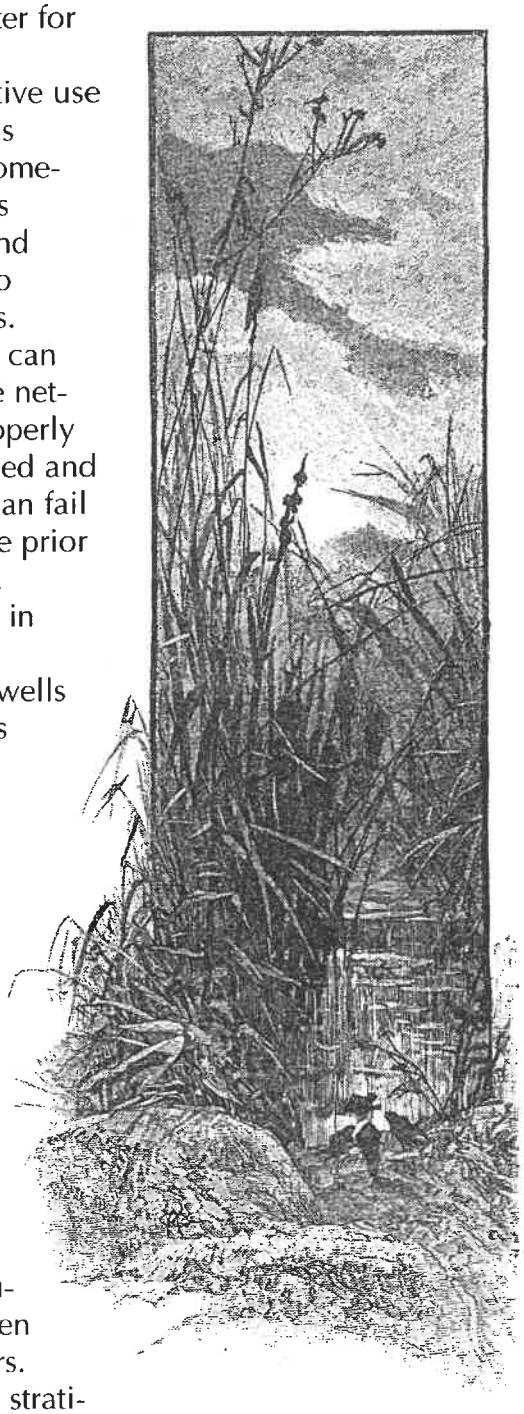
We live in a region of relatively generous rainfall. The lush forest that surrounds us and the many streams, rivers and ponds throughout the region are the most tangible evidence of our well-watered province. Out of view, but no less abundant, are underground rivers and streams known as aquifers. These aquifers are grouped into two major categories: bedrock and stratified drift.

First, like streams on the land's surface, are bedrock aquifers; these are the small streams of water flowing through a complex network of fractures in the bedrock. Bedrock aquifers of varying capacities are present in every part of Washington. The Town's most significant

bedrock aquifer follows the Route 202 corridor.

Our household wells draw upon these underground streams. At lower housing densities, bedrock aquifers can generally be counted on to produce adequate water for single family homes.

In general, the consumptive use of water extracted from wells drilled into the bedrock is somewhat offset by septic systems returning water to the soil and thence, after renovation, into underlying bedrock fractures. However, extensive blasting can potentially disrupt the subtle network of fractures, and improperly maintained or poorly designed and constructed septic systems can fail to renovate domestic sewage prior to its entry into the bedrock. Excessive well development in zones of low yield bedrock aquifer can impact existing wells and result in water shortages during times of drought. Excessive large-scale irrigation using groundwater can also have a major impact on local water levels in times of drought.



The second type of aquifer is a stratified drift aquifer; these aquifers are the major rivers of our underground waterways. Past glacial periods have deposited layers of porous gravel along valley bottoms which allow for the accumulation and flow of water, often associated with surface rivers. Just as in the bedrock, these stratified drift aquifers are of variable capacity. Where gravel deposits are well-graded, possessing a well-developed full array of particle sizes, these aquifers can yield up to 50 - 2,000 gallons per minute. Where gravel deposits are less well developed and surficial water less abundant, these aquifers produce lower, although still considerable, volumes of water.

These aquifers are subject to extreme impact from surface events. Leaking fuel tanks, oil spills, salt and urban runoff can all enter the aquifer through permeable soils with long-lasting and serious consequences. Although it will ultimately be resolved, the salt contamination present in the soil beneath the former Town Garage site is one example of improper surface activities over stratified drift aquifers. In Washington, stratified drift aquifers can be found in gravel deposits beneath the Depot, beneath the Meeker Swamp area along Route 202, under the East Aspetuck in Marbledale, beneath certain stretches of the Shepaug and Bantam Rivers in the Romford section of Town, as well as under the intersection of Nettleton Hollow Road and Route 109.

Wetlands

Wetlands in Connecticut are defined by soil type (see Soil Based Zoning Classes A-F, wetland soils are Class F). Underlying geology, past glaciation and alluviation have created pockets where water accumulates and soils hold water. The presence of water for extended periods reduces the oxygen content of the soil resulting in color variations referred to as mottling; a soil scientist uses an auger to look for these signs when identifying wetlands in the field. Saturated wetland soils can vary from Adrian's peat and muck, which are thick organic deposits of decomposing plants (Meeker Swamp) to Ridgebury and Whitman, poorly drained soils which possess thin layers

of organic soils over oxygen-reduced mineral soils (Popple Swamp). Wetland soils are easily identified by the marshes and swamps which cover them. They can be found wherever tussock sedge, red maples, cattail, spicebush or skunk cabbage are present.

Another important wetland type consists of the well-drained floodplain soils. These wetlands are difficult to identify at a casual glance because they often look no different than surrounding upland soils. However, they are quite important for a variety of reasons. Since they occur in floodplains they should be avoided for development. They are quite permeable and are prone to rapid infiltration of pollutants. Lastly, they are rich agriculturally. Loaded with nutrient-rich sediments and host to seasonally extended biologic and microbial action, these soils often produce our greatest crop yields. Well-drained floodplain wetlands are found along our major valley bottoms such as the Shepaug and the Sprain Brook in Nettleton Hollow.

Wetlands are important for the following reasons:

- Wetlands are one of the most productive ecosystems on the planet.
- They function as the kidneys and bladders of the earth's water cycle by trapping sediments and nutrients as well as filtering pollutants.
- Wetlands are host to specialized plant life. These plants are uniquely adapted to filter nutrients and heavy metals from water before it enters the soil and ultimately, the bedrock.
- Cation exchange (a type of chemical reaction) occurring within wetland soils acts to bind pollutants, contributing further to the cleansing effect of a wetland.
- Wetlands act as storage basins during periods of heavy rainfall, moderating the effects of heavy flood-causing rainfall and allowing for infiltration.
- Wetlands slowly release their stored waters during times of drought.
- Some wetlands contribute waters which recharge the water table.
- Recent research has revealed wetlands to be an important carbon sink in the form of decaying trees.
- The role of wetlands in the nitrogen cycle has been documented and is known to be an important element contributing to the air we breathe.
- Wetlands provide essential habitat for numerous wildlife species (obligate species); a number of birds and amphibians are especially dependent.
- Many other wildlife species use wetlands (facultative species) for protective cover, breeding areas, foraging areas or important corridors for movement.
- Wetlands can be areas of great scenic beauty and can provide opportunities for aesthetic appreciation, not to mention educational benefits.

What were once considered noxious places and derelict wastelands are now known to be vital parts of the landscape. Accordingly, wetland regulation must be considered a responsibility rather than a restriction. Without wetlands, our world would be a desolate and parched place.

F. SOIL TYPES

The soil covering the land of Washington is like a complex quilt of varying texture, permeability, fertility and stoniness. The Natural Resource Conservation Service (NRCS) has identified and classified 38 varieties of soils in the town of Washington. In addition to several types of wetland soils, these soils range from excessively-drained Hinckley Gravels found along waterways to Hollis rock outcrops on stony hilltops to well-drained Charlton sandy loams on ridges and hilltops and moderately

well-drained Woodbridge/ Paxton hardpan soils on drumlin hills. These soils are derived from a combination of the underlying parent material (bedrock) present, the effects of glaciers whose immense weight sometimes created dense compacted hardpans which slow percolation just below the ground's surface, and the effects of streams and melting glaciers which deposited well-graded sand, grit and small stones in certain areas of town.

All dirt is not created equal. Each soil has different assets or limitations which impacts its effectiveness for human use. Well-drained sandy loams such as Charlton dry out early in spring and are easily workable, albeit stony. Hardpan soils such as Woodbridge/Paxton possess a dense hardpan at 18"-24" depths which create seasonally high water tables that reduce the soils' suitability for septage disposal. These soils also dry out later in spring thereby limiting their agricultural use somewhat.

Hollis rock outcrop soils are very stony, and hence are ill-suited for agriculture and present difficulties to homesite development due to shallow depth to bedrock and the presence of numerous rocks.

Hinckley gravels, while a source of valuable gravel for human use, are both excessively droughty for crop use and overly permeable for intensive septic use. Copake soils are well-drained, friable and are partially underlain by limestone making their pH basic and hence well suited to agriculture.

In Washington, soils are particularly important because we have established a zoning code around them. Washington was one of the first towns (and still one of the few in the State) that follow so-called "soil based zoning." This type of zoning allocates development densities based upon the soils present on any given site. Because nearly all sewage demand in town is met by on-site septic systems, it is important that the development densities not exceed the capacity of the soils to renovate the sewage generated.

There are six classes (A-F) of soil in Washington:

- Class A allows a minimum lot density of 2 acres;
- Class B allows a minimum lot density of 3 acres;
- Class C allows a minimum lot density of 4 acres;
- Class D allows a minimum density of approximately 6.7 acres;
- Class E soils require on site investigation by a soil scientist to confirm that the soils are suitable for development with an appropriate minimum acreage;
- Class F are wetland soils and are not used to calculate density for residential use.

A breakdown of the Town's overall acreage into soil classes is as follows:

5,716 acres (23.1%) are Class A
4,247 acres (17.2%) are Class B
5,033 acres (20.4%) are Class C
5,994 acres (24.2%) are Class D
345 acres (1.4%) are Class E
2,864 acres (11.6%) are Class F

The remaining 524 acres (2.1%) are covered by water. A complete listing of the soil types present in the Town of Washington can be found in Appendix J.

Different soils possess different susceptibilities to erosion and therefore require different

approaches to construction. The USDA, in conjunction with the NRCS, has published a soils survey for each county in Connecticut. The Litchfield County Soil Survey provides detailed descriptions of each soil type and explains each soil's suitability for a variety of uses from agriculture, forestry and wildlife habitat to septage disposal and development.

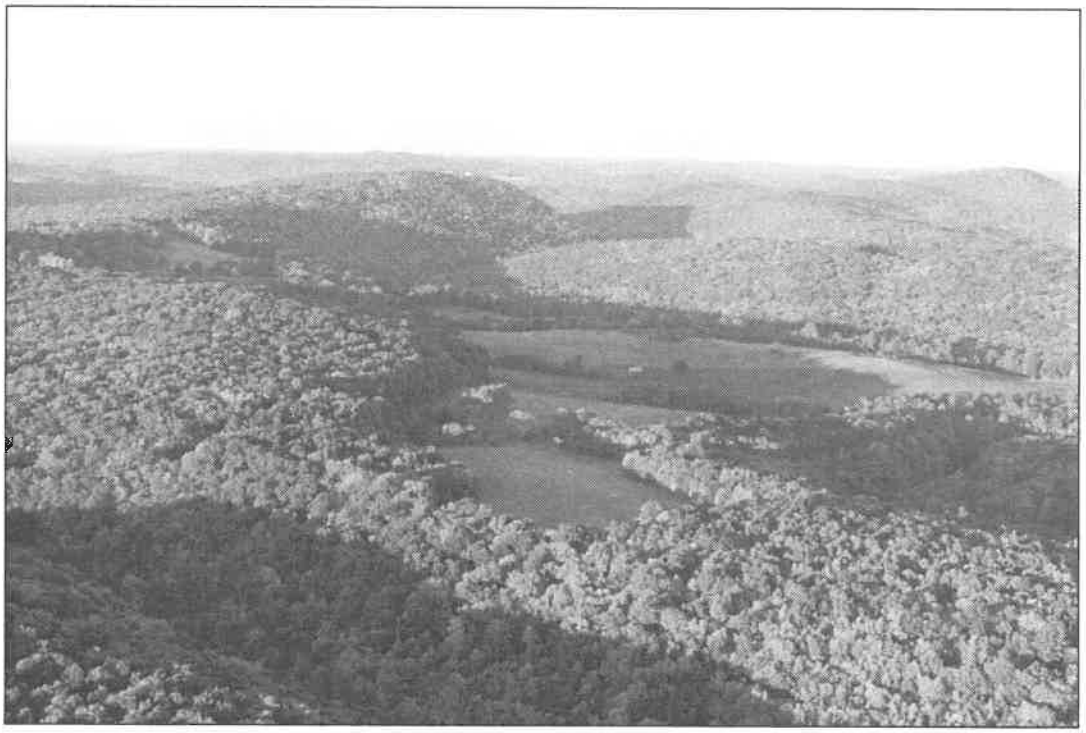
Three soils maps are provided with this report:

- Soils Map identifies each soil in the Town
- Soil Based Zoning Classes A-F illustrates the current (as of March 2000) zoning classes (note that in December 1999 when these maps were generated, classes A-F were proposed categories)
- Soil Based Zoning Classes I-IV illustrates the previous zoning classes (included for reference only).

G. FARMLAND AND WOODLAND

Farmland

Agriculture in the Town is in an advanced state of decline. What was once principally a farming community has turned into a residential community which has inherited an identity as a "rural" community. To a certain extent, this identity is real; when compared with many towns in central and southern Connecticut, we are rural. However, an accelerating loss of active farms, in particular dairy farms, threatens to knock the support from beneath our "rural" identity.



Washington originated as a farming expansion of Woodbury. Its lands were transformed into a thriving farm economy after the Revolutionary War. At one time, a Borden's milk factory occupied Washington Depot, and our Town was one of the largest exporters of milk in the region. In addition to milk and cheese, we produced fruits, vegetables, tobacco, rye, wheat, pork, beef, lamb, maple syrup, ice and lumber. Farming and farm support were our largest industries. The Shepaug train line brought in passengers and manufactured goods and left with tons of our agricultural produce bound for delivery to the New York market.

Current agricultural production, though important to the Town, is a small remnant of what it once was. As recently as 20-30 years ago, more than 30 farms dotted Washington's countryside. At present, there are approximately 12 remaining agricultural operations including dairy, fruit, horses, hay, Christmas trees, organic vegetables, herbs and flowers. Two of Washington's farms, Seymour and Averill, have been preserved under the auspices of the State of Connecticut Farm Preservation/Purchase of Development Rights program. Two organic/vegetable farms, Ference and Waldingfield, appear to be thriving. The Solleys and Seymours con-

tinue to farm hay on their own land as well as leased land. The Fuths and Hallocks grow fruit; the Dyers raise sheep; the Collins grow herbs and two dairy/dairy support farms are operated by the Whiteheads and the Potters.

Much of our "rural identity" is wrapped up in our memory of, or ongoing interaction with, farms. Views of livestock grazing, open meadows, cornfields, orchards and hayfields punctuate our woodland to this day. However, it is not unlikely that within a generation, all of our dairy operations and most of our hayfields will be a thing of the past. This process has been going on for some time across New England. Better soils, the possibility of larger operations and farm subsidies, among other things, have influenced the migration of farming to points westward.

As recently as the mid 1970's, approximately 18,467 acres were being actively farmed (cultivated, dairy, cattle, orchard or nursery) or were in forest and fields (TPC of Washington, 1974). As of the early 1990s, only 5,866 acres were in cropland, pasture or forest (TPC of Washington, 1993). It should be noted that the land use evaluation methods used by the two Plans of Development were not the same, nor were the categories directly comparable; the information was included to give a basic sense of the trends of land use change in Washington.

While orchards and vegetable farms appear to be secure, it is the hayfields, dairy farms and corn fields feeding the dairy stock that make up the most conspicuous component of our "rural" landscape. Unfortunately, it is precisely this part of our landscape which may be gone within the next 20 years. The recommendations portion of this report provides an overview of possible ways to support agriculture locally.

Woodland

While our farmlands have declined in area during this past century, our forests have been expanding. During the eighteenth and nineteenth centuries, Southern New England was 25% forested and 75% open/developed land. Now, that ratio is exactly reversed, and Connecticut's forests are reaching maturity (80 years +).

Connecticut now exports Red Oak, Maple, Hemlock, Pine, Poplar and Birch to as far away as Japan. In the 1980's, Connecticut was the largest exporter of Red Oak in the country. In addition to our farms, forests add to the "rural character" of our landscape.

People have a significant emotional attachment to trees, and as a result, logging operations, no matter how well planned, are often looked on as negative occurrences. This is unfortunate. Our trees are a renewable and valuable resource. They also have a finite limit to their period of prime economic value. Trees of 60-80 years in age are in their prime, and left unharvested, they will decline in economic value. Properly administered forestry management practices can encourage forest diversity, maximize economic return, habitat diversity and sustainable use.

Properly planned and implemented forestry operations can also provide jobs, rejuvenate our forests and help defray the costs of maintaining undeveloped forest land. This is not to say that we should open all areas of our forests to uncoordinated and uncontrolled harvest. As time goes on it may become desirable to identify and protect old growth stands. While we no longer enjoy virgin old growth forest, forest aging can be logically assumed to result in stands of mature forest trees approximating old growth. It may become desirable to protect such stands from wood harvesting.

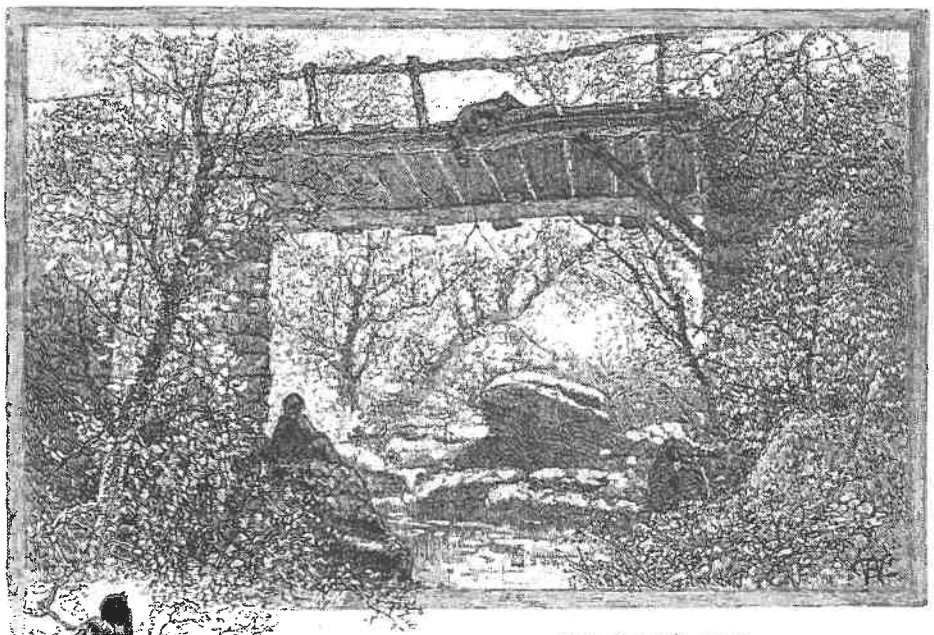
Natural occurrences require action as well. Gypsy moth infestation, climate change and Wooly Adelgid *(Adelges Tsuga* Annand*)* outbreaks affect our forests, in some cases, to a disastrous degree. Some fear that the Eastern Hemlock *(Tsuga canadensis)* will be gone from our landscape within 25 years. Forestry management can help us address these issues as well as allow income from the land while helping to preserve "rural" scenic values.

The accompanying Farmland map illustrates prime farmland soils as well as soils of statewide importance throughout Town; it also identifies those lands currently in agricultural usage. The Aerial View map shows the amount of forest cover.

H. WILDLIFE HABITAT AND LISTED SPECIES

Washington's varied topography and land cover provides visual beauty, cherished by residents and visitors alike. A closer examination of the Town's relatively well-preserved landscape reveals a diversity of habitat types which complement the other natural features discussed in this document.

Biodiversity, the variety and variability of all living things and their roles within their natural systems, is at the core of our physical existence.



THE PHŒBE'S NEST.

While the term "biodiversity" might immediately conjure up images of a tropical rain forest, the urgency for preservation cannot be limited to those geographic regions; equally worthy of preservation are our temperate ecosystems.

Migrating songbirds clearly exemplify the connection between distant ecological realms. Most of our songbirds are tropical migrants that winter in the neotropics, but their breeding grounds are located here in our temperate forests. Efforts to conserve songbirds must focus on protection and management of our temperate northeastern forests and flyway stopovers as well as overwintering areas in the tropics.

Another illustration of the importance of biodiversity can be seen by the role played by wild gene pools within the agricultural system. The United States' wheat crop, which feeds an international population, is under constant threat from blights. Scientists continually search for disease resistant wild populations of plants which are related to our domestic food crops. Without this source of related wild grasses for breeding resistance back into the wheat crop, the potential for pandemic disaster exists.

These are only two of the countless examples illustrating the importance of biological diversity. There is another aspect, however, that must be mentioned: the sheer joy and fascination that comes from the exploration of nature.

In addition to outright habitat loss through destruction, the two major threats to biodiversity are habitat fragmentation and introduced (non-native) invasive species. As development pressures mount and land becomes increasingly fragmented, plant and animal populations become isolated and diminish due to such factors as over-competition for limited food and cover. Populations of sensitive species eventually disappear while those tolerant of wide ecological amplitudes — those that are more adaptable to a range of conditions — become abundant. For example, the native Bullfrog *(Rana catesbiana)* can easily overpopulate a degraded wetland by outcompeting other amphibian populations.

Some species (particularly non-native invasives) can alter the physical characteristics of natural areas and can become pests to humans. Locally, Japanese Barberry *(Berberis thunbergii)* and Honeysuckle *(Lonicera sp.)*

are overwhelming native understory shrub communities. European Starlings *(Sturnus vulgaris)* and Brown-headed Cowbirds *(Molothrus ater)* compete with native songbirds. The Zebra Mussel *(Dreissena polymorpha)* is moving into our area from the Great Lakes region via boats. The end product of these perturbations is a homogenous biota that severely limits our options for resources such as pharmaceuticals, new crops and basic raw materials.

Connecticut's northwestern region has the highest biodiversity in the state due to a largely undeveloped and relatively unfragmented landscape (Preston, 1996). Washington's biologically diverse habitat types are part of this larger landscape. The following sections of this natural resource inventory identify those areas possessing high concentrations of biodiversity within Washington as well as other features, including "notable trees".

Vernal Pools

In the northeast, vernal pools (temporary woodland ponds) usually fill with the autumnal rains and not in the spring as the name implies; a more accurate terminology would be "ephemeral woodland pond," "seasonal pool," or "autumnal pool." (As it is familiar to most audiences, "vernal pool" will be used in this report).

Spurred by recent scientifically documented global declines of amphibians - a known indicator of environmental health - vernal pools have finally been recognized as critically important habitats which host an unusual array of organisms that contribute tremendously to regional biodiversity. Previously considered by many to be stagnant swamps fit to be filled, vernal pool ecology is now at the forefront of conservation biology.

Vernal pools differ from other freshwater wetlands, deriving their energy from decaying leaf-litter provided by the surrounding forest; the basis of the food chain in other wetland types is green plants beginning with microscopic algae. Fed directly by precipitation, surface run-off, and/or groundwater, vernal pools typically lack a permanent inlet or outlet. They cannot sustain permanent fish populations because they tend to dry out. Free from fish predation, vernal pool organisms can successfully complete their life-cycle. Those whose entire existence depends on vernal pools are referred to as "obligate" species. Good examples are the Wood Frog *(Rana sylvatica)*, mole salamanders *(Ambystoma sp.)* and Fairy Shrimp *(Eubranchipus sp.)*.

Wakened from hibernation by the first warm spring rains, Spotted Salamanders (*Ambystoma maculatum)* migrate en masse, sometimes from a distance of a quarter mile and sometimes by the hundreds, to their natal pools to breed. Anyone witnessing this spectacular natural phenomenon is sure to have their interest piqued and become attuned to this annual event.

Some organisms are also specially adapted to the extremes of the vernal pool way of life. For example, eggs of the fairy shrimp can remain dormant in a dried-out condition, successfully surviving lengthy desiccation for as much as 20 years before "reactivating" again.

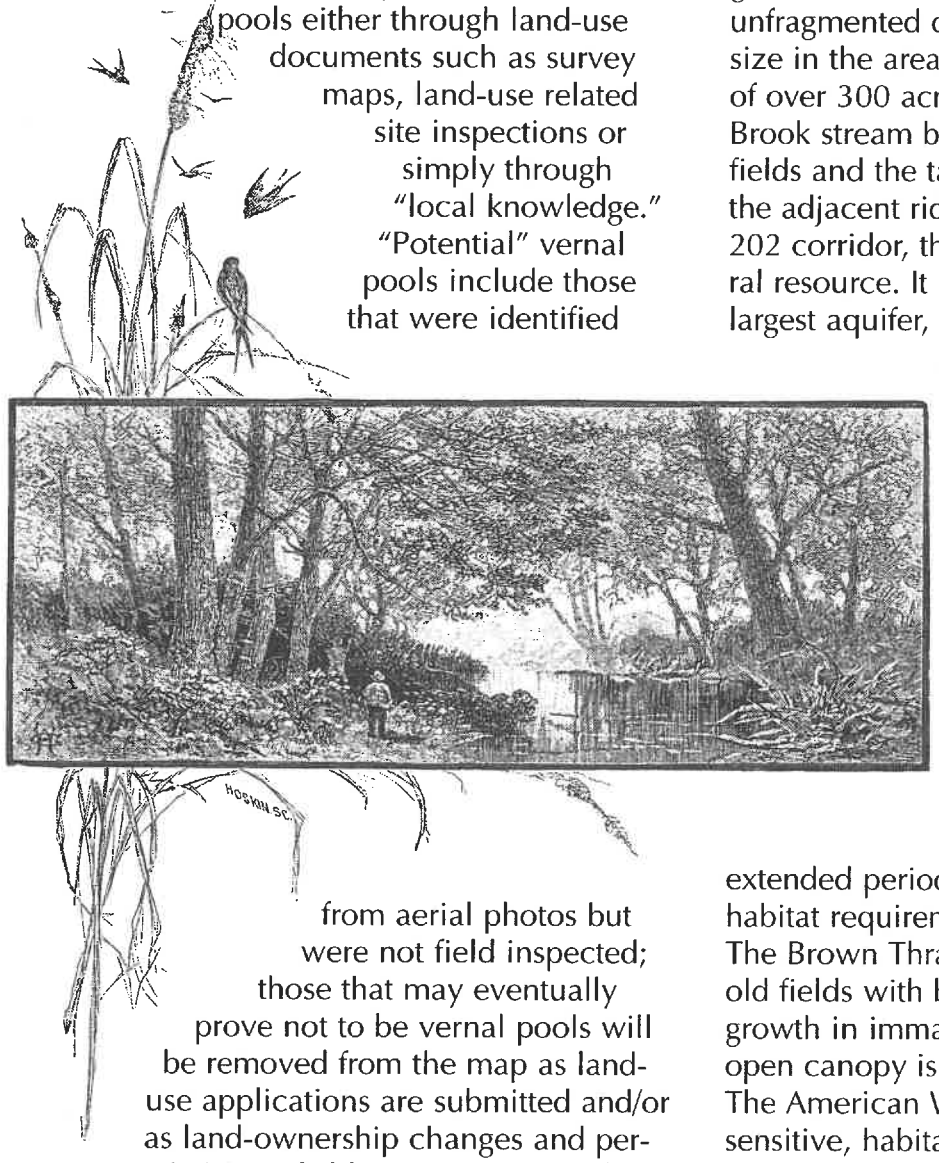
From a generalized topographical perspective, New England's vernal pools tend to appear in areas with a combination of shallow soils, swales, and exposed bedrock and/or groundwater where glacial sediments and eroded materials have accumulated and drainage is consequently poor. They also can occur in floodplain areas and in close proximity to other wetland systems.

Due to a preponderance of topographical and geological characteristics, the Nettleton Hollow/Carmel Hill area has an outstanding example of an extensive vernal pool system, with many pools in close proximity to each other. Other areas include the Mt. Tom and Lower Church Hill regions.

Consequently, these areas are extremely diverse and productive biologically. For example, species such as the mole salamanders and Wood Frogs spend more than 90% of their adult lives in the surrounding forests. Invertebrates (such as insects) that use vernal pools abound as well, attracting and sustaining a diversity of forest dwelling birds. In addition, vernal pools serve as "watering holes" in what

otherwise may be dry upland woods, attracting other types of animals, such as mammals.

The data layer represented on the map includes both "verified" and "potential" pools. It must be noted that the term "verified" refers to pools that were either directly field inspected or those that are historically known to be vernal pools either through land-use documents such as survey maps, land-use related site inspections or simply through "local knowledge." "Potential" vernal pools include those that were identified from aerial photos but were not field inspected; those that may eventually prove not to be vernal pools will be removed from the map as land-use applications are submitted and/or as land-ownership changes and permission to field-inspect is granted.



The "potential" category also includes some field-inspected wetlands that may function as vernal pools such as those fragmented by roads where drainage is poor but water accumulates and remains for sometime.

Calcareous Wetlands

Ash and Meeker Swamps are unique calcareous wetlands (fens) associated with limestone-based geology that is considered rare east of the Appalachians. Both are located north of Cameron's Line (see Section II A for further explanation).

Meeker Swamp is an extensive wetland complex located in the Northwest Hills ecoregion. It is one of the last remaining, relatively unfragmented calcareous wetlands of significant size in the area. The system comprises an area of over 300 acres including part of the Bee Brook stream belt, wet meadows, agricultural fields and the talus areas and rocky outcrops of the adjacent ridge. Tucked away from the Route 202 corridor, this wetland is a significant natural resource. It is underlain by Washington's largest aquifer, and according to a Nature Conservancy report, its surficial water appears to be of high quality (Farnsworth and Preston, 1998).

Field observations during the course of this project revealed its importance as a significant bird habitat. Two Species of Special Concern, the Whippoorwill *(Caprimulgus vociferous)* and the Brown Thrasher *(Toxostoma rufum)* appear to be using the habitat for extended periods, possibly even for breeding as habitat requirements for both species are met. The Brown Thrasher prefers open areas such as old fields with brushy growth while scrubby growth in immature woodlands with a more open canopy is favored by the Whippoorwill. The American Woodcock *(Scolopax minor)*, a sensitive, habitat restricted species requiring moist soils near field's edge for nesting and having specific feeding requirements, can be seen regularly. Waterfowl such as the Green-Winged Teal *(Anas crecca)*, though a northern species, passes through during migration, utilizing the swamp for food and cover. Meeker Swamp is also ideal habitat for the spectacular Wood Duck *(Aix sponsa)*, an obligate tree nester, which requires low human disturbance, and forested, shrub or riparian wetlands.

The diversity of vegetation in Meeker Swamp also includes a variety of berry and mast-producing plants sustaining and providing cover for breeding bird populations and late fall migrants passing through. However, invasive introduced plants such as Multiflora Rose *(Rosa multiflora)*, Purple Loosestrife *(Lythrum salicaria)*, and Japanese Barberry *(Berberis thunbergii)* have a good foothold and are on their way to displacing native flora, thereby negatively impacting habitat values. See Appendix M for a listing of Connecticut's invasive plant species.

Ash Swamp is the other calcareous wetland in Washington, but it is significantly smaller than the Meeker Swamp system. This backwater of Lake Waramaug is fragmented from most of its natural upland areas by roads and lawns. Purple Loosestrife has invaded the central and northern sections of the swamp, threatening its native flora. Although largely unexplored, Ash Swamp is included in this report as a potentially important calcareous habitat. Field investigations are warranted, especially in the swamp's southerly, well-vegetated areas, to assess its biological integrity.

Lake Waramaug

Lake Waramaug, Connecticut's second largest natural lake, is another ecologically valuable resource. Located in the Western Uplands, it is an ecological anomaly in that it has not yet been impacted by non-native plants that are choking so many of the region's lakes and ponds. A bird-watcher's paradise, it is an important stopover for migrating waterfowl. The water is relatively clear and visibility is unobstructed by weeds that would otherwise interfere with the feeding habits of fish-eating birds like the Common Merganser *(Mergus merganser)* which can be seen by the hundreds when the ice is open in winter and early spring. Other species seen include the Hooded Merganser *(Lophodytes cucullatus)*, Red-Breasted Merganser *(Mergus serrator)* and Ruddy Duck *(Oxyura jamaicensis)*; occasionally a Pied-Billed Grebe *(Podilymbus podiceps)* or even a Bald Eagle *(Haliaeetus leucocephalus)* is present. Fish species known to be present in the lake are Largemouth Bass *(Micropterus salmoides)*, Smallmouth Bass, Calico Bass, Lake Trout *(Salvelinus namaycush)*, Rainbow Trout *(Salmo gairdneri)*, Yellow Perch *(Perca flavescens)*, White Perch, Pickerel *(Esox sp.)*, Alewives *(Alosa pseudoharengus)*, Sunfish *(Centrarchidae family)* and Bullheads *(Ictalurus nebulosus)* (CT DEP & USGS, 1987).

Wildlife Corridors

Wildlife corridors are routes that animals use as they move through an area to reach breeding sites or food sources. They also provide connectivity between different habitat areas. Rivers, wetland systems and ridges are generally considered to be linear corridors because animals tend to travel parallel to these features. Hawks, for example, follow ridgelines during their annual migration. Linear corridors are traditionally considered in conservation efforts while radial corridors are often overlooked. Radial corridors are analogous to the spokes of a wheel. The routes that amphibians follow each spring to their breeding pools from the surrounding upland forest is a good example.

Corridor widths tend to be species-specific. Beavers, for example, remain within approximately 330 feet of a wetland, thus defining their home range. The buffer concept may work for species with linear habitat requirements along a wetland corridor, but not for vernal pool-breeding amphibians whose habitats are in the surrounding upland forest. Protection of their migration routes is problematic if traditional buffer concepts are applied.

Plants are an important component of the corridor concept primarily because they provide cover and protection for wildlife on the move. But they, too, have width limits. American Beech *(Fagus grandifolia)* for example, cannot reproduce successfully in narrow corridor strips.

The corridors indicated on the map are of the linear type, based on the general concepts noted above and on wildlife sightings noted by locals; widths are estimates based on natural and man-made landscape features that may promote or inhibit wildlife movement. These

aspects warrant further scientific investigation. The Bantam River corridor, however, is used by state-listed species as indicated by the DEP circle near the Morris town line. Other corridors include Nettleton Hollow, the Wyant Pond/ Kirby Brook area, Walker Brook valley, the Poplar Swamp ridgeline and the Bee Brook valley.

Radial corridors, especially those associated with vernal pools, also require further scientific studies to determine amphibian dispersal patterns.

Talus and Ledge Areas

Talus areas are composed of dislodged rock accumulating at the base of ledges and rock outcrops. The crevices and spaces between the rocks provide hibernacula for animals spending their winter months in dormancy, as well as temporary shelter and nesting sites for an assortment of species. Also, the generally cooler climatic conditions in these rocky locations and the rich soils produced by the perpetual weathering of the rocks are favorable microhabitats for interesting floral communities.

Good examples of this habitat type include the ridge adjacent to, or north of, Meeker Swamp and the numerous sites along the Shepaug River as it winds through Steep Rock and Hidden Valley.

Small rock outcrops, though locally important, were not mapped as they are too numerous, but must still enter into the land-use decision-making process as they are integral parts of the landscape.

Notable Trees

After years of researching historical records and scouring the state to locate and measure Connecticut's largest cultivated and non-cultivated trees, the Connecticut Botanical Society published its findings in a booklet entitled "Connecticut's Notable Trees." The state's largest trees and "runners-up" located in Washington were added to the map from this source along with additional "runners-up" discovered during fieldwork for this conservation effort. The location of these trees is indicated on the map by large green arrows; all locations are approximate.

This section was added to the report to raise public awareness of these interesting specimens in an effort to prevent their untimely destruction. Sadly, one of Washington's notables was cut down by a utility company working on the Green. Connecticut's largest Red Horsechestnut *(Aesculus x carnea),* a hybrid non-native, measured 60 inches in circumference and was 29 feet tall, when it met its demise in 1998. Another notable tree, Connecticut's largest Dwarf Alberta Spruce, was cut down as this report was being finalized.

As living monuments gracing our landscape and having withstood the ravages of time for generations, Washington's Notable Trees deserve special recognition and protection (see Appendix K for a complete listing).

State-Listed Species

Plants and animals can be rare for a number of reasons. Habitat destruction and over-collecting are the most common causes of rarity, but natural events such as fire and erosion, to name a few, can also be contributing factors. Also, some species may be restricted to rare habitat types and therefore are regionally rare. One example is Labrador Tea *(Ledum groenlandicum),* a plant species that was abundant in New England during the ice-age, but has become restricted to peat bogs since the glacier retreated (Dowhan and Craig, 1976).

The Connecticut Natural Diversity Database is a compilation of the State's imperiled flora and fauna. The first Endangered Species list for Connecticut was finalized in 1992, subsequently reviewed in 1997 and a revised list was officially adopted in 1998. Based upon the number of occurrences in the State (or designation at the federal level) listed species are assigned into the following categories:

- Endangered - fewer than 6 occurrences
- Threatened - 6 to 9 occurrences
- Species of Special Concern - species possessing either a naturally restricted range or habitat, a low population level, high demand by humans or extirpation from the state.

Information from the State's database was transferred to the map, represented by red circles a half mile in radius. This convention is used to "flag" a species' presence while protecting its exact location; certain plants and animals are subject to thievery by collectors as well as poaching for the black market.

Also included on the map are species discovered during the course of this project. Those undergoing documentation and verification are indicated by paler circles.

Washington is only a part of a much larger picture. As previously noted, the northwest corner of Connecticut contains the highest concentration of biological diversity in the state (Preston, 1996). To preserve this biodiversity, protection must focus on ecosystems and habitats in the larger landscape, not just on individual species. A universal approach considers the full complexity of natural systems that affect and sustain our span of existence, from economics to personal well-being.

It is everyone's duty to practice and to hand down a legacy of stewardship. With a strong conservation ethic, Washington can set the stage for other towns to join together to establish a regional conservation effort that protects biodiversity.

I. ARCHAEOLOGICAL, HISTORICAL AND ARCHITECTURAL RESOURCES

Prehistoric Resources: Native American Habitation

Washington was settled over 10,000 years ago. From the early 1970's to the late 1980's the Institute for American Indian Studies (IAIS), formerly the American Indian Archaeological Institute, began studying the prehistory of the area through surveys and excavations along the Shepaug River, Kirby Brook, Sprain Brook, the shores of Lake Waramaug and other sites in town. This archaeological research illuminated much of Washington's prehistory. For example, near Meeker Swamp, in the northern part of Washington, researchers found evidence of the area's use "by different populations of hunter-gatherers between 7,000 and 2,500 years ago," revealing evidence to suggest the particular importance of wetlands, in addition to other natural resources, in the lifeways of prehistoric cultures. Excavations at other sites found evidence of native Americans living in what is now Washington at least 10,000 years ago. Many of these prehistoric artifacts are preserved at the IAIS on Curtis Road.

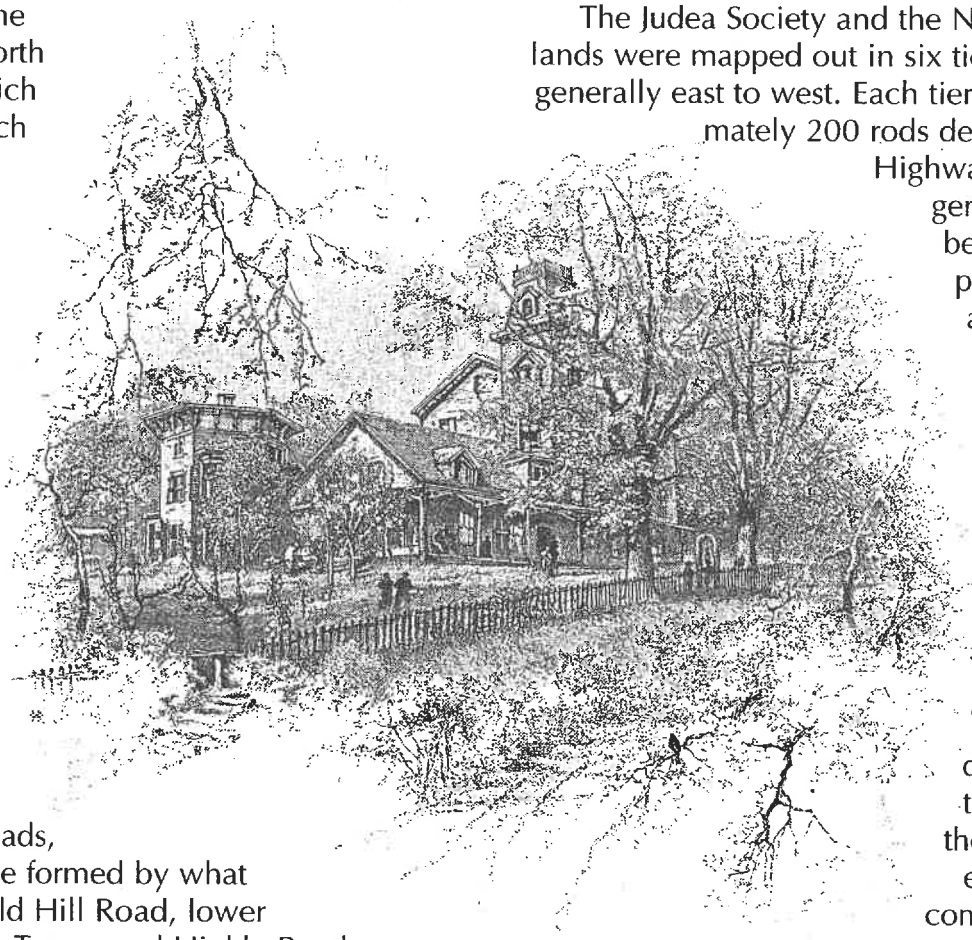
The importance of protecting the archaeological sites marked on the map is summarized in a report written by Dr. Russell G. Handsman, former director of research at the IAIS:

Of all the towns in Litchfield County, Washington's prehistoric and archaeological resources (sic) are among the best known.... Although preliminary [they] have given us knowledge about patterns of prehistoric land use: how these landscapes were settled and used by Native Americans over the past 10,000 years – and have indicated where important archaeological sites are located. This work has also allowed us to understand the archaeological potential of some localities: what research questions might be explored at certain sites and how future excavations might be conducted...

Obviously, the identification of these sites means that their development should not take place without at least an opportunity for further responsible archaeological investigation first.

Historic Resources: Colonial Settlement

Around the mid-17th century, the resident Pootatuck tribe was trading with English colonists who had recently settled Woodbury. These colonist-settlers had followed the Housatonic and Pomperaug Rivers north from Stratford and Milford. Between 1659 and 1710 the tribe sold land to the colonists, and in doing so, perhaps unwittingly forfeited their future. Out of this land, 124 Woodbury proprietors created the "Woodbury North Purchase," which comprised much of what is now Washington.



Judea, or the first piece of what was later called Washington, was the fairly regular rectangle of land east of the former New Milford line, which ran north-south roughly along Baldwin and Church Hill Roads, south of the line formed by what are now Scofield Hill Road, lower Calhoun Street, Turner and Hinkle Roads (Romford), and north of Curtis, Nichols Hill and West Mountain Roads. The rest of the Woodbury North Purchase also included most of what is now Bethlehem.

Chief Waramaug had been granted a "reserve" in what is now Kent and Litchfield, although some of this land was purchased from "the natives as will appear by their deeds on record." (Griswold, *A Brief History of New Preston*). The area of New Preston, including the western land north of the Woodbury North Purchase, was part of Kent and also the 1722 New Milford North Purchase obtained from the towns of Hartford and Windsor.

New Preston was first settled in 1744, mainly by people from Preston in eastern Connecticut. Certainly, the attraction of this area was the industrial potential of the tremendous water power of the East Aspetuck River as it flowed out of Lake Waramaug and rapidly dropped about 200 feet within a mile and a half stretch.

The Judea Society and the New Preston lands were mapped out in six tiers running generally east to west. Each tier was approximately 200 rods deep (3,300 feet). Highways were laid generally parallel between each pair of tiers, although the passages through the hills were not always perfect east-west parallels. The tiers were divided into lots of varying sizes depending on the quality of the land. For example, a lot comprised of rocky slopes or including a ravine would be much larger than, but valued equal to, one with arable land. Early subscribers from Woodbury probably drew lots to determine who got what.

Subsequently there was considerable exchanging, transferring and later, gifting of these lots owing to dissatisfaction and later westward relocation of grown children. Allocations were made in 1732 –1733 in Judea (the Woodbury North Purchase), a decade before the New Preston allotments.

Judea Society 1734

Twentieth century Washington researchers Einar Carlson and Kenneth Howell concur with 19th century historian William Cothren's assertion that 1734 was the first year for settlement of the Judea Society, incorporated as Washington in 1779. The first houses, barns and sheds were most likely log, as no saw mills yet existed. The first mills in Washington were built along Settler's Brook, which runs just southeast of the Green towards Kirby Brook. Only remnants of the foundations survive today.

After successfully petitioning the Connecticut General Assembly for a separate ecclesiastical society in the early 1740's, the community of Judea built its first meetinghouse on what is now the Green. Although it is the third meetinghouse, the present Congregational Church, built in 1802, stands in roughly the same location as the first.

Nettleton Hollow

Nettleton Hollow was the first area of Washington to be settled. Its valley offered a route north from New Haven and Woodbury, and Sprain Brook offered good water power. The Gideon Hollister saw mill (Silverman) near West Mountain Road, recently restored as an operating, 18th-century flutter (saw) mill, had been almost continuously used since its construction in 1756 until 1926, except for a brief hiatus for its reconstruction following damage in an 1853 autumn freshet. Howell and Carlson wrote that in its early life this mill produced lumber, clapboards, shingles, lath, and stock for barrel staves. When it changed hands in 1876, Edward Fenn, a master woodworker and builder, produced an extensive range of wooden tool and equipment parts there, as well as the usual building materials. Nettleton Hollow still harbors some of Washington's few mid-18th century dwellings: the Benjamin Beach House, a 1-1/2 story cape (Middlebrook), the c. 1760 house at 365 Nettleton Hollow (Payne-Resnick), unusual for Washington in being a saltbox, and the Hollister Homestead, c. 1775 (Schoelkopf).

The Early Green

Until the arrival of the railroad in 1872, the Green was the spiritual, commercial and political center of the Town, ringed by shops, a slaughterhouse, stores, schools, and the residences of some of the town's early ministers, judges and merchants. The 18th and early 19th century Green was probably used for grazing animals as well as a training ground for the local militia. The Red House (Chute), built in 1774 by businessmen-brothers Joel and Leman Stone, still stands opposite the entrance of the church, and, except for the garage wing on the east side, substantially retains its original appearance. This center-chimney colonial house is typical of the pre-Revolutionary period in the area, although perhaps larger than some.

Blackville

Mallory Brook was another source of power for very early industrial production. By 1745 Thomas Durkee, Jr. was building a dam, mill pond and saw mill near the Sabbaday Lane crossing. A tannery operated there into the 1850s. According to Howell and Carlson, Robert Black bought one-half interest in the iron foundry in 1859, and owned a blacksmith shop, saw mill, provender (dry animal feed) and clover mill, three dams, and assorted tools and equipment. The iron foundry was active until c. 1900, providing the raw material for a machine shop which produced wheels for the Woodruff's carriage works in Factory Hollow. There was also a creamery at this crossroads, which is still known by some Washingtonians as Blackville. Black's dwelling, a 2-1/2 story clapboard house still stands at the base of Sabbaday Lane, and remnants of the dams are visible east and west of the crossing. The area retains a dense, village crossroads-like character to this day.

The New Preston Society

In 1753 settlers living in parts of south and southeast Kent, and parts of northeast New Milford ("Merry All") asked the Connecticut General Assembly for recognition as a separate ecclesiastical society, due to their distances from the Kent and New Milford meetinghouses. In 1754 the physical limits of the area encompassing these inhabitants' lands were drawn up, and it was called the New Preston (Ecclesiastical) Society. This physical area would become part of Washington in 1779. The first New Preston school house was built in 1762. The settlers met for religious services in private homes until the first meetinghouse, a one-story, 36 x 26 foot frame structure, was completed in 1759. This building stood approximately 100 rods (1,650 feet) west of the present stone meetinghouse. The existing Stone Church (also called the Hill Church), which was the third meetinghouse here, was erected during 1823-24. Interestingly, the report and construction contract stated that the plan and the "steeple fane and pulpit" of this structure would be based on that of the meetinghouse at Warren, Connecticut (built 1818-1819). The facades, featuring three bays with arched doorways, are indeed very similar. However, for reasons unknown, the pulpit is at the entry of the sanctuary, with the audience, of course, also facing the entry. Other such plans existed, but the New Preston Stone Church is the only one remaining in the state. The church's stonework of local granite and marble and that in certain area houses, such as Newton's Tavern (c. 1840) across the street from the church and the Averill homestead (c.1830) on Calhoun Street, are strikingly artistic and handsome.

Turnpikes

By the mid-1700s the New Milford-Litchfield Turnpike, with New Preston Hill Road, was a main route between the Hudson River corridor, Hartford, and Boston. This highway follows the fairly flat geologic lowlands of Cameron's Line, and determined the location of colonial settlement in north Washington. The points at which the turnpike crossed the East Aspetuck and Shepaug Rivers provided easily accessible centers for milling operations in New Preston and Woodville.

Nettleton Hollow Road was part of an important turnpike linking New Haven, Woodbury and Albany.

19th Century New Preston

The Coggswell Iron Works in New Preston, begun in 1745, was the first major industrial enterprise in Washington, and spawned several other shops and factories along the East Aspetuck River. "Upper City," as New Preston was called, steadily grew and accounted for Washington's rapid population growth from about 40 people in 1745 to 1,500 people in the next 40 years. By 1820 the banks of the East Aspetuck River at New Preston were densely packed with mills and manufactories, including saw and grist mills, an iron furnace, a yarn, twine, and cotton batting factory, a sleigh shop, a tannery and harness shop. New Preston's industrial activity thrived for almost 50 years until it fell behind other industrial centers which had converted to steam power and had better access to rail transportation.

The Town-owned Aspetuck Falls with its adjacent buildings, foundations and thundering roar provides a glimpse of the power and activity of this industrial quarter. Vestiges of New Preston's busy era include the rehabilitated Woodruff saw mill, machine shop (and violin factory) north of New Preston, the line of storefronts and shops lining the river, and most of the houses in the village. The continuity of the 19th century building stock and the paucity of 20th century structures here preserves the intimate scale and character of this little hamlet, including the streetscape of New Preston Hill as it leaves the village.

In 1858, following years of debate about whether to build another meetinghouse closer to the village center, or repair the stone one, the Ecclesiastical Society divided, resulting in the construction of the "village church" in New Preston, around 1860. This under-celebrated building is a wonderful example of the Italianate style brought to bear upon the Connecticut meetinghouse. The strong architectural rhythms established by the repeating arches, outside and in, and the bold proportions and character of the tower and steeple make this church remarkable.

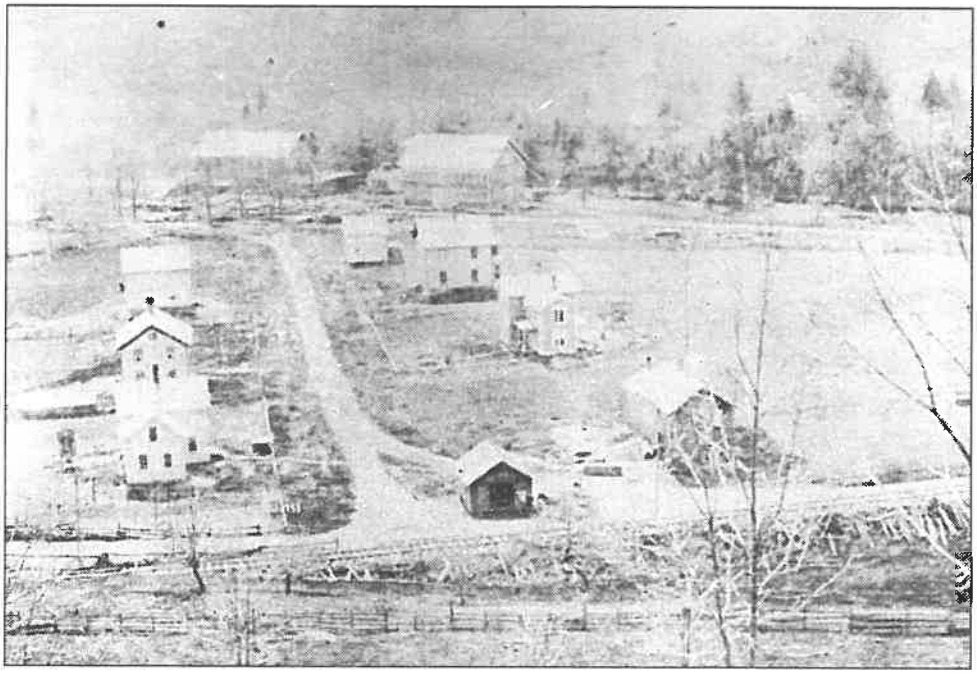
Another noteworthy structure from the end of the 19th century in New Preston is the Harry O. Erickson Pavilion Hall, a landmark at the head of the village, which provided a stage for community vaudeville and minstrel shows, plays, euchre (card) parties and dances in the first quarter of the 20th century. Postcards from c. 1910 reveal the use of the lower western space as a local post office. Later in the century the ground floor became the firehouse, the front fitted with large double doors for vehicular access. In the 1950's the New Preston Boys' Club took over use of the building.

Perhaps the most interesting house in the village is at 8 New Preston Hill Road (Benedict), a fanciful c. 1890 Queen Anne residence with a clipped front gable, inset second-story porch, polygonal tower, and fish-scale shingles.

Marbledale

The discovery of two marble deposits on the hillsides about a mile downstream of New Preston, one north of lower Scofield Hill Road, the other on the opposite side of the valley,

prompted the construction of stone saw mills and the development of Marbledale. This enterprise eventually faded, owing to the competition of higher quality Vermont marble and, eventually, that area's better access to shipping via railroad. St. Andrew's Church (1822), a very early application of the Gothic Revival style in Connecticut, and several houses, including those at 12, 22, and 68 Wheaton Road, are noteworthy examples of vernacular 19th century architecture, and reflect the busiest period of Marbledale's history. Marble fragments can still be found in overgrown lots along the river.



Factory Hollow

Around 1850, before the railroad was built, the Depot was aptly known as Factory Hollow. During the course of the 19th and early 20th centuries there were saw mills, a wagon shop, blacksmithery, an ax handle factory and match factory housed in very large wooden buildings along the river, beyond the Titus Road bend. Beginning in 1875, soon after the arrival of the railroad, the Hollow became a major regional dairy products shipping center, a great boon to local farmers. Dairy farming was the primary industry in Washington from 1880 to 1920. Butter and cheese were made at the steam-powered Borden Creamery, which stood on the site of Bryan Memorial Hall. The pond nearby was the source of ice for keeping the dairy products cold in storage and train shipment to New York City. The railroad introduced to Washington a host of new goods and people from afar, and encouraged the commercial development of the Hollow.

Dam sites on the Shepaug River south of the Depot reflect still more 18th, 19th and early 20th century industrial activity. For example, there was the South Shepaug Factory Complex, which included a saw mill, grist mill, fulling mill, tobacco barn and an extensive cotton-woolen plant (south of the Primary School).

Architectural Development

Washington's architecture quite clearly reflects past periods of settlement, growth, decline and resettlement. The early farms of the Calhoun-Ives Historic District, including especially the well-preserved 18th and 19th century barns and Greek Revival stone house at the Averill Farm, established in 1746, visually assert the continuum of human endeavor here. Not surprisingly, owing to population growth of the time, the largest category of historic buildings appears to be those built in the early 19th century, hence the plethora of Federal and Greek Revival style houses in Washington. Good examples of these and their variants are seen in the Green and Sunny Ridge Historic Districts, as well as in Calhoun-Ives and in other parts of town. Also, popular tastes over time have preferred the aesthetics of those periods, and so those structures have been cared for.

The Victorian era is less well represented in Washington. Construction took place in the commercial and industrial centers of the Depot (spurred by the railroad and its attendant commercial activity), New Preston and Marbledale. Much of the Depot's original building stock was

destroyed following the Flood of 1955, as some structures were deemed irreparably damaged, and others were removed or torn down to clear the floodplain. This disaster, and the unpopularity of Victorian architecture at the time, resulted in the marked transformation of the Depot into a mid 20th century neo-Colonial "village." A few Victorian structures remain in prominent places: the houses along Cook and School Streets and Titus Road in the Depot, and the Alpheus Baker House (Houldin), 59 Green Hill Road and 51 Green Hill Road. Elsewhere in town, many earlier homes were given front porches and gingerbread during the 1880s and 90s, but many of these additions have been removed over the years. One notable surviving example at Washington's Green is the Gothic Revival cottage at 6 Parsonage Lane (White).

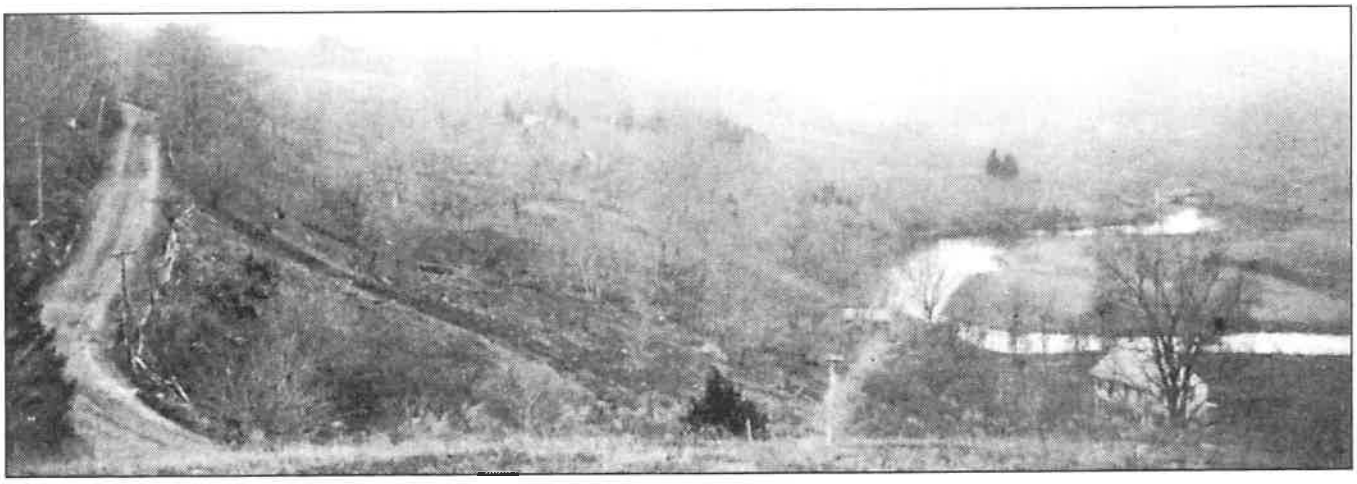
Washington as a Summer Resort

The arrival of rail service in 1872 brought about a tourist's discovery of Lake Waramaug as an increasing number of city dwellers sought rural vacation retreats. Travelers from New York City disembarked at New Preston Station (near the present day Fire House on Bee Brook Road) and were picked up by horse and carriage for the ride to the inns and boarding houses on the lake. Several large but simple wooden hotels, including "The Loomarwick," near the road of the same name, were built on the south side of the lake along West Shore Road in Washington; none of these remain. However, some interesting late Victorian and simple shingle-style houses still stand along this road, commanding fine views of the lake. On East Shore Road (Route 45) there are two noteworthy Adirondack Style cottages.

Ehrick Rossiter's Legacy

Beginning in the early 1880s the Judea section of Washington became a rural, second home retreat for New York City's upper-crust. Over the next three decades, the Town gained an extraordinary collection of over two dozen residential and institutional buildings designed by a single, gifted architect, Ehrick Kensett Rossiter. His own return to Washington in 1882, years after his graduation from the Gunnery, spurred other well-to-do Gunnery alumni to rediscover the charm and serenity of this village and build shingle-style and Colonial Revival summer cottages here. Several of these summer people also contributed their money and artistic and literary gifts to the establishment and design of some of the town's civic institutions and edifices, such as the Gunn Memorial Library, Washington Club Hall, and St. John's Church (Episcopal). Certainly the influence of Frederick Gunn on his students, and the money and cultural aspirations of the Gilded Age identified Washington, in part, as a small center of learning and wealth for the rest of the 20th century. During that period the Town's principal industry shifted from farming to private schooling.

By the mid 19th century, the hilly landscape of Washington, indeed that of all of Southern New England, was almost completely denuded. Over time soft and hardwoods had been taken for building materials, and charcoal from hard-



wood was the fuel source for the furnaces of the extensive iron industry in Litchfield County. The cleared land was mostly kept open until the 1930's by grazing livestock and the cultivation of crops for dairy farming. The intervening years and a decline in farming activity have resulted in the extensive second-growth forest present today.

Rossiter well understood the importance of preserved forest land. After it was slated for logging, Rossiter purchased the area surrounding Steep Rock and the Clamshell with the intent of protecting the area from timber harvesting (Lind and Norden, 1986). These lands formed the kernel of the now extensive holdings which comprise the Steep Rock Reservation.

The Logan Homestead - A Washington Landmark for All Time

The oldest house in Washington is part of the Logan Homestead, located at the intersection of Romford Road and Route 109 (Old Litchfield Road). This property's evolution within the Logan family since its settlement in 1741 makes it of particular interest as it epitomizes, in a way, Washington's social and economic evolution as a town. The Logan place began as a small, self-sufficient farm. The house was successively enlarged to accommodate the growing family. Beginning around 1825, the Logans began taking in travelers for the night, as their property stood on the New Haven to Albany stagecoach route. They named their stop "The Rising Sun Inn". The family's hospitality made the Inn, with its tavern and ballroom, a popular gathering place for local folk as well. For a time the Logan Farm was also a shipping depot for goods north, and livestock and other agricultural products south to markets in the cities. In the third quarter of the 19th century stagecoach travel and the use of the Inn were superseded because of the opening of the railroad.

Upon his inheritance of the property in 1885, New York attorney Walter S. Logan made it his family's summer place and gentleman's farm. In the 1890's the family gave up farming, but continued producing several generations of highly-educated political leaders and lawyers.

Washington has, of course, never simply been one kind of place at a given time, but the development of the Logan Homestead parallels Washington's in terms of the relationship of a place and its people to the outside world.

Selection of Historic and Architectural Resources for Mapping

The intention was to include every building over 50 years old, which in its physical appearance contributes to the historical feeling of the town. No distinction is made between structures of greater or lesser architectural or historical significance. The reason for this is the generally scattered distribution of these resources. Some structures may indeed be more important than others in reflecting aspects of the Town's history or in illustrating a style of design, but, for the purposes of preserving Washington's historic character, it must be recognized that it is the entire body of the built environment, not one or a few extraordinary buildings here and there, which reveals Washington's past.

The map shows a pattern of widely scattered cultural resources, with three major nodes of commercial and residential settlement in the town: New Preston village, Washington Depot and the Green area. The three existing local historic districts provide the greatest method of public protection possible under the law for the Green, Calhoun Street and Ives Road, and Sunny Ridge areas.

Threats to the Town's remaining cultural resources seem to be mainly in the form of encroachment, as in the residential subdivision of property adjacent to a historically or architecturally significant building or complex, rather than commercial development, inappropriate renovation, or demolition.

Protecting the rural historical context (open space, woodland, wetlands, i.e. the natural surroundings) of these scattered sites is the most important piece of the preservation picture here, and depends largely upon the willingness and capability of the land use commissions to be flexible and creative in their regulations and decisions. Individual sensitivity and architectural stewardship by private owners is also vitally important.

J. OPEN SPACE

Planning has been vital to Washington since the 1955 flood. Washington's Planning Commission was established on September 9, 1955 and enacted its first regulations the following year. The father of planning in Washington, Henry B. Van Sinderen, was the first chairman of the Planning Com-mission, and was also responsible for the first formal Plan of Development for the Town which was issued in 1963. The 1974 and 1993 Plans of Development were concerned "about the potential loss of the Town's rural character and diverse population..." The Washington Plan of Development Survey conducted in 1989 confirmed that the primary concern of its residents is preserving the rural character of the town (79.8% strongly agreed and 18.6% agreed for a total of 98.4%). Thus, the focus of the revised 1993 Plan of Development is "the conservation of open space" while allowing "growth that is in harmony with the environment" (TPC of Washington, 1993).

Although preserving the rural character of Washington means many different things to as many different people, the Ad Hoc Conservation Committee believes a primary component of Washington's "rural character" is open space. Hence, we urge its conservation while providing for thoughtful, well-planned residential and commercial development that will ensure an economically viable and diverse community.

The 1993 Washington Plan of Development defines open space resources as "land, wetlands or water areas in a natural state, if no longer in a natural state, are cultivated or otherwise maintained as open space." It further states that "the pattern of land development will be critical to the future appearance of our community."

Three open space maps are included in this report: Open Space I is comprised of lands designated as permanently protected while Open Space II contains properties both public and private that are not permanently protected, but are unlikely to be developed. Open Space III contains those lands currently under P.A. 490 protection.

Open Space I —
Permanently Protected Parcels:

- State parks (Mt Bushnell and Mt. Tom)
- State-owned agricultural development rights (Averill and Seymour farms)
- Steep Rock Association, private land trust (2004.65 acres owned and 1047.52 acres under conservation easements)
- Weantinoge, private land trust (84 acres owned)
- Private lands with legal restrictions that prevent development (conservation easements)

Open Space II Unprotected Parcels currently considered as Open Space:

- Public schools and playing fields (Washington Primary and Shepaug High)
- Private schools (Glenholme Devereaux, The Gunnery, International College of Hospitality Management, Rumsey Hall School, Washington Montessori School)
- Town parks and recreation areas (Aspetuck Falls in New Preston)
- Nonprofit institutions such as the Gunn Historical Museum and the Institute for American Indian Studies
- The Gunn Memorial Library
- The Washington Club and The Lake Waramaug Country Club
- Churches (7)
- Cemeteries and colonial burying grounds
- Water company property (Bell Hill area and the Depot)
- Commercial property (SNET and CL&P)
- State Highway Department
- Town Hall, Town Garages (old and new)
- Firehouses (Washington & New Preston)

Open Space III Land temporarily protected under the P.A. 490 program:

- Farmland with 490 designation
- Forest with 490 designation
- Farm or Forest with 490 designation
- Permanently Protected 490 Land (areas with conservation easements)

The overlay of the property line map with the open space maps and the various natural resource inventory maps provides a vivid picture of the preservation and development opportunities and challenges to be balanced and protected, through natural resource based land use management, for the future quality of life in the Town of Washington.

K. RECREATIONAL LAND

Various areas of public and private lands are available to the townspeople of Washington for active and passive recreation. Some areas are owned by the Town, some by the State, and some by nonprofit private organizations.

Recreational Opportunities (Active)

The Town owns a little over one acre of beach, a changing room and boat ramp on Lake Waramaug. In New Preston there are over two and one half acres of open playing fields on Hinckley Road. The Harry O. Erickson Pavilion Hall in New Preston is owned by the Town and is used for various community activities, including the Boys' and Girls' Clubs.

The two public schools in Town, the Shepaug High School and the Washington Primary School, own many acres of ball fields, tennis courts, playgrounds, an indoor swimming pool, a walking trail and open fields. All are available to the public.

There are five private schools in Washington: Devereaux-Glenholme, The Gunnery, Rumsey Hall, The International Institute for Hospitality Management and Washington Montessori, all of which hold some lands in fields or open space, and many of which allow limited public access to their play areas.

The Washington Club and The Lake Waramaug Country Club offer recreational facilities to their members while preserving many acres of open vistas.

Recreational Opportunities (Passive)

In addition to all of the above mentioned public areas, Washington hosts various private nonprofit organizations, which possess attractive open spaces. Most of these are available for public access.

The Institute for American Indian Studies offers educational programs celebrating Native American life. It also provides a self-guided Habitat Trail and a reconstructed Indian Village adjacent to the Steep Rock Reservation.

Steep Rock

As of December 31, 1999, Steep Rock Association owns or holds conservation easements on approximately 3,000 acres of land located predominantly in two major areas (Steep Rock Reservation and Hidden Valley Preserve), much of it along the Shepaug River. It affords several grand view points along its many miles of walking, skiing or horseback riding trails. Areas for camping by permit and fishing are available as well. An abandoned rail tunnel and old rail bed offer a glimpse of the Town's railroad heritage.

Also owned by Steep Rock, but available to all, is the riparian land located immediately to the south of the new Firehouse on Bee Brook Road. This area possesses fishing sites, specimen trees, horseshoe pits and free play areas over mowed lawn.

Weantinoge

Weantinoge Heritage, Connecticut's largest land trust, currently owns or possesses easements over seven parcels of land in Washington which encompass approximately 84 acres.

Town Parks

New Preston Waterfall Park is located at Aspetuck Falls along the East Aspetuck River at a former mill site.

A linear park stretches along the Shepaug River in the Depot and can be used for strolling, picnicking or canoe launching.

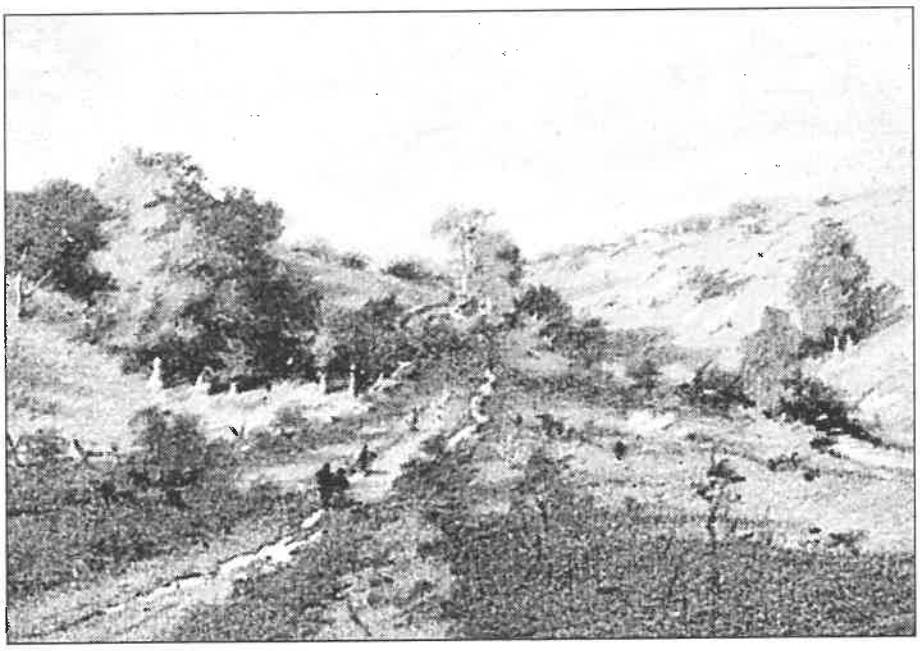
In the Depot is the Town Hall, with the surrounding Green and old ice pond. The Town also owns more than four acres of land off Titus Road in the Depot, encumbered currently by the Old Town Garage and storage of affiliated equipment and supplies. Plans are being formulated to move the buildings and storage from this site and to set aside a portion of the riverfront land as parkland and a greenway walk.

State Parks

Two state parks are located within the Town. Mt. Bushnell State Park encompasses 139 acres above the southwestern shore of Lake Waramaug and has an obscure old trail passing through it. Mt. Tom State Park straddles the town lines of Morris, Litchfield and Washington. Trails run through it up to the old stone tower, which provides a panoramic view of Litchfield County. Mt. Tom also offers a clear, spring-fed pond with a beach and a concession stand.

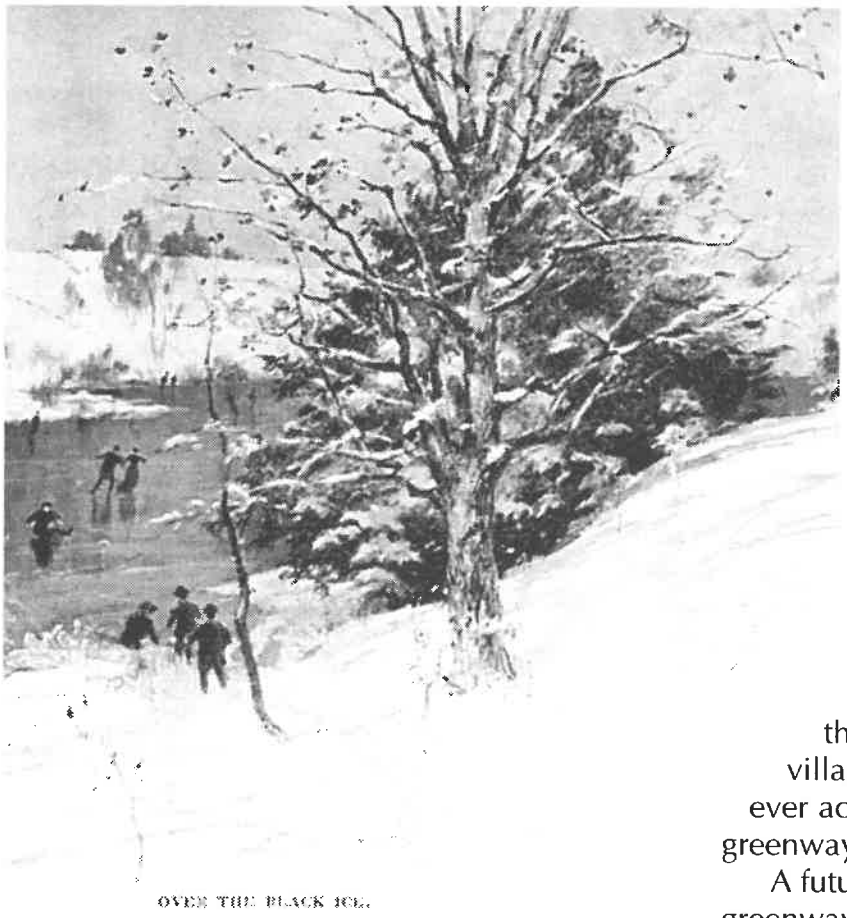
Trails

The residents of Washington are extremely fortunate to have the use of many trails for hiking, biking, horseback riding and cross-country skiing. Among these are approximately 30 miles of trails through the lands of the Steep Rock Association, various trails in two State Parks, the use of old town roads, some improved and some not, and some trails through private land which have been used by special permission or, historically by tacit agreement, for many years.



There are trails which allow access to the top of Steep Rock, The Pinnacle on Lake Waramaug and the tower on Mt. Tom.

Trails and greenways add to the rural character of the Town and provide safe and relaxing recreation. Greenways, corridors of protected



OVER THE BLACK ICE.

land, especially along watercourses, provide beautiful walkways as well as safe travel routes for wildlife.

The Town has many unimproved old Town roads which have never been officially discontinued. These are still public ways and can be maintained and used as trails. (CGS Sec. 13a-141(b)). In addition, the Town may secure space for trails by accepting donations of land, by obtaining easements from individual landowners, by requiring open space set-asides in subdivisions or by purchasing land outright. Property owners who allow free trail access are protected from liability by State statute, Recreational Land Use Immunity Act, CGS Sec. 52-557(f) to 52-557(l).

Efforts should be made to preserve and enhance the existing system of trails by connecting different parts, maintaining them in a passable fashion and protecting any that are threatened by development.

Greenway

The Town's 1974 and 1993 Plans of Development recommend "a greenbelt along the Shepaug River to link Steep Rock and Hidden Valley." In 1992 Governor Lowell Weicker initiated a statewide greenways program. George Ward, then president of the Steep Rock Association, brought the program to the local level as the Shepaug Greenway, a project to link and protect open space along the Shepaug River from Goshen to Southbury. In December 1997 the Town of Washington Greenway Subcommittee was formed.

The proposed Shepaug Greenway will link Steep Rock Reservation and the Hidden Valley Preserve through the village and along the Shepaug River wherever accessible. Once completed, other greenway corridors in Town will be explored.

A future focus will be to link with other greenways in neighboring towns. Under consideration are links from Steep Rock Reservation to Roxbury along the Shepaug and from Hidden Valley to Mt. Tom State Park. Beyond are possible links with New Milford, Kent and Warren. Ultimately, it is hoped that both north-south and east-west greenway linkages will exist through Town.

The Shepaug Greenway will include a 3.3 mile walking and hiking trail and will exclude equestrian trails through the village center. The link from Steep Rock to Hidden Valley will utilize existing trails, town roadways, the state highway, the primary school, the Firehouse and private property where permitted. The trails will provide for varying degrees of challenge and accessibility. There will be access, in some sections, for all ages and for the handicapped. Overall, the Shepaug Greenway will be in harmony with the natural landscape. A long-term goal is to replace roadside sections with routes traversing more natural areas as land access becomes available.

L. SCENIC ROADS, SCENIC AREAS AND VISTAS

Scenic Roads

Washington has many stretches of scenic roadways and roads that offer noteworthy and often dramatic views. In addition, the Town has a number of unimproved and dirt roads that emphasize and contribute to the rural atmosphere of the area. The scenic nature of these roads helps to define the character of the Town and enhances the general quality of life for residents and nonresidents alike. If scenic roadways are inappropriately developed, the ambiance of Washington is in danger of being destroyed.

Two issues need to be addressed when developing a scenic road inventory for the Town of Washington: 1) the term "scenic road" by definition implies a value judgment and is therefore highly subjective and 2) almost every road in Washington has some qualities that can be considered scenic.

For the purposes of this document, roads within Steep Rock were considered protected as scenic roads. Two of Washington's state roads, East Shore Road and West Shore Road, were designated as scenic roads by the State in the 1990s (see Appendix E).

According to the Connecticut General Statutes, Sec. 7-149a(b), a (non-state) highway, to be considered scenic:

> "must be free of intensive commercial development and intensive vehicular traffic and must meet at least one of the following criteria: (1) It is unpaved; (2) it is bordered by mature trees or stone walls; (3) the traveled portion is no more than twenty feet in width; (4) it offers scenic views; (5) it blends naturally into the surrounding terrain; or (6) it parallels or crosses over brooks, streams, lakes or ponds."

Because almost every road in Washington meets at least one of the above State criteria, the subcommittee developed a set of criteria specific to the Town.

To be considered scenic, a local road must:

- be unpaved
- have stone walls and/or buffer zones
- have tree canopy/ies
- be winding
- run parallel to, cross or afford views of wetlands and waterways
- have long views
- traverse rural, open areas, meadows, farmland etc.
- be narrow or have no shoulders
- be undeveloped/lightly settled
- conform to geography
- have steep ascent(s)/descent(s)
- afford views/traverse scenic area, intersection, hollow or hilltop
- have dramatic slopes on road sides or other unusual geologic features
- pass by/afford views of historic sites and/or structures which complement or blend naturally into surrounding terrain

It is important to remember that these criteria are guidelines. As a general rule, roads possessing eight or more of the fourteen criteria listed above have been designated as scenic. In some instances, roads with fewer than eight criteria were given scenic designation. Conversely, certain roads with eight or more elements were not.

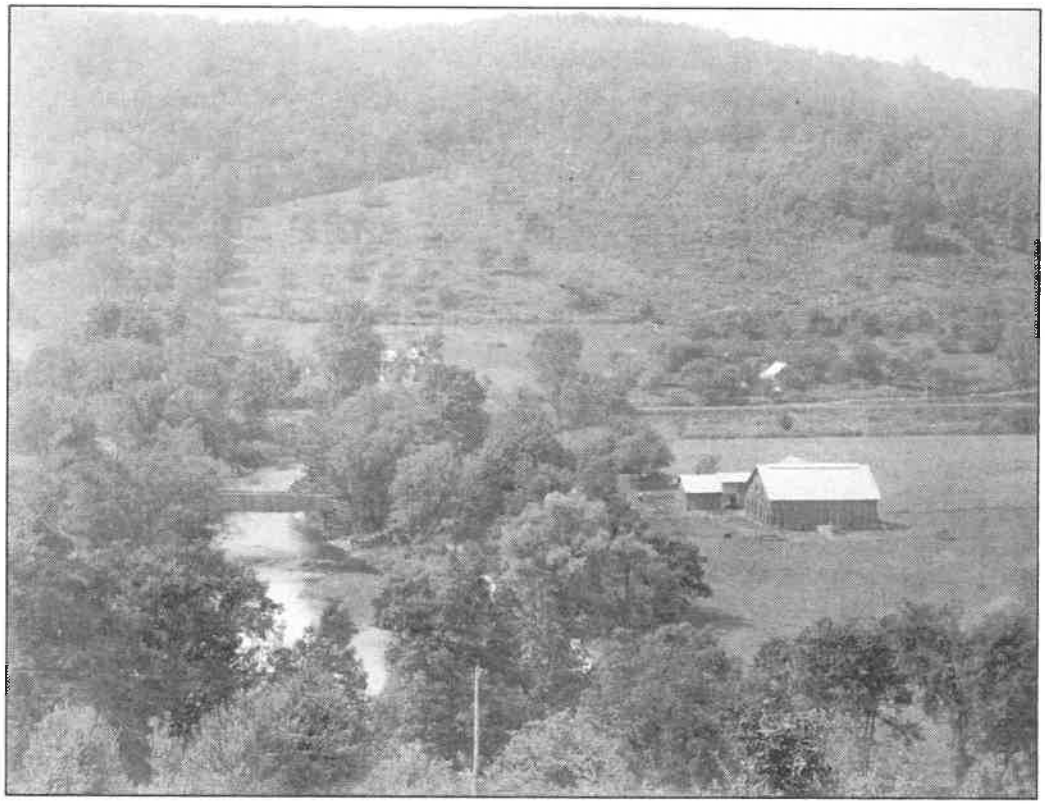
Many roads have a substantial number of these scenic elements in localized areas. If the majority of a road meets the qualifications, the road is determined to be scenic. If the scenic value of a given road is extremely localized, said area has been included in the "Scenic Areas" category.

The complete listing of roads designated as scenic under this classification system can be found in Appendix E. The accompanying scenic road grids can be found in Appendix F.

Scenic Areas and Vistas

As a guideline to quantify Scenic Areas, a system of criteria similar to Scenic Roads, but applicable to off-road views, has been used:

- stone walls and/or buffer zones
- wetlands and waterways
- long and/or semi-long views
- pastoral, rural and open areas, meadows, farmland etc.
- undeveloped/lightly settled
- hollows, hilltops, and/or other geologic features
- historic sites and/or structures which complement or blend naturally into surrounding terrain



The Scenic Areas (see appendix G for the narrative descriptions) identified by the application of the criteria and delineated on the map include the following:

Baldwin Hill area

Calhoun Street/Ives Road area

Carmel Hill area

Church Hill Road/Popple Swamp Road area

Judea Cemetery Road/East St./Potash Hill area

New Preston area

Nichols Hill Road/Painter Ridge intersection

Nichols Hill Road/South Street intersection

Painter Ridge Farm area

Sabbaday Lane/Blackville Road/Turner Road area

Sabbaday Lane/Mallory Brook area

Steep Rock (and Hidden Valley) areas

Sunny Ridge area

Washington Green area

West Church Hill/South Fenn Hill/Shinar Mountain/Lower Church Hill area

West Morris Road/Smokey Hollow area

West Mountain Road area

Whittlesey Road area

The Scenic Vistas included on the map, indicated by blue arrows, represent all long and semi-long views from vantage points along either the Town's roadways or major walking trails.

III. RECOMMENDATIONS

The following recommendations are offered for consideration by the land use commissions of the Town. However, it is important to consider that additional regulation is not a long term solution; education of the public is.

A. GEOLOGY

1. Strictly control development within rock outcrop zones to preserve scenic character and minimize the possibility of land disturbance and impacts to neighboring properties.
2. Encourage the preservation of rocky talus slope areas and significant zones of rock outcrops in order to conserve their specific habitat qualities.
3. Require pre-blast surveys prior to significant blasting activities to protect adjacent property owners.
4. Require applicants proposing to blast more than 200-300 cubic yards to submit a professionally prepared study detailing the potential impact on adjacent wells and properties as well as the alternatives considered which could minimize or avoid blasting. Qualified experts include hydrologists and professional engineers.

B. RIDGELINES

1. Control the number of houses on the widely visible ridgelines, through zoning, by acreage requirements. The look of an occasional house up on a hill is very different from that of a row of development houses marching across a ridgeline at 100-foot intervals.
2. Consider the use of varied setbacks to create an irregular building line or varied distances from the road approach in order to make a development's appearance compatible with the irregularities of nature. Encourage the use of natural materials and colors where buildings are to occupy visible ridgelines. Encourage low spreading architecture in lieu of vertical and massive design.
3. Require the use of vegetation to provide screening: i.e. obligations to minimize clearing, and obligations to plant trees, shrubs, and hedges.
4. Acquire ridgeline areas as part of the Town's Open Space Inventory.
5. Encourage the use of conservation easements on ridgeline lands.
6. Establish buffer zones along steep slopes abutting ridgelines in order to protect the most widely visible areas from building, and especially over-building.
7. Confront the telecommunications antennae issue in a proactive manner. Identify locations in Town where they would be most effective as well as least visible. Consider creative solutions to placement (i.e. existing towers, Town-owned buildings, and church steeples).
8. Require that detailed health, environmental and visual impact assessments be provided by antennae/ tower applicants. Information to be included: viewshed analysis, health concerns (human and wildlife) and regional efficiency.

C. SLOPES

1. Encourage the avoidance of development on slopes in excess of 25%.
2. Require detailed erosion control plans for development in upland review areas possessing slopes in excess of 15%. Specify periodic environmental monitoring with frequent reports to the land use departments.

3. Utilize bonding for erosion control projects involving large areas of disturbance within steeply sloped areas. This will provide an incentive to execute the approved plan in a proper and timely fashion; it also provides a way to repair those projects not completed properly.
4. Require applicants to address feasible and prudent alternatives to building on steep slopes as part of the building/subdivision permit process.
6. Consider the value of the higher elevation scenic vistas as well as street level views of the Lake when making decisions about the height of fences and other barriers to views. Balance needs to be found between the two competing issues of public safety vs. privacy of the lakeside property owners. A continuous band of privacy fencing protecting private owners would be a severe detriment to public enjoyment of the Lake.

D. RIVERS, BROOKS, LAKES AND PONDS

1. Establish regional cooperation among the land use commissions of Washington, Kent, and Warren to coordinate efforts to preserve and enhance Lake Waramaug's resources. The various Lake groups should be actively involved as well.
2. Support the Lake Waramaug Association in their ongoing efforts to monitor and improve the Lake's water quality and clarity.
3. Support the Lake Waramaug Invasive Species Control Program which is being initiated by the Lake Waramaug Association and the Lake Waramaug Task Force.
4. Investigate technological advances in septic system design that will insure the continued health of the Lake and its residents.
5. Limit boat access to the Lake to avoid overcrowding and consider prohibiting jet skis.
7. Establish size limits for new docks and floats.
8. Explore alternative technologies such as created wetlands for treatment of stormwater runoff or sewage effluent where warranted.
9. Encourage vegetated buffer zones along rivers and streams to preserve water quality and habitat value.
10. Discourage or minimize maintained landscapes adjacent to rivers, brooks, lakes and ponds.
11. Strictly control fertilizer, herbicide and pesticide use adjacent to any waterbody.

12. Encourage the installation of dry hydrants in ponds throughout Town for fire protection.
13. Require seasonal ground water monitoring and water budget analysis for proposed pond sites to ensure long term viability and health.

E. AQUIFERS AND WETLANDS

1. Minimize or avoid wetland disturbance or filling.
2. Adhere to proper erosion and sedimentation controls.
3. Require/encourge native buffer plantings where development is proposed to occur near wetlands.
4. Strictly regulate commercial uses near wetlands and stratified drift aquifers.
5. Require/encourage ground water recharge of storm water runoff where feasible.
6. Require that new development yields a "zero increase" in stormwater peak runoff rates (based on 2-100 year storm events).
7. Require stormwater biofiltration where large scale residential or commercial development is to occur near wetlands.
8. Encourage the use of bioengineered detention/retention basins.
9. Prohibit discharge transfers from one watershed to another, which could alter the hydrology of both areas.
10. Consider the use of mitigation measures (wetland enhancement, wetland restoration and possibly wetland creation) to offset unavoidable wetland disturbance.
11. Encourage alternatives to traditional road salting practices near major wetland systems and stratified drift aquifers.
12. Require logging projects to submit detailed erosion and sedimentation control plans where wetlands are involved.
13. Require restoration of wetland impacts caused by logging impacts.
14. Encourage farmers to use agricultural BMPs to limit impacts to watercourses. Limit uncontrolled access of livestock to wetlands and watercourses. Encourage stream buffers within agricultural land.
15. Encourage the management/eradication of nonnative invasive plant species in or adjacent to wetlands and watercourses.
16. Discourage large scale pumping of groundwater for nonessential uses to avoid impacts to groundwater levels, wetlands and watercourses. Consider requiring permits for irrigation systems covering areas greater than one acre.
17. Encourage native plantings and drought-tolerant plantings to minimize the need for widespread domestic irrigation.
18. Strictly control fertilizer, herbicide and pesticide use adjacent to any wetland or stratified drift aquifer.
19. Encourage public awareness and appreciation of wetland functions. They are no longer considered waste places.
20. Protect valuable or unique wetland systems through open space acquisition.

F. SOIL TYPES

1. Preserve soil-based zoning as an effective tool in matching development densities with the carrying capacity of the land itself.
2. Encourage the preservation of both existing and prime agricultural soils as part of open space acquisition programs.
3. Encourage agricultural and forestry BMPs.
4. Encourage the minimization of land disturbance. Excessive land clearing and grading can destroy soil structure built over many years as well as cause unnecessary sedimentation.

5. Preserve calcareous wetlands and limestone-based agricultural land as part of an open space acquisition program.
6. Encourage protection of floodplain soils due to their unique fertility and biological productivity.
7. Strictly enforce erosion and sedimentation plans.
8. Require detailed restoration plans for new or ongoing mining operations.

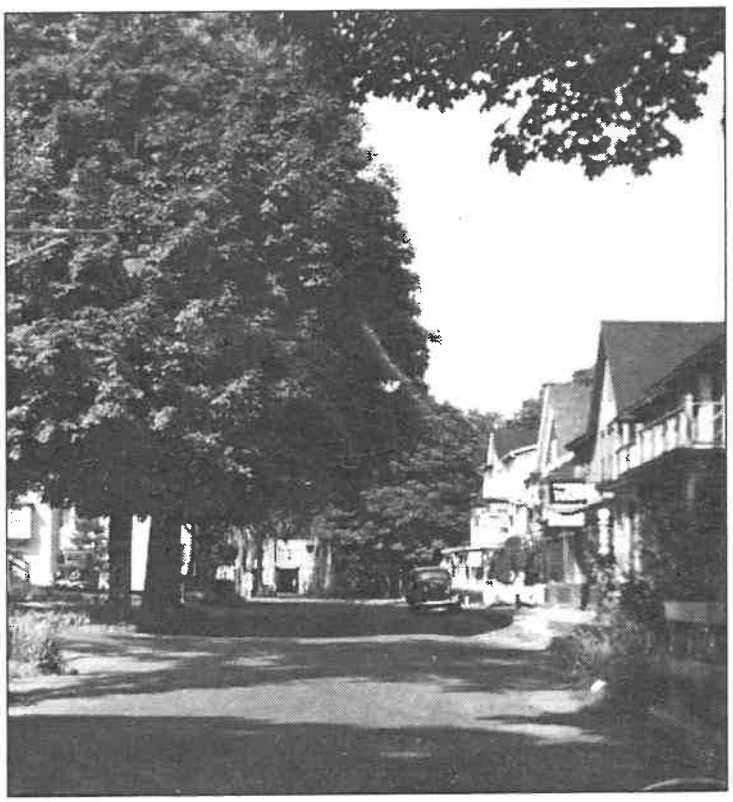
G. FARMLAND AND WOODLAND

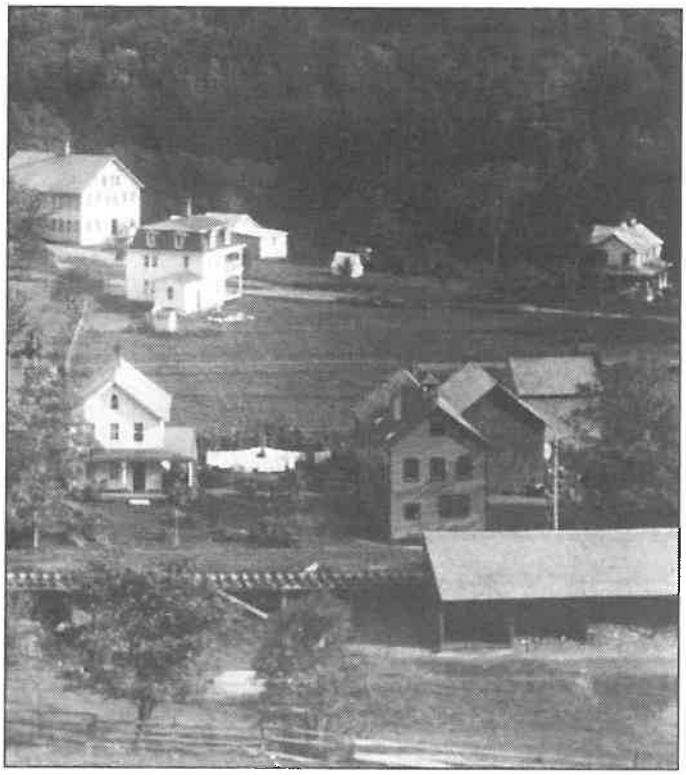
1. Continue to utilize and support Connecticut's Farmland Protection program.
2. Encourage the purchase of locally grown produce, thereby supporting local farmers.
3. Establish buffer requirements separating existing farms from areas of new residential development, thus limiting potential conflicts.
4. Enact a "Right to Farm" ordinance consistent with the State of Connecticut's enabling legislation.
5. Explore ways to promote corn and hay production on private lands
6. Encourage governmental action that will counter the current trend toward agricultural centralization in areas remote from our region.
7. Explore the adoption of local tax support to farmers and tax assessments aimed at farm preservation, maintenance and establishment of new farms.
8. Streamline governmental regulations for farmers and foresters who follow proper environmental and agrarian policies.
9. Explore a Town Farm concept as has been practiced in Weston, Massachusetts as a means of creating farm awareness.
10. Encourage Forest Stewardship Improvement Programs and the forestry operations that include them.
11. Prohibit/discourage logging operations that do not consider impacts to neighboring properties, wetlands and the long term health of the forest itself.
12. Support initiatives to control nonnative insects such as the Asian Long Horned Beetle and the Wooly Adelgid. Encourage the proper treatment and reclamation of forestland impacted by catastrophic infestations.
13. Encourage forest management that protects existing and future forest diversity.
14. Encourage and manage for habitat diversity. Identify areas suitable for strip clearing to promote shrub habitat favored by woodcock and others. Encourage a full spectrum of plant cover from woodland to shrub thickets to hedgerows and meadows.

15. Prohibit "High Ending" (the practice of selectively clearing only the oldest and strongest trees on a woodlot).
16. Discourage/prohibit the indiscriminate clearing or thinning of tree canopy and shrub understory within residential properties. Actively educate the public about the detriments of this type of clearing and the benefits of preserved forest stratification. Creating so-called "park-like" open woodland, if uncontrolled, can cause severe impacts to both flora and fauna as well as accelerating forest fragmentation. Depauperate woodlands, choked with invasive plants, frequently result from such unnecessary clearing and thinning. Our forests have rebounded in the last 100 years; it would be a travesty to see these gains eroded by misguided aesthetic aims.
17. Encourage forest stewardship programs that include provisions for control of non-native invasive shrubs (i.e. barberry, burning bush, honeysuckle and oriental bittersweet). Encourage the preservation of native forest understory plants and shrubs. See Appendix M for a listing of invasive species.
18. Limit forest fragmentation. Seek open space acquisitions that provide connectivity between large forested areas.

H. WILDLIFE HABITAT AND LISTED SPECIES

1. Incorporate ecological considerations into the zoning regulations.
2. Prohibit "tract" developments in favor of open-space subdivisions. Consider open space density to be as important as housing density.
3. Develop a strong upland review policy for sensitive areas.
4. Require land-use applicants to prove that an intended project will not cause long-term negative impacts; decisions should be based on scientific fact.
5. Require thorough biological inventories for large development proposals to properly assess what is at risk. These must be conducted during the growing season to adequately evaluate possible impacts.
6. Institute a non-native invasive plants management policy. Refer to Appendix M for a listing of invasive plants.
7. Require wetland and forest management violators to restore damaged and disturbed areas by replanting with vegetation local to the area and/or allowing native vegetation to become reestablished. This must be done in conjunction with non-native invasive plant monitoring and management.
8. Prohibit activities that fragment or isolate habitats such as deep driveway cuts and fills engineered to simply meet grade requirements, clearing of the forest understory and creation of vast expanses of unnecessary lawn.
9. Implement a sound forestry policy that protects and enhances biodiversity.





10. Educate the public on such issues as the value of protected lands and their role in moderating taxes, why natural systems and biodiversity are economically important and the myriad other ways they enhance our quality of life.
11. Promote open space acquisition for areas possessing valuable wildlife habitat and wildlife corridors. Define minimum acreage for preservation of native species and minimum widths for wildlife corridors.

I. ARCHAEOLOGICAL, HISTORICAL AND ARCHITECTURAL RESOURCES

1. Use land protection tools such as conservation easements and sale of development rights to protect these resources.
2. Where appropriate, foster clustering of new construction through flexibility of subdivision regulations to encourage the maximum protection of the surrounding landscape.
3. Concentrate suitable new development in existing centers, especially in the Depot.
4. Protect rural roads, old stone walls and old trees which contribute to the character of the landscape.
5. Require proposed development near historic districts to limit its impact upon the Historic Districts.
6. Promote open space acquisition that acts as a buffer to Historic Districts and preserves archaeological sites where prudent.

J. OPEN SPACE

1. Conduct an open space needs analysis and evaluate the most desirable use of land in the Town.
2. Assess public support for the permanent protection of additional open space and the priorities of the community for desirable land use.
3. Establish a Land Aquisition Fund. Opportunities to purchase critical land will arise, and those opportunities, once missed, may never return. There are several ways by which the Town may establish such a fund:
   - *Property Tax:* The Town, by vote of its legislative body (Town Meeting) may deposit up to two mils of its property assessment into a Land Acquisition Fund. (CGS Section 7-131r).
   - *Fees in Lieu of:* The Planning Commission, through the adoption of the relevant regulation, may collect a fee in lieu of an open space set aside in a subdivision. These fees would then be put into a Land Acquisition Fund designated for open space for recreational or agricultural purposes. (CGS Section 8.25 and 8.25b)
   - *Municipal Bonding:* The Town may issue a bond; the funds raised in this manner could be earmarked for a Land Acquisition Fund.
   - *Land Conveyance Tax:* As of this writing, Connecticut has not enacted enabling legislation allowing towns to

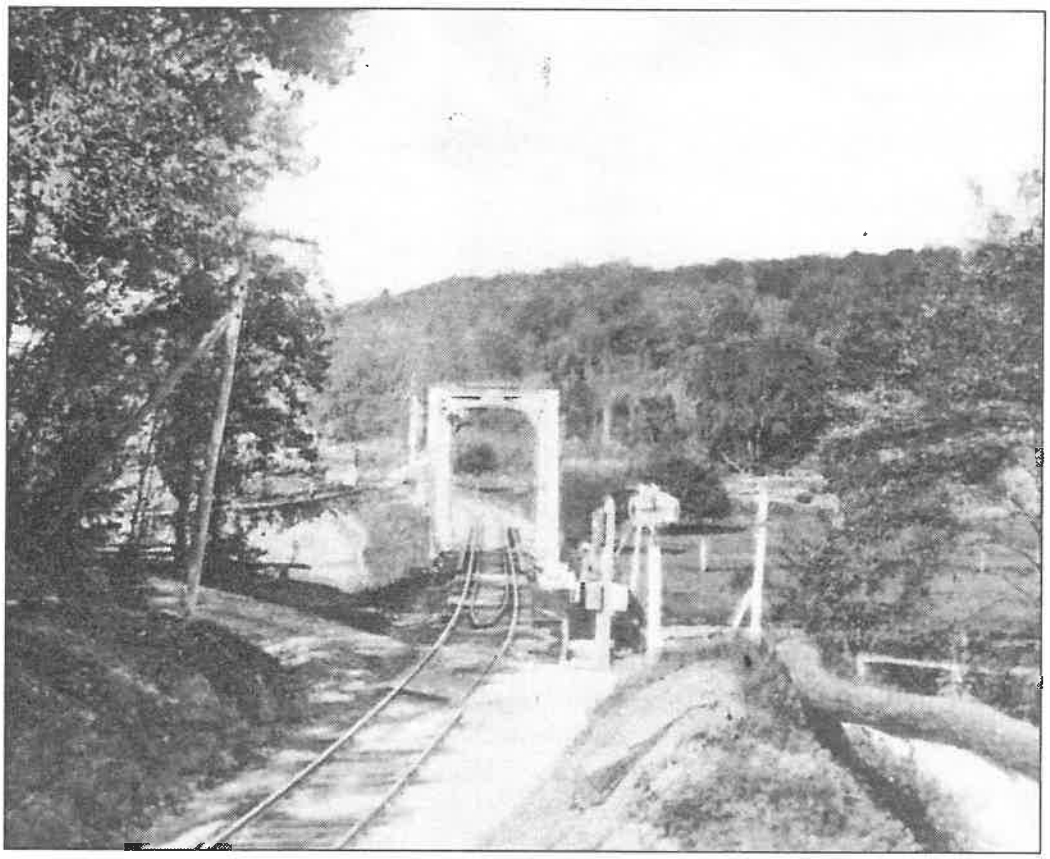
levy a tax on real estate transfers — the proceeds of which would be used for open space purchases. However, currently there is a movement afoot to do so. If such legislation is passed, the Town could consider a referendum to impose such a tax to put monies into a land acquisition fund. Nantucket Island has successfully administered such a program for several years.

4. Create an open space inventory and set priorities for which types of land should be permanently protected and for what purposes (see Appendix I for a list of the environmental functions of open space).
5. Develop an open space plan.
6. Determine the appropriate techniques for open space protection such as conservation easements, PDRs, TDRs, donations, percentage of a development set aside for open space, charitable remainder trusts, etc. when outright purchase is not feasible. (see Appendix I)
7. Work in collaboration with the Town's land use commissions, Board of Finance, Steep Rock Association, WEC, the public and private sectors to achieve objectives.
8. Consider the recommendations of the Open Space Steering Committee.
9. Encourage linkages of existing open spaces.
10. Educate the public about the economic benefits of open space preservation by compiling and disseminating existing information. Create an economic model for the Town; update it annually. See Section IV for further information on the economic repercussions of Open Space Preservation.
11. Evaluate "Fee in Lieu of Open Space" programs.
12. Support a real estate conveyance tax to accrue to a Town "Land Acquisition Fund."
13. Study the inclusion of "Open Space" as an option within Washington's 490 program (currently only forest and farmland can be enrolled) by amending the existing ordinance. Establish incentives to maintain existing open meadow and farmland as part of this effort. Make sure that the process of allowing "open space" to meet P.A. 490 requirements does not create a disincentive to maintain farmland.
14. Promote unified natural resource-based land use planning to ensure balanced growth.
15. Actively promote the New England and Connecticut Greenways Initiatives both locally and regionally. The greenway movement could have a lasting imprint on the face of the land and how we interact with it for generations to come.

K. RECREATIONAL LAND

1. Preserve and enhance our system of trails by connecting different parts, by maintaining them in a passable fashion and by protecting any that are threatened by development.
2. Encourage developers to set aside certain corridors for trail development, particularly if such corridors connect existing trails or open space.
3. Map and sign the unimproved old Town roads which have not been officially abandoned. These are still public ways and can be maintained and used as trails. Any road which is officially abandoned by Town meeting should be maintained as a public trail according to CGS13c-141(b).
4. The Town or appropriate agency should secure space for trails by accepting donations of land, by obtaining easements from individual landowners, by requiring open space set-asides in subdivisions, or by purchasing land outright.

5. Promote the acquisition of recreational lands within an Open Space Program.
6. Establish regular maintenance schedules and a maintenance budget for existing recreational facilities.
7. Create a Town-wide arboretum charged with the responsibility of maintaining existing trees in public places, planning additional planting projects, publishing an informational brochure and promoting the preservation and care of these trees.



L. SCENIC ROADS, SCENIC AREAS AND VISTAS

1. Draft and enact a Town scenic road ordinance which would allow road by road designation of those possessing significant scenic elements. The enabling legislation is CGS Section 7-149a.
2. Require that viewshed analysis be incorporated into building and subdivision applications. The impacts to scenic vistas can then be properly assessed.
3. Quantify and rank Scenic Vistas and Areas to allow for Open Space acquisition of our most valuable scenic attributes.
4. Encourage the use of innovative road design standards which limit road width and geometric requirements while considering safety.

IV. GROWTH ISSUES

Here in Washington, we have been historically immune to rampant suburbanization. Geographic remoteness, difficult terrain, strict land use control, an active land trust and high property values have all helped to preserve our identity as a small rural town. However, this identity is largely one of perception rather than concrete reality.

We are situated in southern Litchfield County, 15 minutes from I-84, 30 minutes from Fairfield County and two hours from Manhattan. Our beautiful landscape will not be immune from development pressure forever.

BUILDOUT

If it is generally agreed that *Quality of Life* is our major asset, it would follow that the "asset" must be managed to maintain its value. Until recently, land use management had been one and one-half acre minimum lot size, soil-based

zoning. By and large, it has served us well, though it possessed certain limitations.

Effective March 21, 2000, Washington's Zoning Commission amended its regulations to further refine the soil classes based upon their suitability for development and septage disposal as reflected by their Natural Soil Group Types. The revised regulations require density calculations to determine the maximum number of lots when subdividing a parcel. The intent is to allow a bit more flexiblity in placement and configuration of lots while taking into account the ability of the land to support the proposed development.

What follows is a cursory buildout analysis utilizing the information gleaned from a GIS analysis. It should be noted that the figures cited are those provided by the GIS database, and as such, might be slightly different from other calculations (i.e. those provided from the Assessor's office). The GIS database indicates that there are approximately 24,728 acres of land in Washington.

The Town of Washington was first partitioned into its representative soil classes: A, B, C, D, E and F (refer to section II F for the complete breakdown). The next step was to subtract those areas which cannot be developed because of their status as permanently protected parcels (refer to section II J for further explanation). Lastly, as specified in Washington's zoning regulations, wetlands, watercourses and areas possessing slopes in excess of 25% were also removed from consideration (sections II F, II D and II C respectively). The following table specifies the acreage and approximate relative proportion of the Town that were removed from consideration:

Areas subtracted from buildout consideration		
PermanentlyProtected	3,666 acres	14.80%
Wetlands	2,865 acres	11.60%
Watercourses	524 acres	2.10%
Slopes > 25%	1,916 acres	7.75%

NOTE: These categories overlap each other, and thus cannot simply be totaled. The GIS indicates that the total acreage removed from consideration is 8,103 acres (32.77%).

The final step was to determine the remaining acreage for each of the relevant soil classes (rounded to the nearest integer) and to calculate the maximum potential lot yield (rounded down to the nearest integer). The lot yields for Class E soils, which require on-site investigation, was roughly estimated using minimum lot sizes of 8 acres and 12 acres. The resulting information is below:

	Current Zoning	
Soil Class	Acreage	Lot Yield
A	4,877	2,438
B	3,048	1,016
C	4,411	1,102
D	3,979	612
E	311	(25-38)
Maximum # of Lots		5,193 to 5,206

It bears repeating that the numbers generated from this analysis are *overly conservative.* Parcel configurations and frontage requirements were not taken into account, and thus any calculations will tend to overestimate the maximum yield by approximately 15% (Chalder, 2000). Factoring in this correction, the final numbers generated for buildout become:

Maximum Lot Yield: 4,414 to 4,425
Existing Lots (1999): 2,069
Potential Additonal Lots: 2,345 to 2,356

Population Estimates at Buildout

According to the most recent (1997) data from the Connecticut Department of Economic and Community Development, Washington possesses 1,970 housing units of which 89% (1,753) are single family units. Combining this information with that contained within the Building Department's Annual Report from 1997/1998 (16 new house permits) gives a total of 1,986 housing units (1,769 single family dwellings) as of June 1998.

Additional data from the Connecticut Department of Economic and Community Development provide an estimate of Washington's 1998 population as 4,096 contained within 1,583 households. From this information we can calculate that there are

approximately 2.59 people per household in the Town of Washington.

Combining the results of the Buildout analysis, (assuming one household per lot) and using the value of 2.59 people per household, the following population figures are generated:

Maximum Population: 10,169 to 10,198
Existing Population (1998 est.): 4,096
Potential Additional Population: 6,073 - 6,102

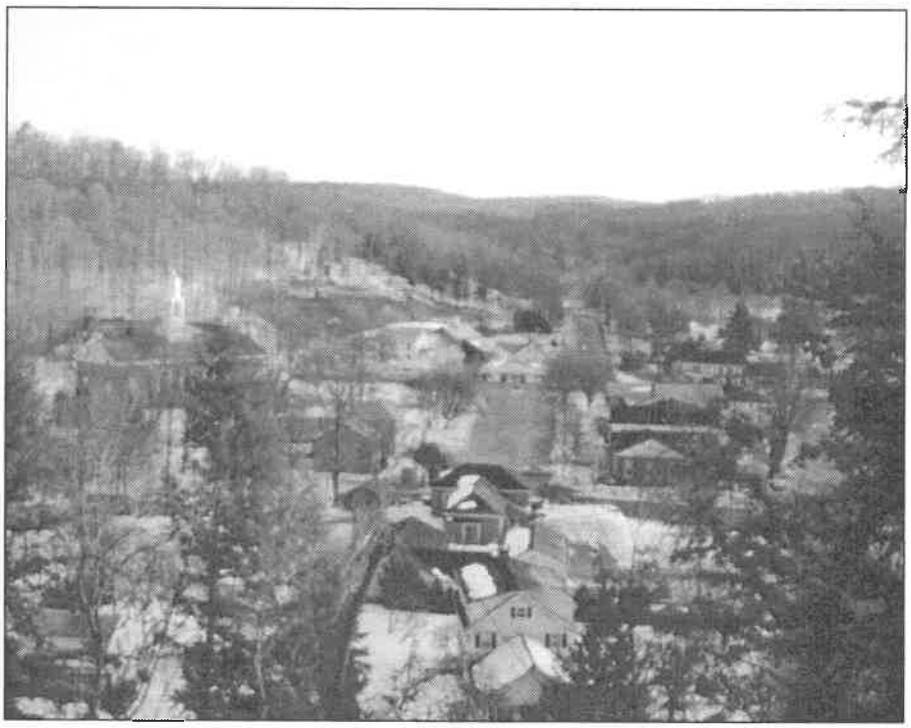
Washington's existing zoning guidelines will yield a maximum population of 10,198 individuals (approximately 2.5 times the current size).

One other note of interest: from July, 1992 through June 1999, the average number of new single family dwellings being constructed each year was 18 (rounded down from 18.7); at this rate with the current zoning regulations, buildout will not be achieved until the year 2134. Though, if the highest value from the past seven years was used, (32 new homes were constructed in 1993/1994), buildout could be reached in 2075.

It is imperative that land use management incorporate a long-range view. With the currently projected growth, there will be increased pressure on schools, town services such as police, fire and maintenance along with other social services. Clearly the character of the Town, the nature of our community and our Quality of Life could be irrevocably changed.

With increased growth comes a host of concomitant issues which should be addressed in a proactive manner. A few examples are as follows:

- A substantial increase in the number of wells could affect yields with deleterious effects on the existing water table. Improper development can lead to the need for a municipal water supply.
- Increased impervious surfaces associated with higher density development affect water quality, leading to the need for municipal waste treatment systems and complex storm water management systems.
- Increased growth, especially if it is unmanaged, does not increase the tax base at a rate commensurate with the increased cost of services; in fact, the cost of services far outstrips the tax revenue generated.



ECONOMIC STUDIES

One belief, long held to be true, is that increased community growth translates into increased tax revenues which in turn provide a lower tax burden for the entire community. Recent analyses have challenged the veracity of this statement and proved that it does not appear to be entirely accurate. Studies have shown that certain types of growth actually cost a community more in services than is offset by the newly generated tax revenues. For instance, "residential development is usually a tax negative as single family detached homes cannot pay their full way for services" (Pelley, 1997).

In 1996 the town of Redding, Connecticut conducted a study "to look at the property tax situation in Redding, with particular attention given to the tax implications of conservation" (Ad Hoc Associates, 1996). They found that "the typical year-round house with school children in Redding does not pay enough in property taxes to cover the costs of the municipality and school district to provide services to the house" and also that "...the typical new house results in greater fiscal deficit to the town than does the typical existing house."

When considering a hypothetical purchase of open space by the Town, the study found that in the short term, taxes would increase (due to bonding for the purchase and removal of the property from the tax rolls), but in the long term, "the tax increase resulting from the conservation of the parcel is projected to be less than that resulting from a housing development on the parcel" (Ad Hoc Associates, 1996). One of the conclusions of the Redding report was that decisions about development versus conservation "should be based on [the] goals and vision for the future of the community and a clear understanding of the likely tax consequences—not based on myths about property tax impacts."

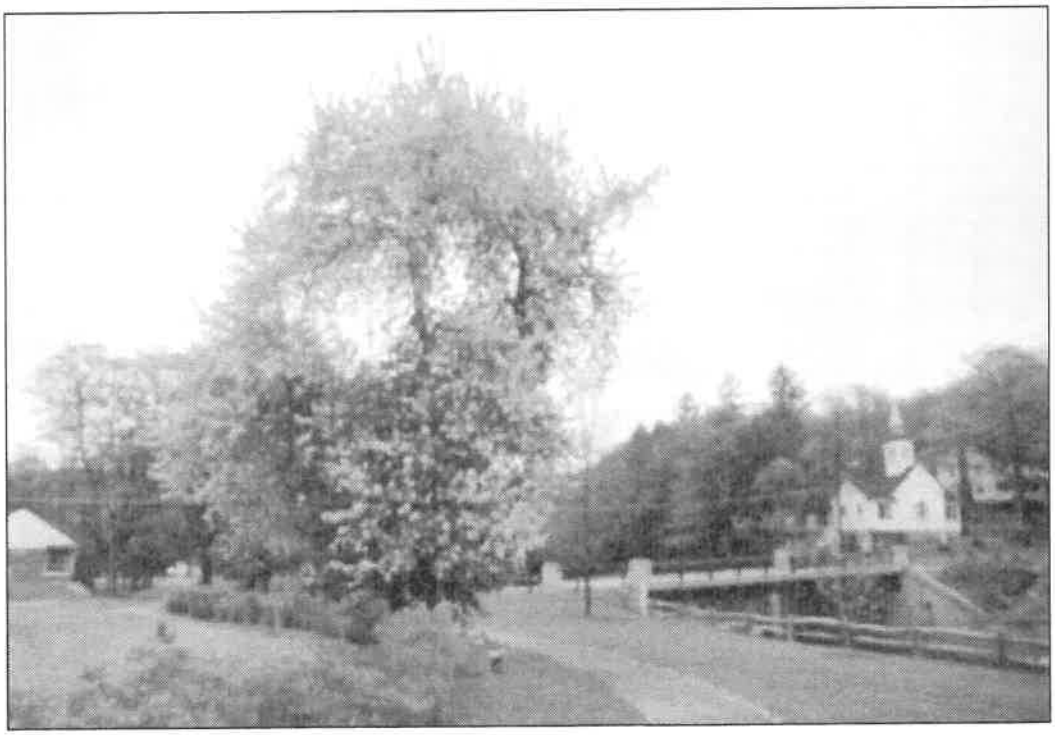
The conclusions drawn in the Redding study are echoed elsewhere. A report in the Planning Commissioners Journal observed that "larger cities consistently have higher per capita taxes" (Fodor, 1996). In addition, a recent Trust for Public Land publication studied towns in Massachusetts and found that while "...in the short term, land protection...often reduces the tax base and results in a tax increase... In the long term, contrary to the common perception that development will bring lower taxes, property tax rates are generally higher in more developed towns than in more rural towns" (Trust for Public Land, 1999).

These statements are generally supported by the following statistics for the State of Connecticut:

	1998[1] Population	1998[2] Mill Rate
Warren	1,307	21.75
Bridgewater	1,749	20.44
Roxbury	2,008	19.00
Kent	3,067	19.34
Washington	4,040	17.50
Litchfield	8,747	20.33
Brookfield	14,664	26.00
New Milford	25,512	28.44
Waterbury	105,346	74.64
Hartford	131,523	29.50

[1]US Census Bureau data for 1998 (estimated)

[2]CT Office of Policy and Management



The American Farmland Trust has conducted a number of "Cost of Community Service" studies which examine the costs to a community in terms of services provided versus the revenue generated from new development. They calculate the amount of revenue generated (or lost) by different land use categories.

These studies have shown that residential development actually costs a community more than it brings in, whereas Commercial/Industrial and Farmland/Open Space consistently provide a net benefit to a community.

The figures in the following table represent the cost to the community (in dollars) for each tax dollar generated by the particular type of land use. (For example in Hebron, CT every dollar generated by a single family home actually costs the community $1.06 in services provided: a net loss of six cents.) This table summarizes data generated from four American Farmland Trust studies (1986, 1989, 1992, 1997):

Cost of Community Services
(in dollars expended vs. dollars taxed)

Location	Residential	Commercial & Industrial	Farmland & Open Space
Connecticut			
Hebron	1.06	0.47	0.43
Maryland			
Frederick Cnty	1.10	0.50	0.53
Frederick City	1.02	1.21	0.38
Walkersville	0.96	0.50	0.97
Burkittsville	0.60	0.27	0.33
Massachusetts			
Agawam	1.05	0.44	0.31
Deerfield	1.16	0.38	0.29
Gill	1.15	0.43	0.38
New York			
Beekman	1.12	0.18	0.48
North East	1.36	0.29	0.21
Minnesota			
Farmington	1.02	0.79	0.77
Lake Elmo	1.07	0.20	0.27
Independence	1.03	0.19	0.47
Ohio			
Madison Village	1.67	0.20	0.38
Madison Township	1.40	0.25	0.30

Additional economic analyses have come to similar conclusions. The New England Forest Consortium conducted a study in 1995 focusing on eleven towns in Southern New England. The findings are as follows:

Cost of Community Services

Town	Residential	Commercial & Industrial	Open Space
Connecticut			
Durham	1.07	0.27	0.23
Farmington	1.33	0.32	0.31
Litchfield	1.11	0.34	0.34
Pomfret	1.06	0.27	0.86
Massachusetts			
Becket	1.02	0.83	0.72
Franklin	1.02	0.58	0.40
Leverett	1.15	0.29	0.25
Westford	1.15	0.53	0.39
Rhode Island			
Hopkinton	1.08	0.31	0.31
West Greenwich	1.46	0.40	0.46
Litttle Compton	1.05	0.56	0.37
Eleven Town Avg.	1.14	0.43	0.42

The wealth of information provided from these studies offers a compelling argument for balanced growth within a community. Future growth in Washington, if predominantly residential, could cause the undesired effects of higher taxes, increased sprawl and loss of cherished open space. Unfortunately, many Connecticut communities are already discovering the problems associated with a rapid influx of poorly planned residential development and reduced open space.

It is hoped that the natural resource information contained within this report will contribute toward the development of a proactive long-range plan for the Town of Washington which incorporates a balance of development and conservation.

RECOMMENDATIONS

In support of the 1993 Plan of Development, the Ad Hoc Conservation Committee offers the following recommendations:

1. Conduct a balanced housing needs assessment. We must continually plan for the accommodation of a wide range of housing types, meeting a wide range of economic needs. A diverse population has always been a vital component of our *Quality of Life.*
2. Promote sustainable smart growth that considers the needs of all the citizens of our Town.
3. Encourage commercial, elderly and moderate/affordable housing development within and around our existing village centers. Diversity of use, varied spatial character and increased activity promotes healthier and more attractive communities.
4. Study special "village zones"which allow existing village centers to be made more dense and active as opposed to spreading developments throughout Town or along our highways in strip fashion. We have attractive riverfronts, groundwater supplies, gravel for sewage treatment and regional demographics that would support additional retail shops, offices, moderate income housing, apartments for the elderly and luxury apartments in a mixed use, village setting. Our village centers such as Marbledale and Washington Depot offer significant opportunity to meet special housing and commercial needs while creating jobs and substantial tax revenue.
5. Conduct a detailed study of Cluster/Open Space housing as a way to satisfy some of the requirements for moderate cost and / or elderly housing. (Small neighborhoods of affordable traditional housing, built near existing village centers, with reduced site costs and possessing large areas of preserved Open Space buffers may help us to meet this need).
6. Promote limited commercial growth in order to provide local employment, tax revenue and the support of existing businesses. Increased commercial activity in our village centers would be a return to something that once existed. A more diverse and enlarged commercial mix could help existing businesses go beyond the constraints of current seasonal swings and limitations. Properly planned, unique and vibrant commercial centers would benefit residents and business owners alike.
7. Last but not least, it is imperative that natural resource-based land management incorporate a long range view.

V. CONCLUSIONS

In the 1970's, Ian McHarg, a landscape architect at the University of Pennsylvania, promoted an overlay system of natural resource planning. Various resources such as wildlife habitat, water resources, agricultural land and scenic areas were mapped and overlain. Areas of convergence were identified as valuable multiple resource zones to be protected.

Since the 1970's Carl Steinitz of the Harvard School of Design has promoted the use of computer technology to process and portray this overlay system. Recent advances in computer software and the widespread availability of satellite imagery have created a powerful planning tool. For the first time in human history, we can stand back and take a long view of our evolving landscape. We can share our own information with others, compare historic maps and photos and map our own assessments using computer technology available to and recognizable by all. Painstaking mapping has been eased and updates of information made less labor intensive by GIS technology.

Our maps have been created using ArcView and ArcInfo software by ESRI. Each map contains geographic information regarding individually mapped resources. These resources can be individually or collectively compared against proposed developments. Where convergence of multiple valuable resources conflict with proposed development, efforts should be made to revise development plans to preserve important zones worthy of conservation and protection. Better yet, the maps can be studied to determine guidelines for protecting important natural resources before development knocks on the door.

With the publication of this report and its maps, this data is now available in Town Hall for use by all land use commission volunteers, their staff and the public. The information can be easily updated or expanded, thus maintaining accuracy or enhancing the level of detail. Natural resource information is a critical and powerful tool in assessing possible development impacts. Accurately mapped and quantified information is one of the most powerful and objective tools of all.

The Ad Hoc Conservation Committee advocates collaboration among the public and private sectors in the preservation of Washington's irreplaceable natural resources, while providing for balanced growth that sustains the rural character, diverse population and economic viability of the Town. Through unified natural resource-based land use management, we believe a balance between conservation and development can be achieved.

As First Selectman Alan Chapin noted in the April 1999 Washington Times "there is a delicate balance to preserving our 'rural character' while protecting the rights of landowners and still providing the services and infrastructure with a reasonable tax base."

If there is one thing we have learned from the development of environmental science, it is that everything is interconnected and interdependent. Although we cherish the rights of property ownership, we must accept that our properties are part of larger environmental systems, and that what is done on one property affects all others. The development of land and its use must be considered in the context of this greater whole. It is incumbent on all land use management agencies to assess the pressures on these systems and to craft plans and regulatory innovations that protect and preserve the natural resources and Quality of Life in the community they serve.

This report will provide our land use commissions with the information they need to make carefully considered decisions and to better inform the public about what is at risk if proper planning is not undertaken.

We have a wonderful opportunity to all work together on "place-based conservation." To quote Mark Van Putten, president of the National Wildlife Federation, "Place-based conservation" is "sensible people working to save places they know and love and to build better communities for themselves, their families and their neighbors."

We hope you find this documentation of Washington's natural resources informative. If you have additional information or corrections, let us know.

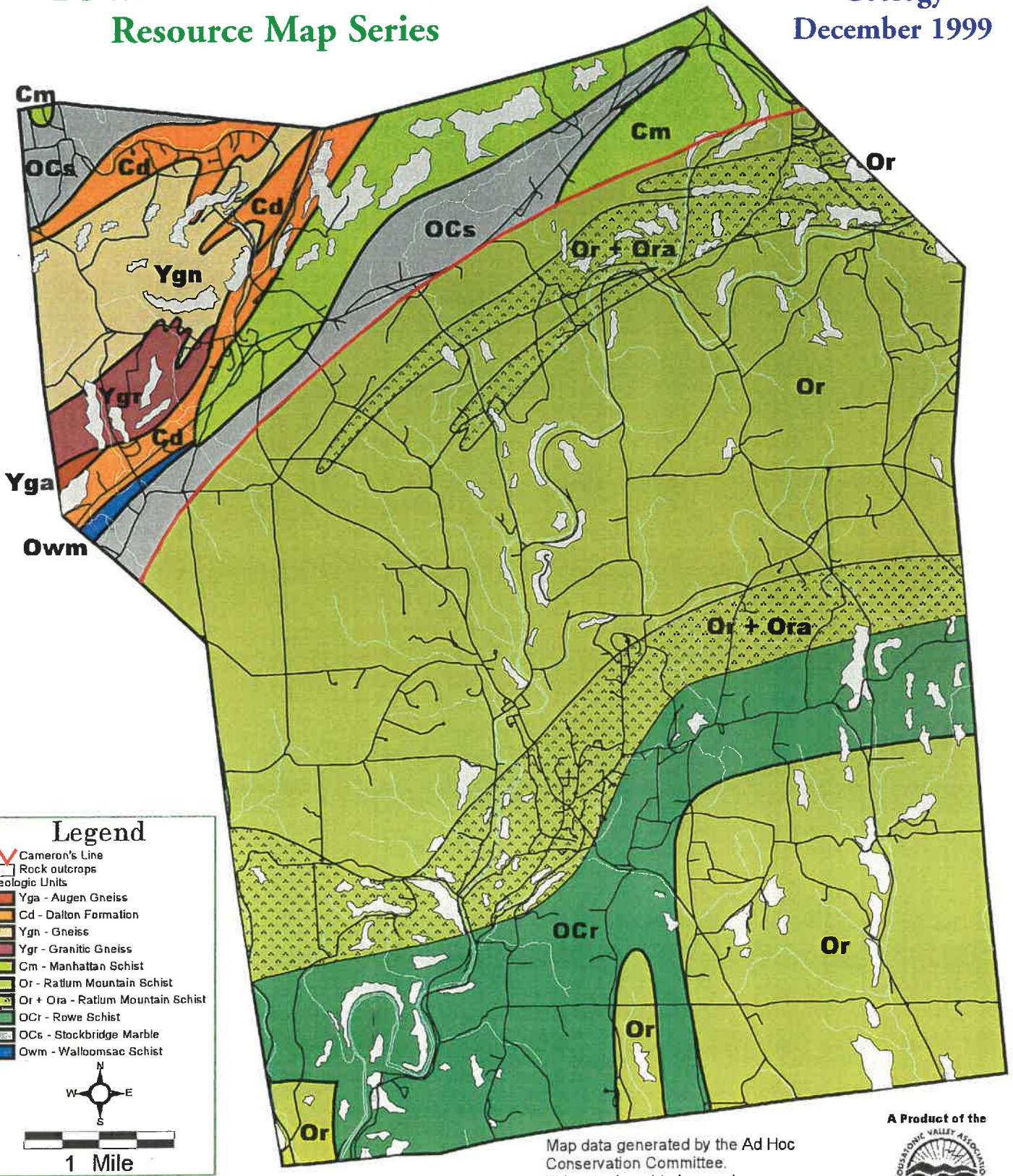
This report is a beginning, not an end.

Please contact:
Washington Conservation Commission
Bryan Memorial Town Hall
Washington Depot, CT 06794

VI. RESOURCE MAPS

TOWN OF WASHINGTON
Resource Map Series

Geology
December 1999



Map data generated by the Ad Hoc Conservation Committee.
This map is not to be used as an accurate survey and is subject to change.

A Product of the
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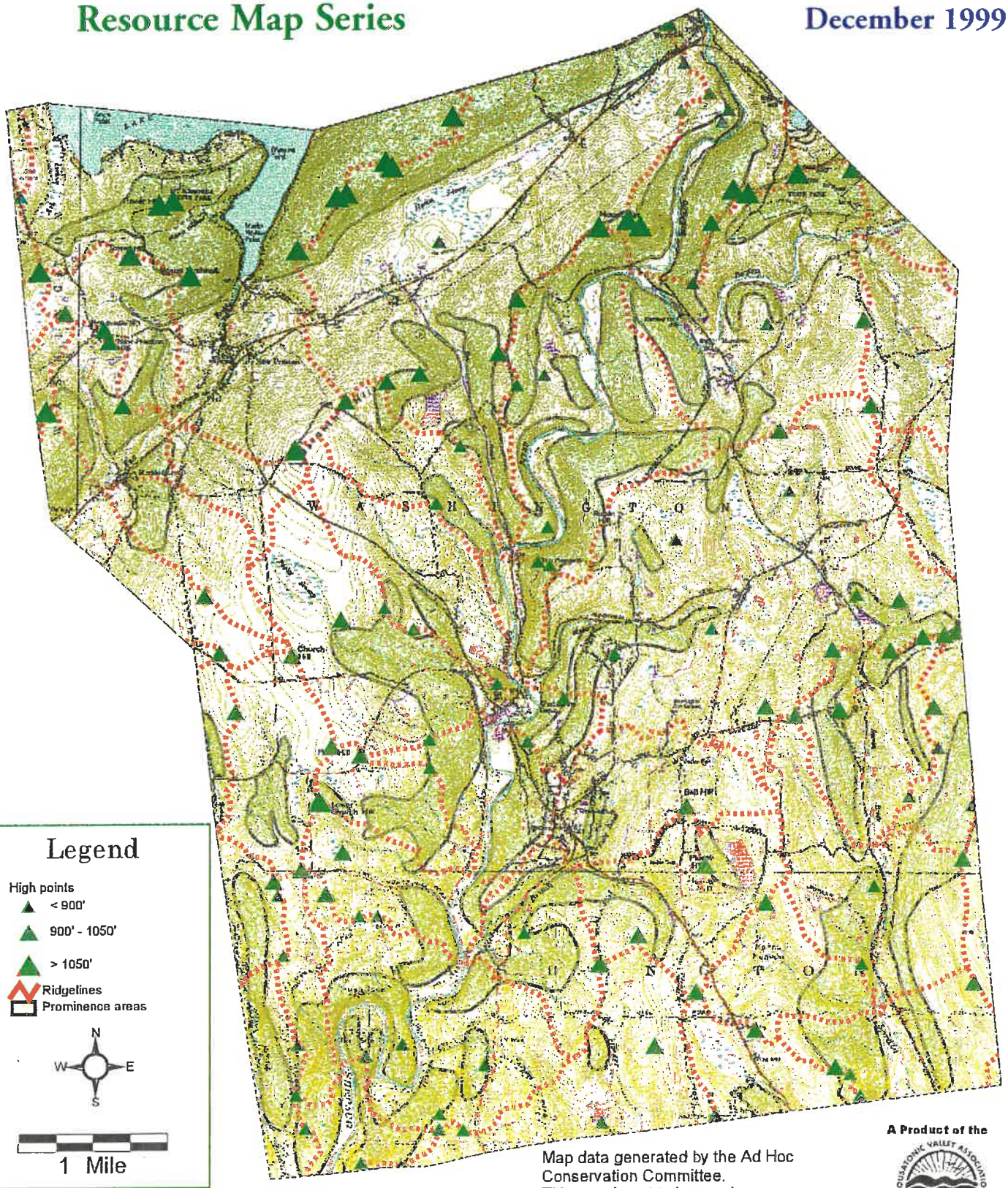
GIS Mapping Department

TOWN OF WASHINGTON
Resource Map Series

Peaks and Prominences December 1999



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TOWN OF WASHINGTON
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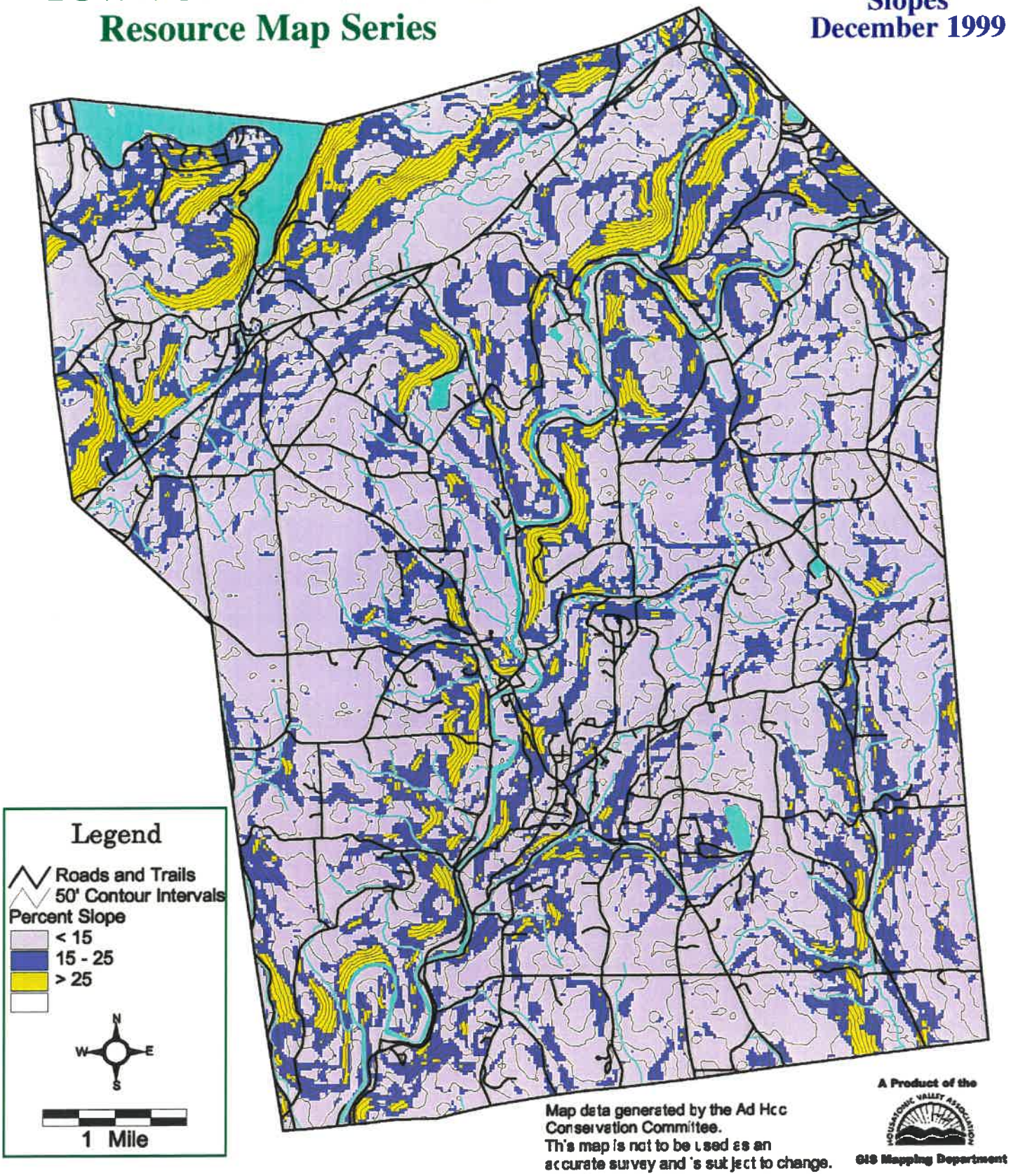
Slopes
December 1999



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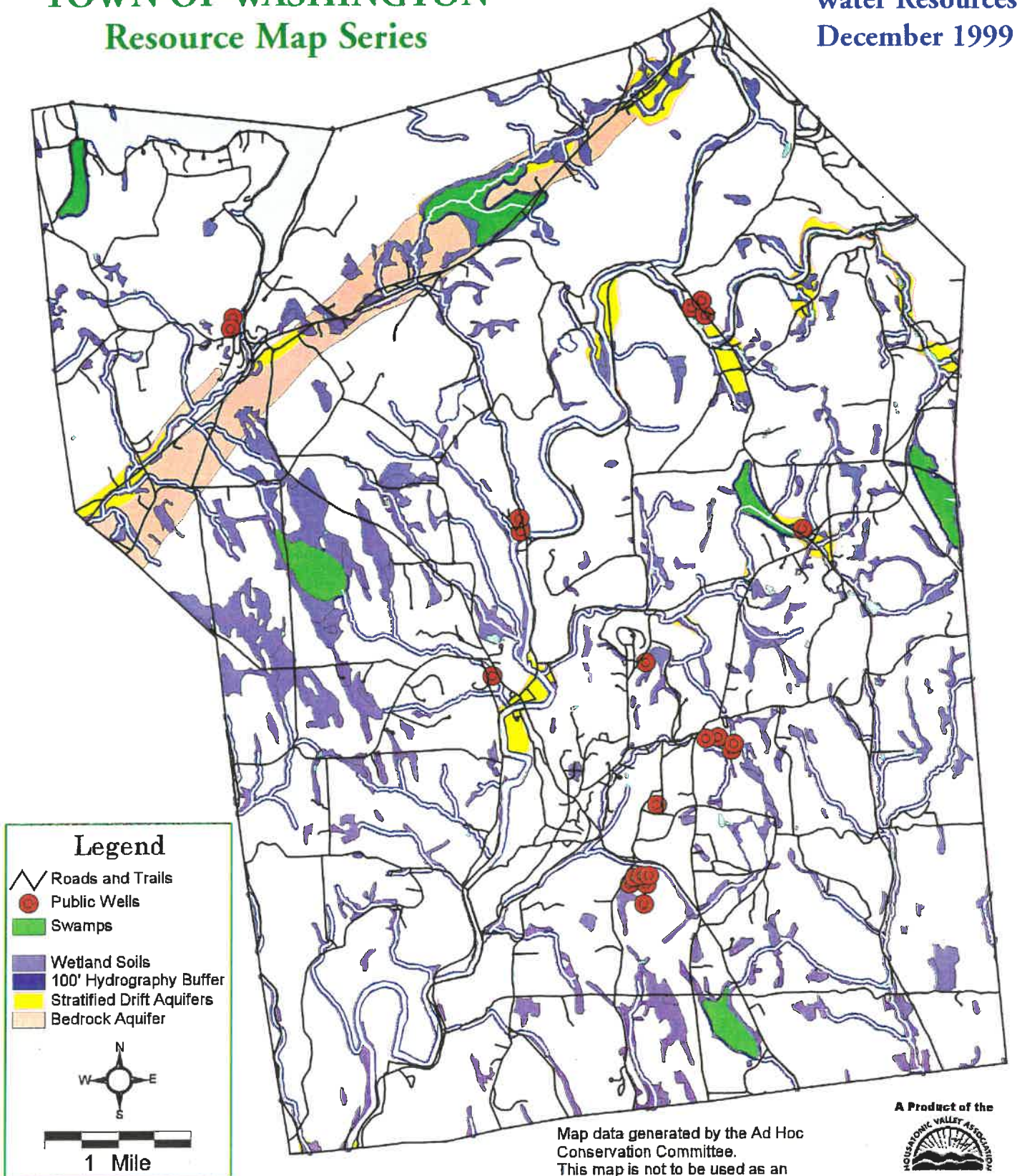
Water Resources
December 1999



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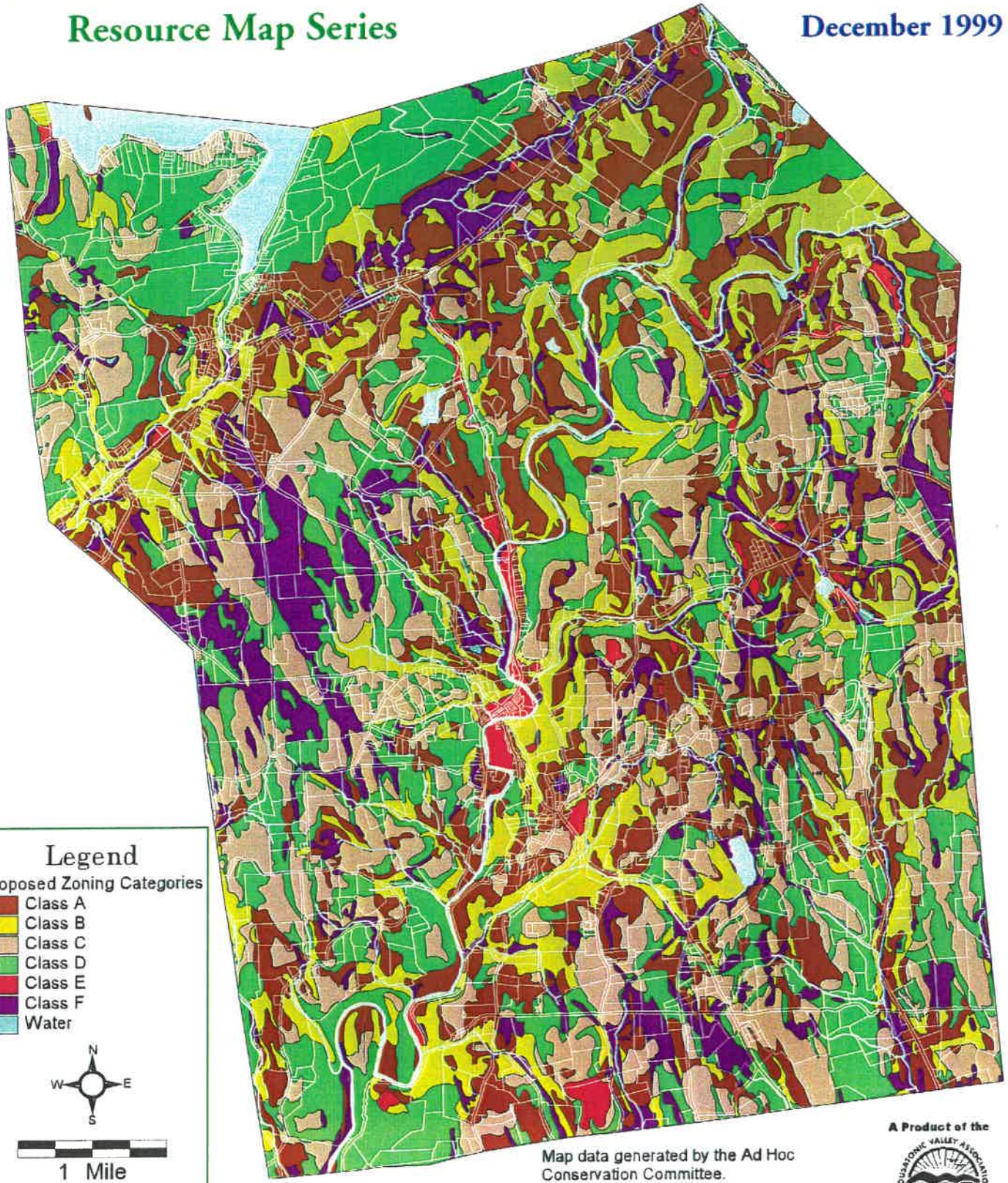
GIS Mapping Department

TOWN OF WASHINGTON
Resource Map Series

Soil Based Zoning
Classes A-F
December 1999



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TOWN OF WASHINGTON
Resource Map Series

Soil Based Zoning
Types I-IV
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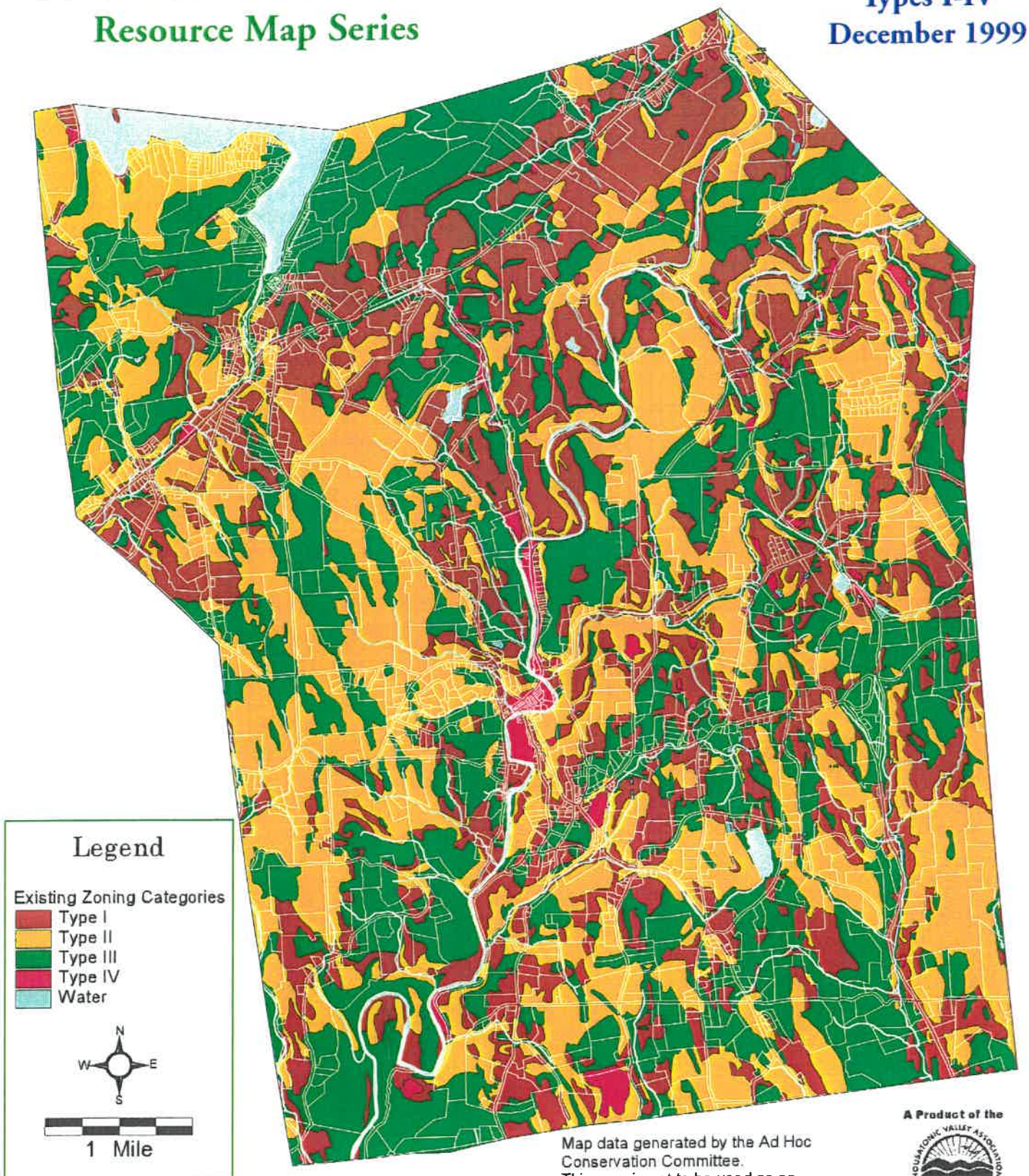

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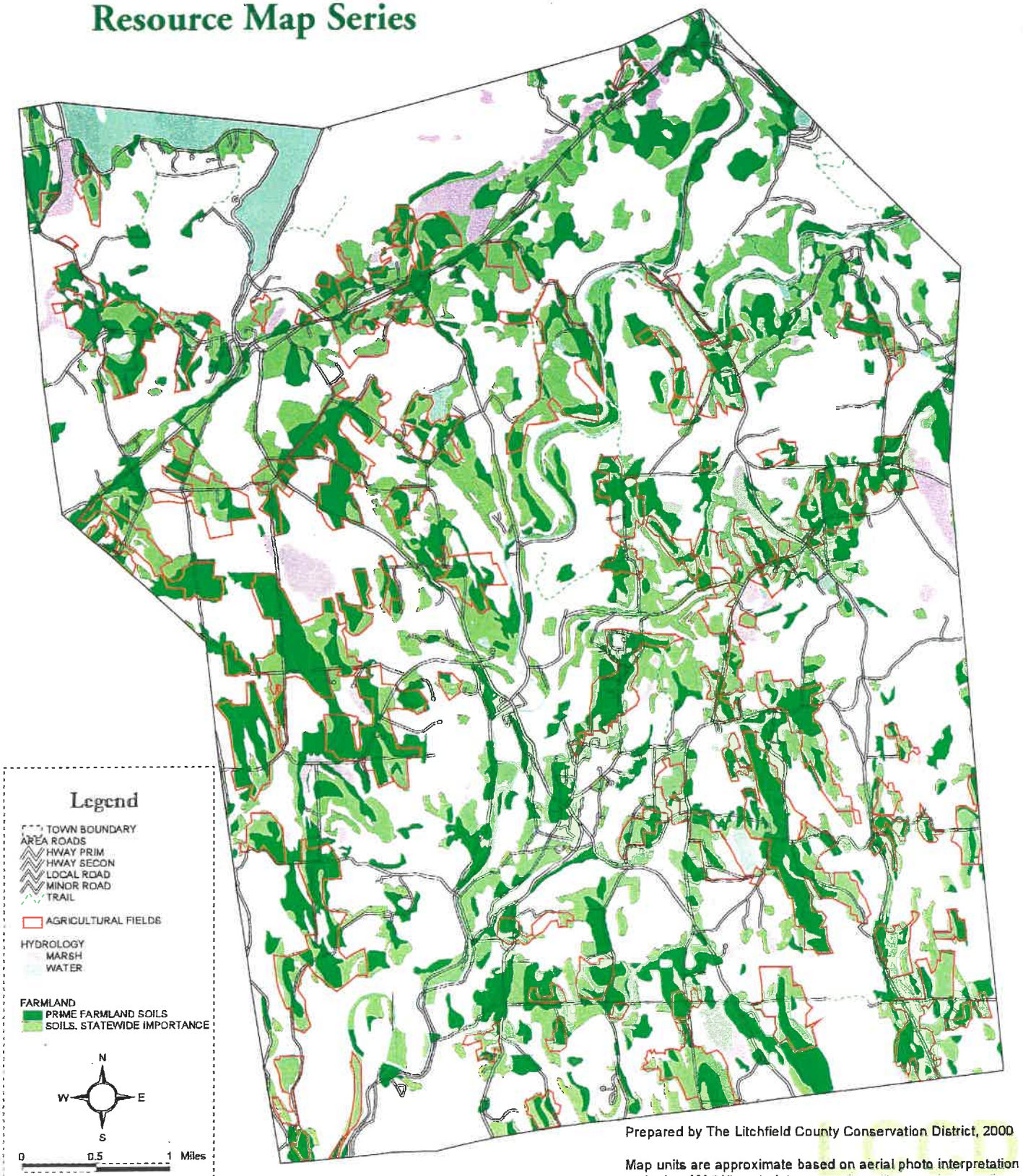
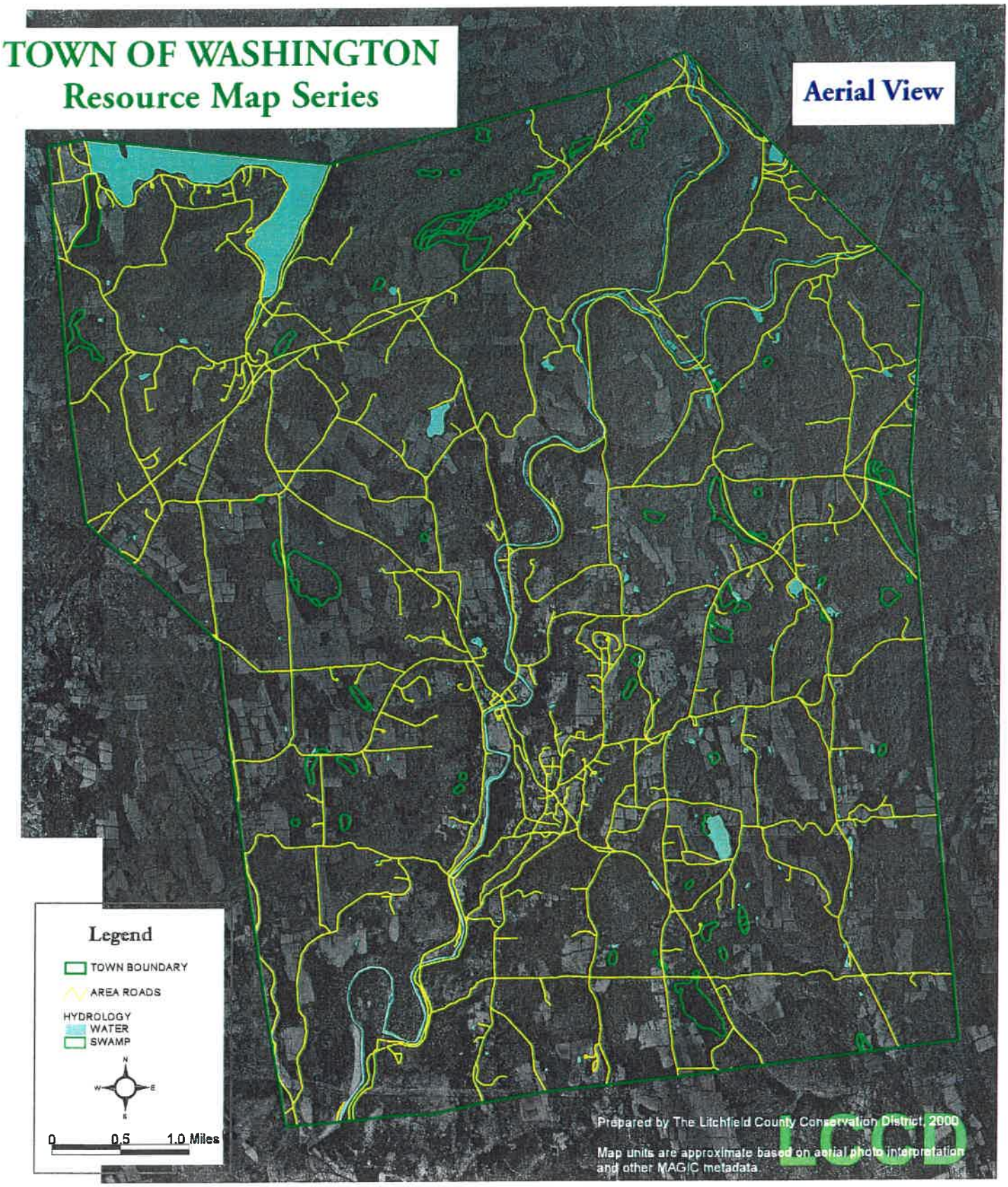
Resource Map Series

Farmland



Prepared by The Litchfield County Conservation District, 2000

Map units are approximate based on aerial photo interpretation and other MAGIC metadata.


TOWN OF WASHINGTON
Resource Map Series
Aerial View
Legend
TOWN BOUNDARY
AREA ROADS
HYDROLOGY
WATER
SWAMP
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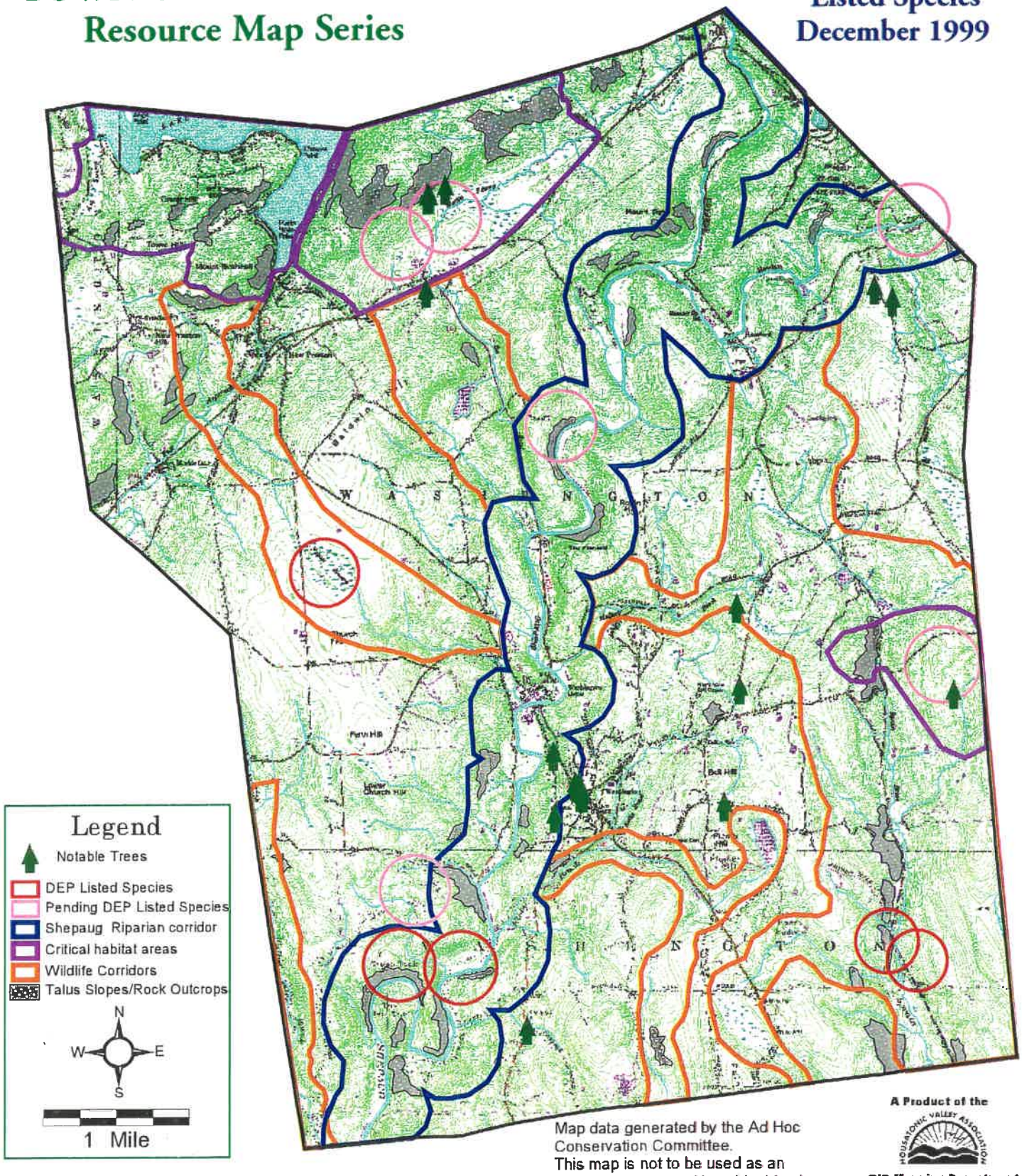
Prepared by The Litchfield County Conservation District, 2000
Map units are approximate based on aerial photo interpretation and other MAGIC metadata.
LCCD

TOWN OF WASHINGTON
Resource Map Series

Critical Habitat and Listed Species December 1999



Map data generated by the Ad Hoc Conservation Committee.
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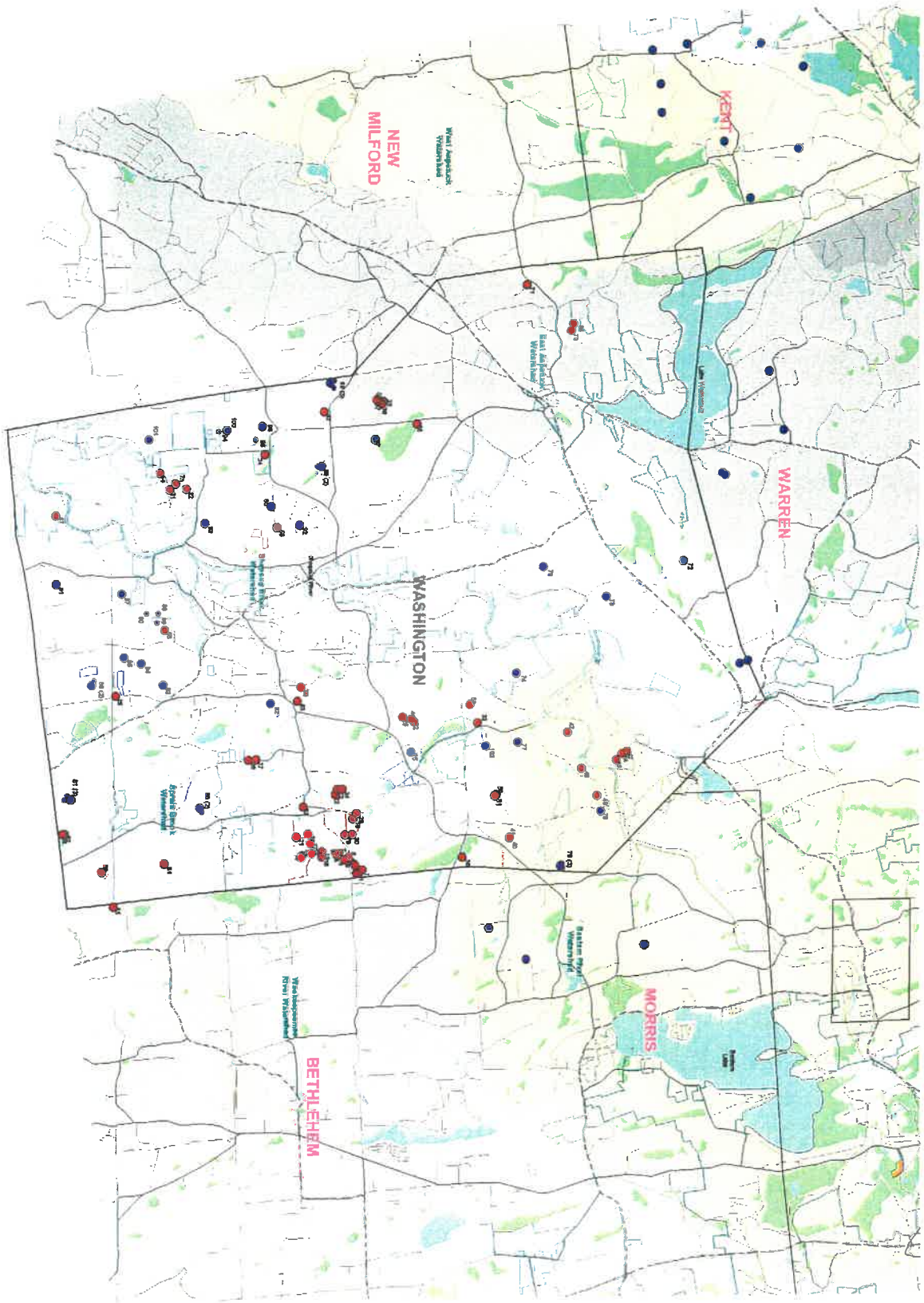
GIS Mapping Department

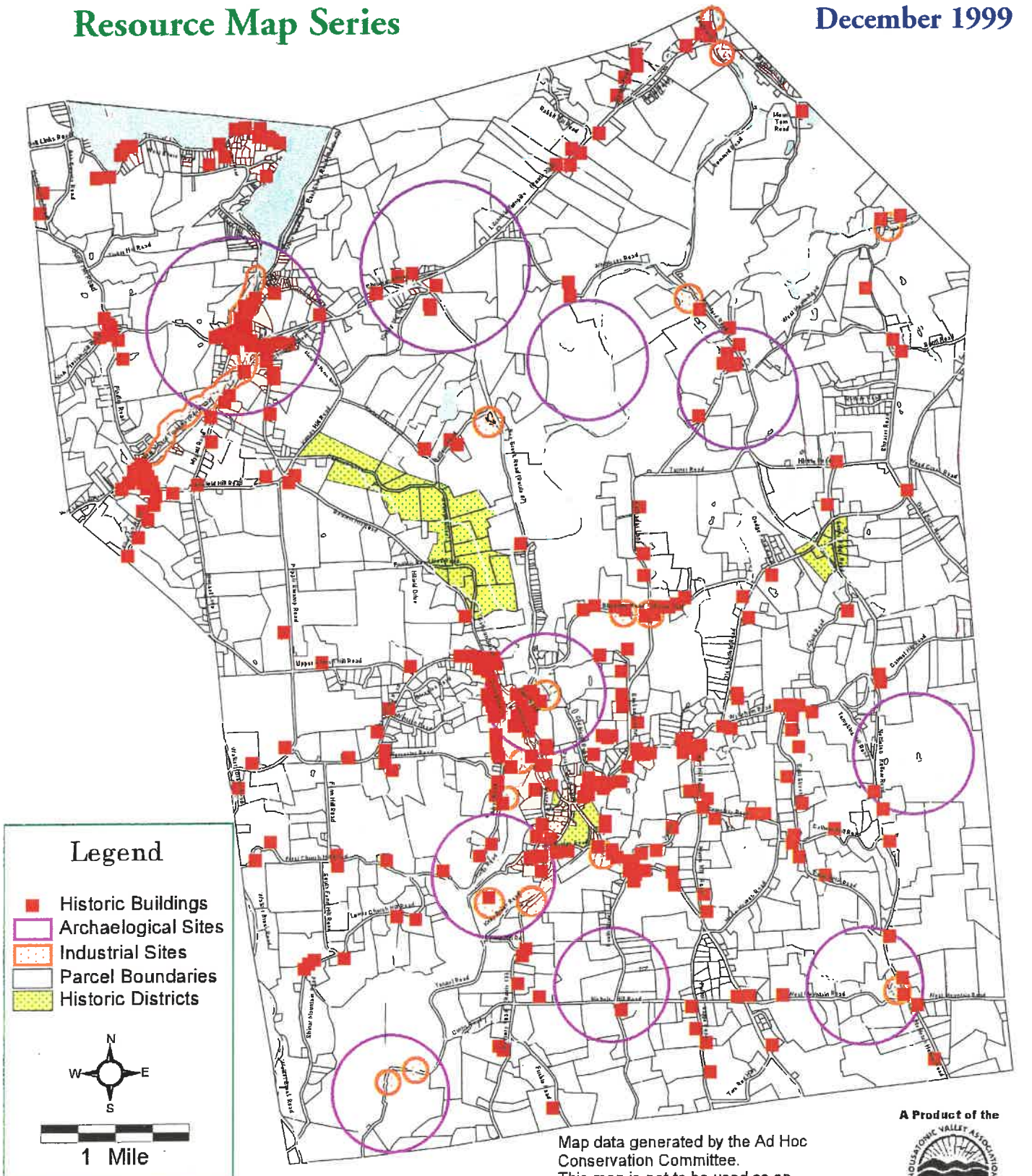
TOWN OF WASHINGTON
Resource Map Series

Vernal Pool Inventory



TOWN OF WASHINGTON
Resource Map Series

Cultural Features
December 1999



Map data generated by the Ad Hoc Conservation Committee.
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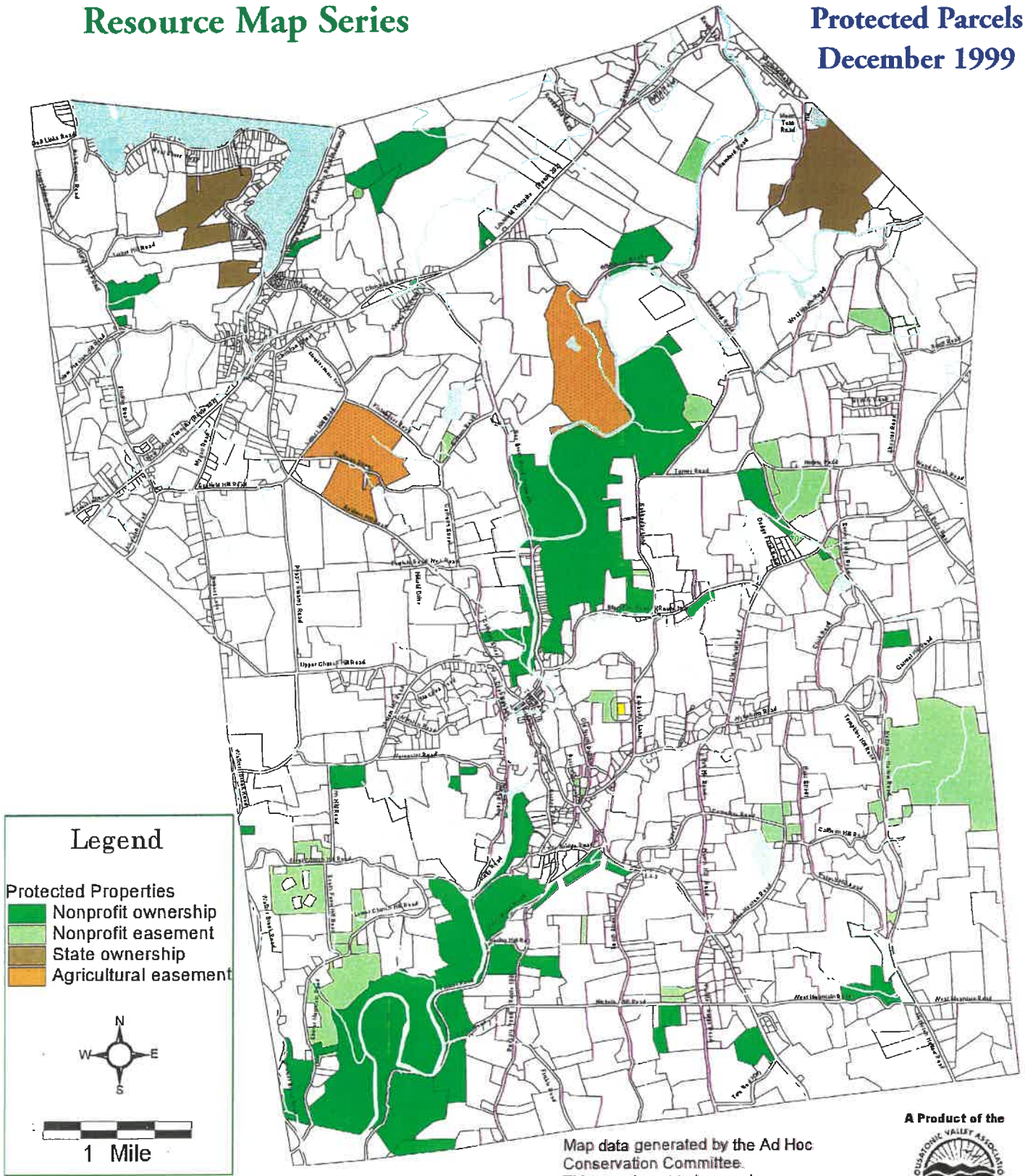
TOWN OF WASHINGTON
Resource Map Series

Open Space I
Protected Parcels
December 1999



Map data generated by the Ad Hoc Conservation Committee.
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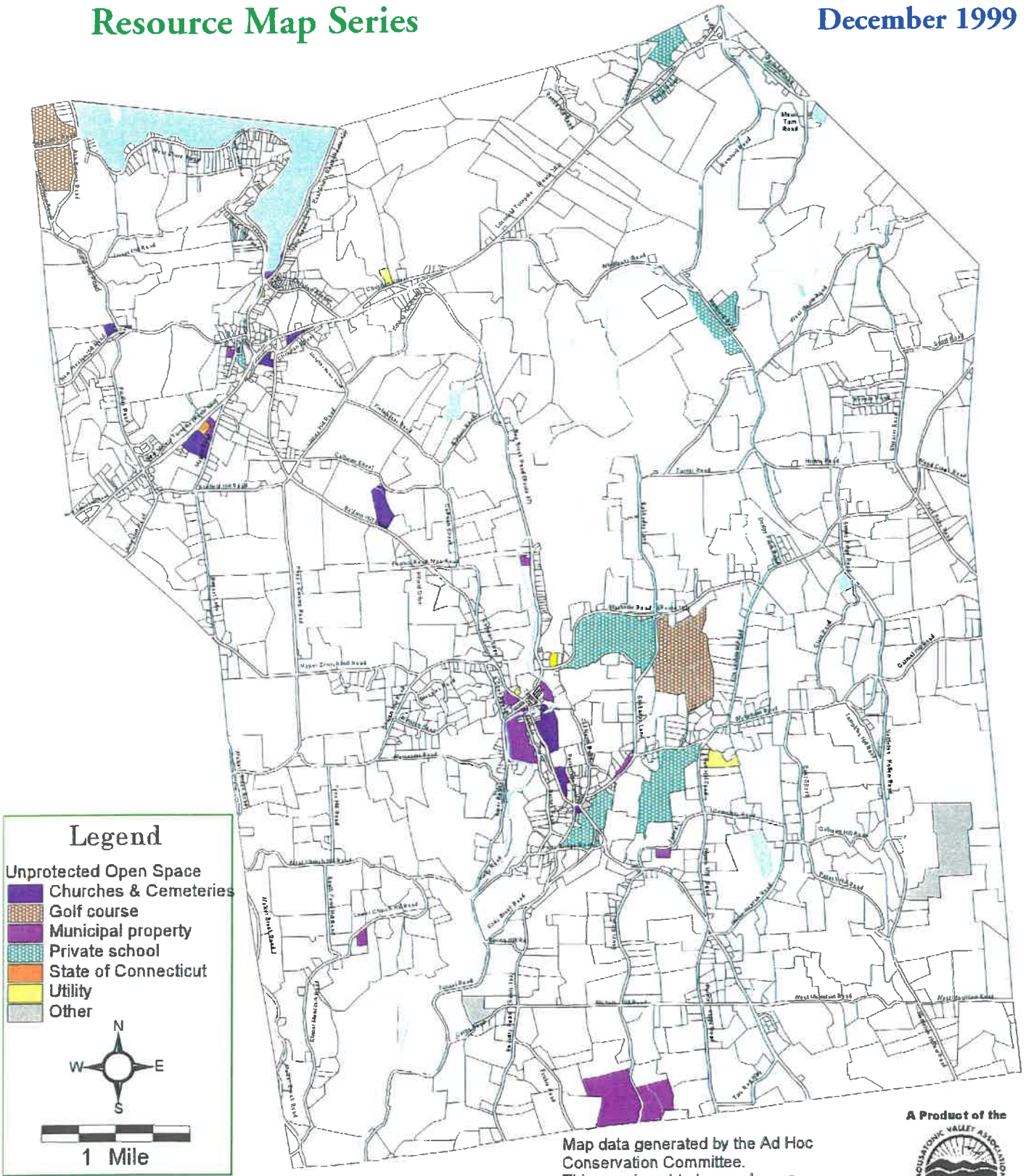
TOWN OF WASHINGTON
Resource Map Series

Open Space II
Unprotected Parcels
December 1999



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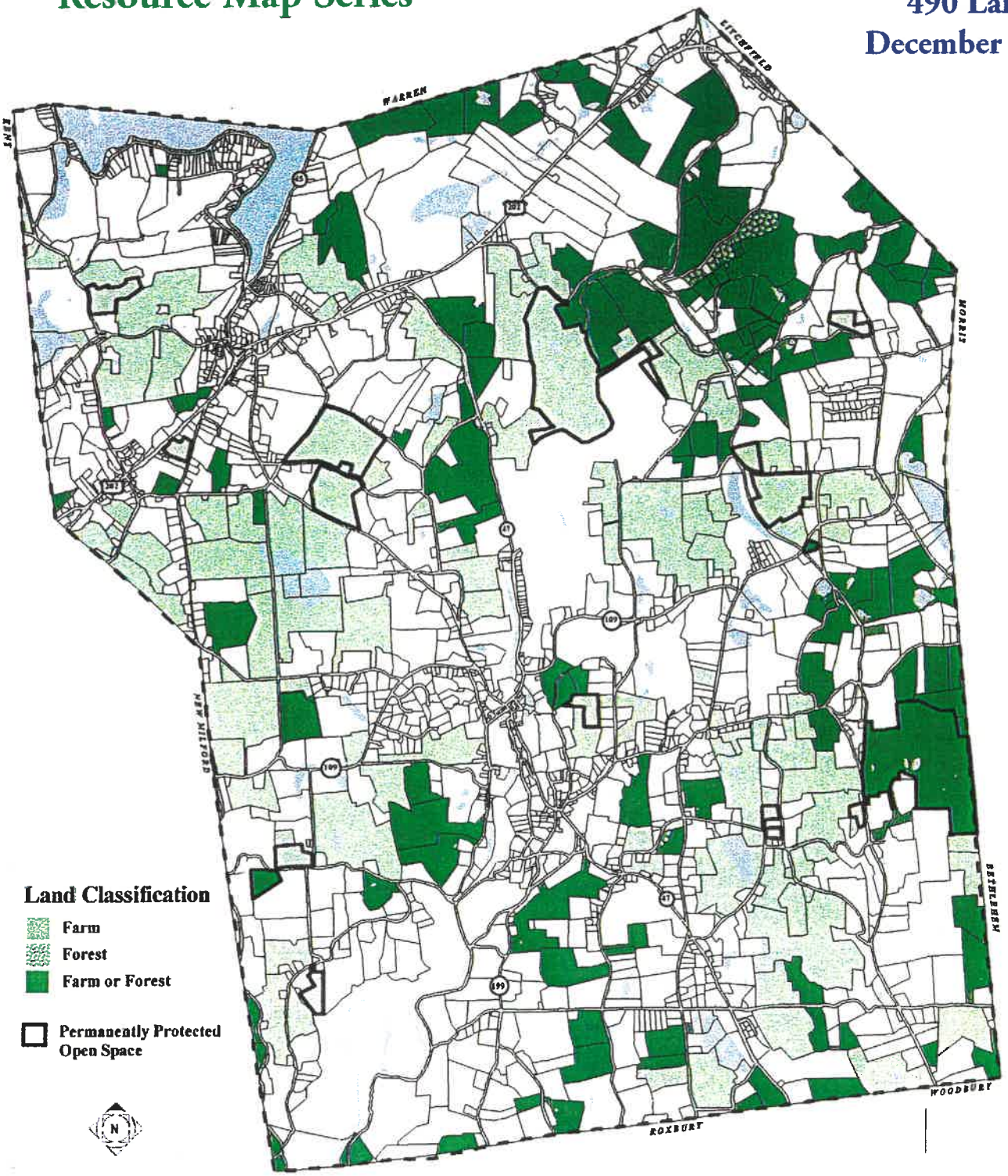
Resource Map Series

Open Space III
490 Land
December 1999



Commissioned by:

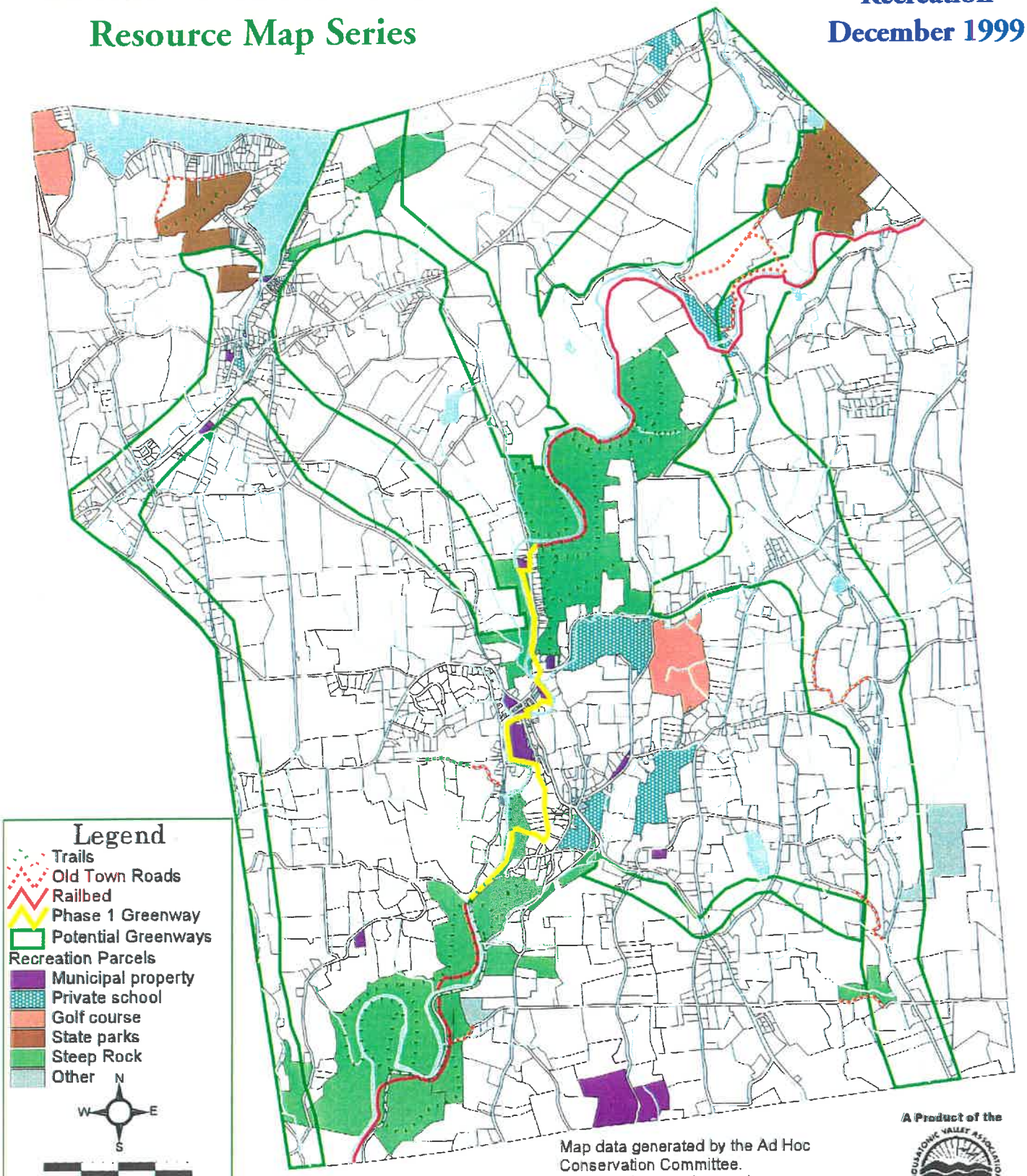
Steep Rock Association, Inc

Produced by:

Planimetrics

TOWN OF WASHINGTON
Resource Map Series

Recreation
December 1999



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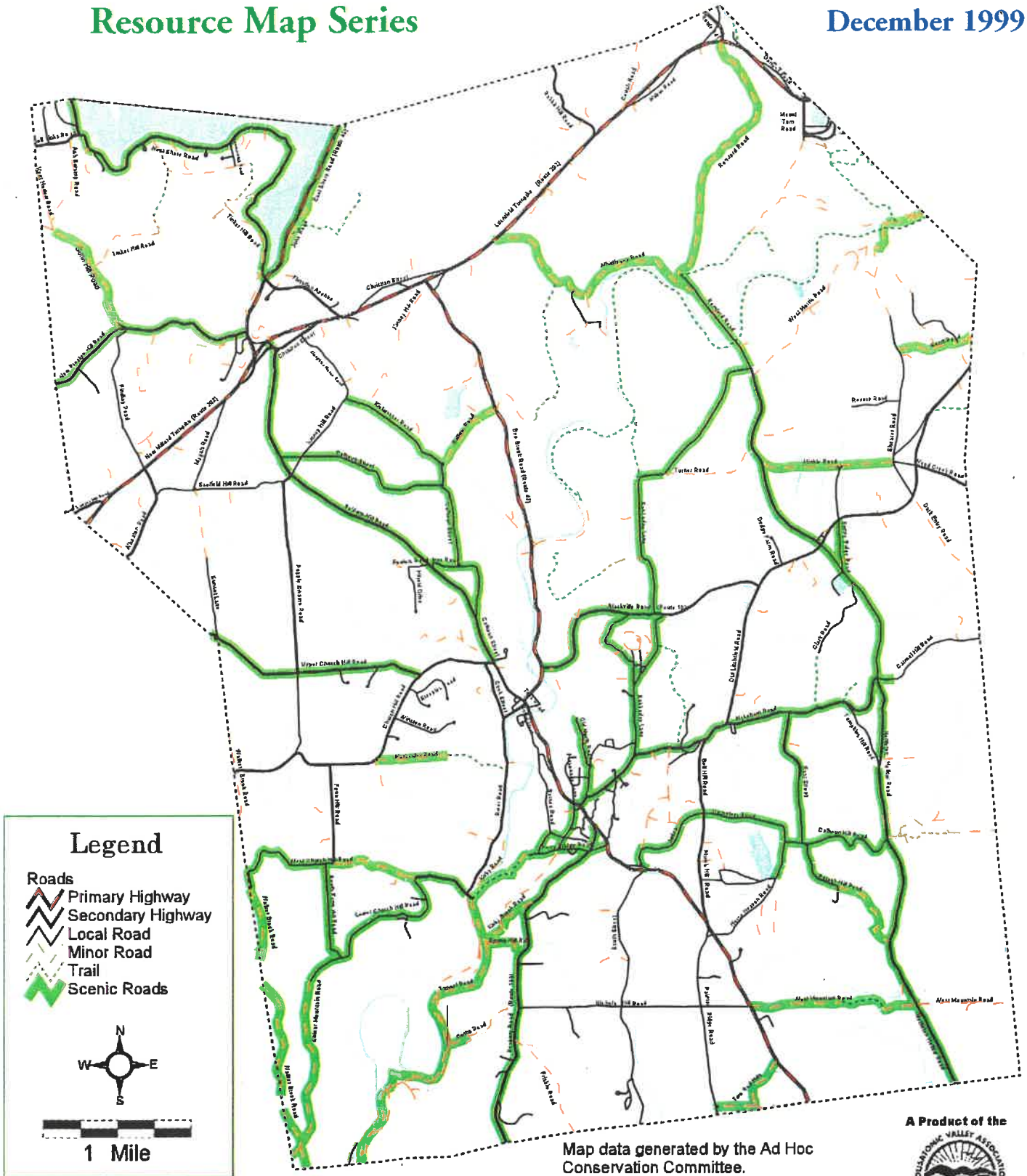
TOWN OF WASHINGTON
Resource Map Series

Scenic Roads
December 1999



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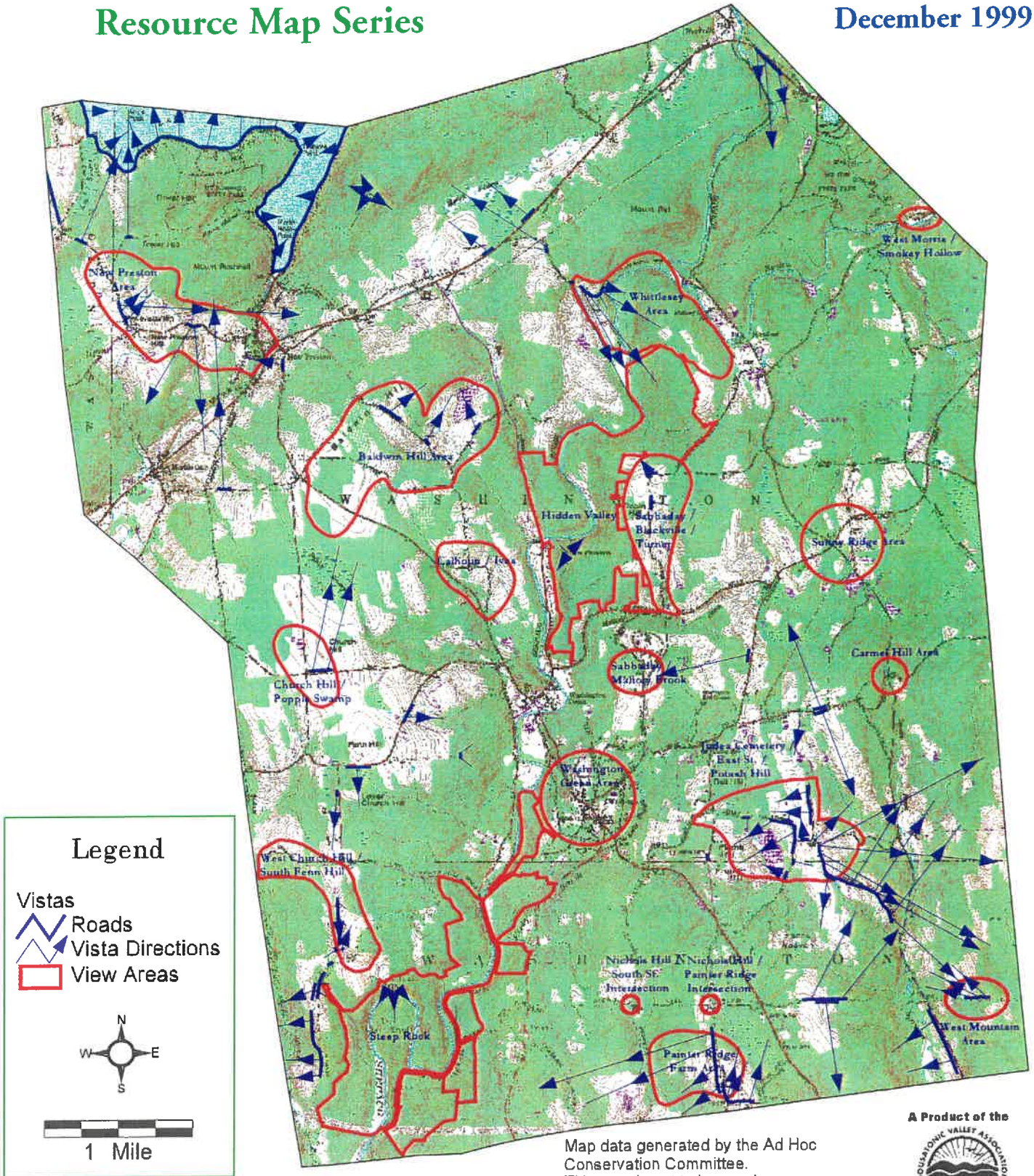
Scenic Areas and Vistas December 1999



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VII. GLOSSARY

Anthropogenic - Human influence or activity.

Aquifer - A permeable layer of sand, gravel or rock that stores and conveys water.

Bedrock - Unweathered rock underlying the soil layer; parent material.

Biodiversity - The diversity of all life.

Bioengineering - Engineering design and construction that uses biological materials instead of traditional hard engineering materials such as concrete and riprap. Also known as soft engineering.

Biofiltration - The use of plants and soils to filter contaminants from water.

BMP - Best Management Practice. An activity or technique employed in the field to reduce nonpoint source pollution.

Board foot - A unit of measure defined as a board one foot long by one foot wide by one inch thick.

Buildout - The maximum number of houses (building lots) possible given a specific zoning regime. Development is complete.

Canopy - The branches and leaves forming the crown of forest trees; the uppermost layer in the forest.

Carrying capacity - The maximum number of individuals that a habitat can support.

Cation - A positively charged ion.

CGS - Connecticut General Statutes

DEP - Department of Environmental Protection.

Depauperate - A term, favored by the late William Neiring, describing a biological system that falls short of its natural and full development, due to various impacts.

Detention basin - A stormwater management structure which provides temporary storage of peak stormwater runoff flows, eventually allowing infiltration. Also known as a dry pond.

DNA - Deoxyribonucleic acid; a molecule which constitutes the genetic material of an organism.

Drumlin - A glacially-formed elongated hill composed of glacial till; oriented parallel to the glacier's path.

Ecosystem - A system of plants, animals and the biological, chemical and physical surroundings with which they interact.

Ecotone - An edge area where two habitat types meet, typically possessing high diversity values.

Endemic - Native to a limited geographic area.

ESRI - Environmental Systems Research Institute. The industry leader in GIS software.

Eutrophic - Possessing high nutrient content frequently manifested by dense vegetative growth, decreased water clarity and reduced oxygen levels.

Extinction - The disappearance of a plant or animal from the planet; the end of a lineage.

Extirpation - A localized extinction.

Facultative - Able to live in more than one environment.

Fen - A nutrient rich marsh with alkaline soils.

Gene - A unit of hereditary material comprised of DNA.

Gene pool - All genes contained within a population.

GIS - Geographic Information System. A computerized system that manages spatial information and its associated database.

Glaciation - The occurrence and actions of glaciers.

Gneiss - A type of rock; a banded metamorphosed granite.

GPS - Global Positioning System. A system which provides highly accurate locational information; portable units bounce signals off a network of satellites to determine position on the ground.

Habitat - An area where an animal or plant lives.

Habitat corridor - A linear strip of undeveloped land or open space along which animals and plants can move; they can act as links between different habitat areas.

Habitat fragmentation - The separation of a habitat area into smaller sections; typically caused by road building and development.

Hibernaculum - A sheltered space where creatures hibernate.

Hydrology - The study of the storage and flow of water.

Igneous - A type of rock; cooled and solidified magma.

Impervious surface - A material through which water cannot flow.

Indigenous - Native to an area.

Infiltration - The entry of water into the soil surface (compare with percolation).

Invasive species - Nonnative plant or animal which aggressively colonizes and then outcompetes native species, often forming monocultures.

Landscape ecology - A large scale view of ecology which takes into account regional patterns and processes.

Loam - A medium textured soil made up of equal parts clay, sand and silt.

MAGIC - UCONN's Maps and Geographic Information Center.

Mast - The production of fruiting bodies (nuts) or accumulation of nuts on the forest floor.

Mesotrophic - Possessing a moderate nutrient level. Three sub-categories: early mesotrophic, mesotrophic and late mesotrophic.

Metadata - Information provided with GIS maps detailing the data sources and manipulation techniques used to produce the map.

Metamorphic - A type of rock; igneous or sedimentary rocks which have been subjected to high temperature and pressure thus altering the original composition and structure.

Mitigation - An action meant to avoid, minimize or compensate for environmental degradation.

Mitigation banking - A preservation technique whereby degradation is permitted, but with the provision that other previously specified lands will be restored (or created) to offset the loss allowed through development. The ratios are typically greater than one to one; they are dependent on the environmental quality of what was lost.

NRCS - Natural Resources Conservation Service. Formerly the Soil Conservation Service.

Needs assessment - A formal study which examines existing trends and then forecasts future needs.

Nonpoint source pollution - Pollution which comes from diffuse sources (i.e. soil erosion, road runoff, poor agricultural practices etc.).

Obligate - Able to survive in only one environment.

pH - A measure of acidity (values less than 7) or alkalinity (values greater than 7).

Pandemic - A widespread epidemic.

Percolation - The movement of water through soil layers toward the water table.

Point source pollution - Pollution emanating from a discrete location (a particular point).

PDR - Purchase of Development Rights. A land protection technique where a property owner sells the rights of certain types of development while retaining ownership of the property.

Plate tectonics - The theory of huge crustal plates which move slowly over underlying molten magma to form the structure of the earth's surface.

Recharge - The percolation / infiltration of water into and through the soil which replenishes groundwater.

Relict - An ecological holdover found in an area that has undergone significant change.

Remote sensing - The use of satellite technology to interpret land cover types.

Retention basin - A stormwater management structure which holds water onsite and provides temporary storage of peak stormwater flow. Also known as a wet pond.

Riparian - The area immediately adjacent to a river, lake or a pond.

Rip rap - Loose rocks used to protect against erosion.

Rod - A unit of measure equal to 16.5 feet.

Runoff - Precipitation which is transported from the area on which it falls. Runoff is directly related to the amount of impervious surfaces in the drainage area.

Schist - A type of rock; medium to coarse grained flaky metamorphic rock typically containing mica.

Sedimentary - A type of rock formed by the solidification of sediment through either mechanical, chemical or organic means.

Smart Growth - A term used to describe a series of development principles which limit sprawl and preserve rural areas and open space while still providing for community growth.

Talus slope - An accumulation of rocky debris at the base of a rock outcrop or a steep rocky slope.

TDR - Transfer of Development Rights. A land protection tool that allows development rights to be purchased on another property to offset development elsewhere.

Understory - The many layered vegetational growth beneath the tree canopy.

USDA - United States Department of Agriculture.

USGS - United States Geological Survey.

Vernal pool - An ephemeral water body that typically fills in the late fall or winter and tends to dry out completely in the summer.

Viewshed - The entire area that can be seen from a predetermined point or series of points.

Watershed - The entire surface drainage area which contributes runoff (from precipitation, snowmelt, and springs) to a common outlet.

Water table - The upper level of groundwater.

WEC - Washington Environmental Council.

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APPENDIX A

TCP AD HOC COMMITTEE MEMBERS

The participating members of the committee were as follows:

Walter Andrew*	Elaine Luckey*
Lucy Averill	Georgia Middlebrook
George Blake*	Susan Payne*
Ruth Blohm*	Alison Picton*
Susan Branson	Marguerite Purnell*
Carlos Canal	Dimitri Rimsky*
Chris Charles	Addie Roberts*
Elizabeth Corrigan*	Fred Roberts
David Cregeau*	Dirk W. Sabin, A.S.L.A.,
Elizabeth Dexheimer*	Chairman*
Helen Gray	Cecilia Shusdock
Susan Hamilton*	Steve Solley*
Dorothy Hill*	Peter Talbot
Carolyn Larson	Jean Waterhouse
John Larson	* Regular participants

APPENDIX B

Connecticut General Statutes
Chapter 97 Section 7-131a
(revised to January 1, 1999)

Conservation commissions.

(a) Any town, city or borough, by vote of its legislative body, may establish a conservation commission for the development, conservation, supervision and regulation of natural resources, including water resources, within its territorial limits. The commission shall consist of not fewer than three nor more than eleven members and not more than three alternates, to be appointed by the chief executive officer of the municipality, to serve for terms to be designated by the legislative body establishing the commission. Such alternate members shall, when seated, have all the powers and duties of a member of the commission. The chief executive officer may remove any member or alternate for cause and may fill any vacancy.

(b) A conservation commission shall conduct research into the utilization and possible utilization of land areas of the municipality and may coordinate the activities of unofficial bodies organized for similar purposes, and may advertise, prepare and distribute books, maps, charts, plans and pamphlets as necessary for its purposes. It may propose a greenways plan for inclusion in the plan of conservation and development of the municipality prepared pursuant to section 8-23. It may inventory natural resources and formulate watershed management and drought management plans. Such plans shall be consistent with water supply management plans prepared pursuant to section 25-32d. It shall keep an index of all open areas, publicly or privately owned, including open marshlands, swamps and other wetlands, for the purpose of obtaining information on the proper use of such areas, and may from time to time recommend to the planning commission or, if none, to the chief executive officer or the legislative body plans and programs for the development and use of such areas. It may make recommendations to zoning commissions, planning commissions, inland wetlands agencies and other municipal agencies on proposed land use changes. It may, with the approval of such legislative body, acquire land and easements in the name of the municipality and promulgate rules and regulations, including but not limited to the establishment of reasonable charges for the use of land and easements, for any of its purposes as set out in this section. It may supervise and manage municipally-owned open space or park property upon delegation of such authority by the entity which has supervisory or management responsibilities for such space or property. It shall keep records of its meetings and activities and shall make an annual report to the municipality in the manner required of other agencies of the respective municipalities. The commission may receive gifts in the name of the municipality for any of its purposes and shall administer the same for such purposes subject to the terms of the gift.

(c) A commission may exchange information with the Commissioner of Environmental Protection, and said commissioner may, on request, assign technical personnel to a commission for assistance in planning its overall program and for coordinating state and local conservation activities.

(d) Any town, city or borough may appropriate funds to such commission.

APPENDIX C

A Conservation Plan for the Town of Washington
Planning for, rather than reacting to changes in the Landscape.

The Inland Wetlands and Conservation Commission of the Town of Washington, with the aid of an Ad-Hoc committee comprised of interested volunteers, is embarking upon a two to three year project aimed at long term planning. This planning effort will evolve from a conservation perspective rather than a development perspective. We cannot stop change but, with foresight and the proper information, we can guide it prudently. Obdurate sentimentality will not conserve our landscape, it never has. What can help save that which we value is a comprehensive identificaton and mapping of our landscape's important elements, coupled with a commitment to planning that uses this knowledge actively.

We will be looking to stress an approach to land use that considers open space densities as much as housing densities.

It is an exciting time in the land use professions. After years of so called "cookie cutter" subdivisions that laid out roadways to maximize frontage and hence, an excruciatingly monotonous lot yield, we are now returning to our New England heritage of mixed housing densities, greenbelt corridors and swings of open spaces. We are looking at our traditional village centers and land use patterns as time tested, civilized modes of life. We have discovered that modern subdivisions tend to take the "neighbor" out of neighborhoods while they wipe away any vestige of the landscapes they supplanted. Developments romantically named "Oak Hills' or "Deer Crest" by some weak-minded marketing amateur should more accurately be named "Bituminous Concrete Acres" or "View Ruined Heights". Conservation and Open Space Planning aims to reverse the trend toward monotony and landscape erasure represented by land development since World War II. This renewed approach is also gaining recognition that it is fiscally prudent and environmentally sound. After years of thinking towns needed development to enhance their tax base and open space was a barrier to tax revenue, recent studies have shown that open spaces generate a higher tax return versus service expenditures than most forms of development.

We don't all have the same sense of what is most valuable.

That is where the Ad-Hoc Committee comes in. Since last fall we have met, indentified both shared and opposing values and familiarized ourselves with the challenge at hand. We are now ready to begin the process of identification and mapping. Such things as slopes, soils, valuable habitat, existing development nodes, forests, archaeological sites, water resources, important agricultural resources, open space corridors and views will be researched, identified and mapped. This data base will then be put in a format readily understandable and usable by our citizens and land use commissioners. Our goal is to embrace rapidly emerging computer technology to enhance both accuracy and ongoing use of the information developed. An educated and informed citizenry will be far more effective at preserving our landscape than fragmented and reactionary groups brought out by impending development next door. WE NEED YOUR HELP! CONTACT THE LAND USE OFFICES.

Fall 1995

APPENDIX D

MAP REFERENCES (METADATA)

GEOLOGY

The information was digitized from the *Connecticut Natural Resources Atlas Series: Bedrock Geological Map* compiled by John Rodgers (1:125,000 scale) 1985.

PEAKS AND PROMINENCES (RIDGELINES)

Ridgelines (the red dotted lines) were determined by the subdrainage basin boundaries using data provided by DEP. All Peaks and Prominence Areas were digitized from the USGS Topographic Quad Maps.

SLOPES

A DEM (digital elevation model) generated by the USGS provided the topographical data. ESRI's Spatial Analyst module was used to calculate slopes from the topographic data.

WATER RESOURCES

(RIVERS, BROOKS, LAKES AND PONDS)

Two hydrography datalayers (rivers & streams and lakes & ponds) were downloaded from UCONN's MAGIC (Maps and Geographic Information Center) web site. Additional pond information was added from the soils datalayer.

(AQUIFERS AND WETLANDS)

Aquifer information was digitized from the CT surficial geology map. The swamps datalayer (extracted from the USGS topographic information) was downloaded from UCONN's MAGIC site. Wetland soils (type F) were added from the soils datalayer

SOILS AND SOIL BASED ZONING

Patrick McGlamery from UCONN emailed the newly developed datalayer for the Town of Washington. Using a 1996 NRCS Soil Conversion Legend graciously provided by Planimetrics of Avon, CT, the soils were then grouped into their requisite classes, assigned within the database and displayed. See Appendix J for a detailed Soils Table.

FARMLAND

Litchfield County Conservation District created a composite aerial photo from a series of flyovers conducted over a number of years. The areas currently in agriculture were then digitized from the composite photo. Prime agricultural lands were determined by soil type.

WOODLAND (AERIAL PHOTO)

The composite aerial photo created by Litchfield County Conservation District illustrates the amount of forest cover in the Town. The Open Space III Map (see below) offers some specific information as to which parcels are classified as forest.

CRITICAL HABITAT & LISTED SPECIES

Talus areas and ledges were identified visually in the field, located on the USGS topographic maps and then transferred onto the habitat map; their representation is stylized and does not correspond exactly to the actual outline of the feature.

Notable trees locations were generally identified in Glen Dreyer's book; additional fieldwork was completed and the trees were positioned approximately using the USGS topographic maps as well as the parcel map.

VERNAL POOLS

Washington's vernal pools were initially located using stereo-optic aerial photographs. Potential pool sites were transferred onto a base map of the Town. Funded by a CT DEP Natural Resource Protection grant, many pools were located, field-verified, and mapped by the Litchfield County Conservation District using GPS (Global Positioning System) technology.

CULTURAL RESOURCES (ARCHAEOLOGICAL, HISTORICAL & ARCHITECTURAL RESOURCES)

Archaeological information was provided by Nick Bellantoni, Connecticut's State Archaeologist. Historical and architectural information was provided by Alison Picton.

APPENDIX D

OPEN SPACE (I & II)

The Steep Rock Association provided a 1998 datalayer of their holdings in fee simple and with conservation easements to which additional information from Steep Rock and the Assessor's Office was added.

OPEN SPACE III (490 LAND)

The Steep Rock Association contracted with Planimetrics of Avon, CT to map all land in Washington which is currently under PA 490 protection. The information was provided from the Town of Washington Assessor's Office.

RECREATIONAL LAND

Recreational parcels were identified by utilizing the following sources: *Recreation Master Plan for the Town of Washington, CT* (Sabin, 1997), a map prepared by Peter Talbot, AIA, as well as information gathered from the Assessor's Office.

Trails information was drawn from different sources. For the trails in Steep Rock and Hidden Valley, the maps drawn by Peter Jensen of Openspace Management were used. The trails within the two State parks (Mt. Tom and Mt. Bushnell) and for the old Shepaug Valley Railroad right-of-way, were drawn from empirical knowledge and through correlation of the names of the roads as found on old survey maps with the roads listed as having been officially discontinued at a Town Meeting.

SCENIC ROADS

Scenic roads, having been determined by their criteria, were drawn onto a base map from which the information was digitized.

SCENIC VISTAS & AREAS

Scenic vistas were determined by a combination of field work as well as the local knowledge of the subcommittee. Scenic areas were determined by the specific criteria set forth by the subcommittee (see Section L); the areas themselves were digitized off of the base map provided by the subcommittee.

APPENDIX E

SCENIC ROADS LISTINGS

Roads with State "Scenic Road" designation. Per the CT Department of Transportation Regulations, Sec. 13B-31c-1(e), the official definition of a state scenic road is:

> "...any state highway or portion thereof that (1) passes through agricultural land or abuts land on which is located an historic building or structure listed on the National Register of Historic Places or the State Register of Historic Places, compiled pursuant to section 10-321 of the general statutes, or, (2) affords vistas of marshes, shoreline, forests with mature trees or notable geologic or other natural features."

Given the classification system established in section II L, the subcommittee suggests that the following roads appear on the Scenic Road Inventory:

Roads with State "Scenic" Designation

- East Shore Road
- West Shore Road

Roads within Steep Rock

- Curtis Road (Steep Rock portion)
- Kirby Brook Road
- Spring Hill Road
- Tunnel Road

Roads meeting Sub-committee selection criteria

- Baldwin Hill Road
- Barnes Road (Ferry Bridge - Rossiter)
- Blackville Road (Bee Brook - Sabbaday)
- Buffum Road
- Calhoun Hill Road
- Calhoun Street
- East Street
- Ferry Bridge Road

APPENDIX E

Gunn Hill Road
Hinkle Road
Horse Heaven (from pond north)
Ives Road
Judea Cemetary Road
June Road
Keilwasser Road
Kirby Road
Lower Church Hill
Mallory Brook
Nettleton Hollow
New Preston Hill
Old North Road
Potash Hill Road
Romford Road
Rossiter Road
Roxbury Road
Sabbaday Lane
Senff Road
Shinar Mountain Road
South Fenn Hill
Sunny Ridge Road (Old Litchfield - Nettleton Hollow)
Two Rod Highway
Upper Church Hill
Walker Brook Road (West Church Hill south)
West Church Hill
West Morris Road (north of Shearer)
West Mountain Road (Woodbury Road - Nettleton Hollow)
Whittlesey Road
Worcester Road (paved portion)
Wykeham Road

The following is an inventory of all Town roads which are either partially or entirely unimproved:

Unpaved Roads

Ash Swamp Road
Buffum Road
Calhoun Hill Road
Chapin Road
Clark Road
Couch Road
Curtis Road
Dark Entry Road
Ferry Bridge Road
Findlay Road
Foulois Road
Frisbie Road
Gunn Hill Road
Hinkle Road
June Road
Kinney Hill Road
Kirby Brook Road
Moody Bridge Road
Old Mt. Tom Road
Orchard Lane
Potash Hill Road
Romford Road
Sandstrom Road
Senff Road
Shearer Road
Shinar Mountain Road
Split Rock Road
Spring Hill Road
Tinker Hill Road
Tunnel Road
Turner Road
Two Rod Highway
Walker Brook Road
West Church Hill Road
West Morris Road
West Mountain Road
Whittlesey Road
Worcester Road

The following is a list of private roads in the Town:

Private Roads

Anna Jay Lane
Birch Hill Run
Chestnut Lane
Golf Course Road
Johnson Avenue
Juniper Meadow Road
Meeker Avenue
Perkins Road
Quarry Ridge Road
Schwab Road
Sunrise Lane

APPENDIX F

SCENIC ROADS GRID
Northwest Quadrant

	Ash Swamp Road	Baldwin Hill Road	Buffum Road	Calhoun Street	Camp Road	Christian Street (W)	Christian Street (E)	Church Street	East Shore Rd. (Rte. 45)
Unpaved Road	✓		✓		✓				
Stone Walls and/or Buffer Zone	✓	✓	✓	✓	✓		✓		
Tree Canopy	✓	✓	✓						
Winding Road	✓			✓	✓				✓
Wetlands and Waterways		✓			✓	✓			✓
Long Views	✓	✓	✓	✓			✓		✓
Pastoral, Rural and Open Areas	✓	✓	✓	✓	✓		✓		✓
Narrow, No Shoulders	✓		✓	✓	✓	✓	✓		✓
Undeveloped Lightly Settled	✓	✓	✓		✓				
Road Conforms to Geography	✓	✓	✓	✓	✓				✓
Steep Ascent or Descent Hilly	✓	✓	✓						
Scenic Area, Intersec, Hollow or Hilltop	✓	✓	✓	✓		✓			✓
Dramatic Slopes or Unusual Geol. Features									✓
Historic District or Settled Areas pre-1900's Arch		✓		✓					✓
TOTALS	11	10	10	8	8	3	4	0	9

APPENDIX F

SCENIC ROADS GRID
Northwest Quadrant

	Findlay Road	Flirtation Avenue	Foulois Road	Golf Links Road	Gunn Hill Road	Hifield Drive	Hinckley Road	Ives Road	June Road
Unpaved Road	partial				✓				✓
Stone Walls and/or Buffer Zone	✓		✓		✓			✓	
Tree Canopy	✓		✓		✓			✓	✓
Winding Road	✓	✓			✓			✓	
Wetlands and Waterways								✓	✓
Long Views				✓	✓	✓			✓
Pastoral, Rural and Open Areas				✓	✓			✓	
Narrow, No Shoulders	✓				✓			✓	✓
Undeveloped Lightly Settled	✓				✓				✓
Road Conforms to Geography	✓	✓	✓	✓	✓			✓	✓
Steep Ascent or Descent Hilly	✓		✓	✓	✓				✓
Scenic Area, Intersec, Hollow or Hilltop				✓	✓				
Dramatic Slopes or Unusual Geol. Features					✓				✓
Historic District or Settled Areas pre-1900's Arch								✓	
TOTALS	7	2	4	5	12	1	0	8	9

APPENDIX F

SCENIC ROADS GRID
Northwest Quadrant

	Kielwasser Road	Kinney Hill Road	Loomarwick Road	Mountain Road	Mygatt Road	New Milford Tpk (Rte. 202)	New Preston Hill Road	North Sawyer Hill Road	Pleasant View Drive
Unpaved Road		partial							
Stone Walls and/or Buffer Zone	✓	✓	✓		✓		✓		
Tree Canopy			✓						
Winding Road	✓						✓		✓
Wetlands and Waterways	✓		✓			✓			
Long Views	✓	✓					✓		
Pastoral, Rural and Open Areas	✓	✓				✓	✓		
Narrow, No Shoulders	✓	✓	✓	✓			✓	✓	✓
Undeveloped Lightly Settled	✓		✓						
Road Conforms to Geography	✓		✓				✓		
Steep Ascent or Descent Hilly	✓		✓		✓		✓		
Scenic Area, Intersec, Hollow or Hilltop	✓	✓					✓		
Dramatic Slopes or Unusual Geol. Features				✓					
Historic District or Settled Areas pre-1900's Arch	✓				perhaps		✓		
TOTALS	11	5	7	2	2	2	9	1	2

APPENDIX F

SCENIC ROADS GRID
Northwest Quadrant

	Popple Swamp Road	Sandstrom Road	Scofield Hill Road	Slaughter House Road	Sunset Lane	Tinker Hill Road (E)	Tinker Hill Road (W)	Upper Church Hill Road	Walker Brook Road (N)
Unpaved Road						✓	✓		✓
Stone Walls and/or Buffer Zone	✓		✓		✓		✓	✓	✓
Tree Canopy	✓		✓	✓		✓	✓		✓
Winding Road			✓	✓		✓	✓		
Wetlands and Waterways	✓		✓			✓		✓	✓
Long Views	✓					seasonal	one	✓	
Pastoral, Rural and Open Areas	✓		✓		✓			✓	
Narrow, No Shoulders		✓	✓	✓		✓	✓	✓	✓
Undeveloped Lightly Settled	✓			✓			✓	✓	
Road Conforms to Geography			✓	✓		✓	✓	✓	✓
Steep Ascent or Descent Hilly			✓	✓					
Scenic Area, Intersec, Hollow or Hilltop	✓							✓	
Dramatic Slopes or Unusual Geol. Features						✓			
Historic District or Settled Areas pre-1900's Arch									
TOTALS	7	1	8	6	2	7	7	8	6

APPENDIX F

SCENIC ROADS GRID
Northwest Quadrant

	West Shore Road	Wheaton Road							
Unpaved Road									
Stone Walls and/or Buffer Zone	✓								
Tree Canopy	✓								
Winding Road	✓								
Wetlands and Waterways	✓	✓							
Long Views	✓	✓							
Pastoral, Rural and Open Areas	✓								
Narrow, No Shoulders	✓	✓							
Undeveloped Lightly Settled									
Road Conforms to Geography	✓								
Steep Ascent or Descent Hilly									
Scenic Area, Intersec, Hollow or Hilltop									
Dramatic Slopes or Unusual Geol. Features									
Historic District or Settled Areas pre-1900's Arch		✓							
TOTALS	8	4							

APPENDIX F

SCENIC ROADS GRID
Northeast Quadrant

	Bee Brook Road (Route 47)	Blackville Road	Brinsmade Road	Couch Road	Dark Entry Road	Dodge Farm Road	Garland Road	Hinckle Road	Litchfield Turnpike (Route 202)
Unpaved Road				✓	✓			✓	
Stone Walls and/or Buffer Zone				✓	✓			✓	
Tree Canopy		✓		✓				✓	
Winding Road		✓		✓				✓	
Wetlands and Waterways	✓	✓					✓		✓
Long Views							✓		✓
Pastoral, Rural and Open Areas	✓	✓		✓					✓
Narrow, No Shoulders		✓					✓	✓	
Undeveloped Lightly Settled					✓			✓	
Road Conforms to Geography		✓				✓		✓	
Steep Ascent or Descent Hilly		✓		✓				✓	
Scenic Area, Intersec, Hollow or Hilltop		✓							
Dramatic Slopes or Unusual Geol. Features	✓	✓							
Historic District or Settled Areas pre-1900's Arch		✓							
TOTALS	3	10	0	6	3	1	3	8	3

APPENDIX F

SCENIC ROADS GRID
Northeast Quadrant

	Mt. Tom Road	Mt. Tom State Park Road	Old Litchfield Rd. (Rte. 109)	Rabbit Hill Road	Revere Road	Romford Road	Sabbaday Lane (N)	Senff Road	Shearer Road
Unpaved Road						✓		✓	✓
Stone Walls and/or Buffer Zone		✓		✓		✓	✓	✓	✓
Tree Canopy	✓	✓	✓	✓		✓	✓	✓	✓
Winding Road		✓		✓		✓	✓	✓	
Wetlands and Waterways		✓		✓		✓	✓		
Long Views			✓				✓	✓	
Pastoral, Rural and Open Areas			✓			✓	✓	✓	
Narrow, No Shoulders	✓			✓		✓		✓	✓
Undeveloped Lightly Settled	✓	✓				✓		✓	
Road Conforms to Geography	✓			✓			✓	✓	
Steep Ascent or Descent Hilly				✓			✓	✓	
Scenic Area, Intersec, Hollow or Hilltop			✓			✓	✓	✓	
Dramatic Slopes or Unusual Geol. Features						✓			
Historic District or Settled Areas pre-1900's Arch			✓			✓	✓		
TOTALS	4	5	5	7	0	11	10	11	4

APPENDIX F

SCENIC ROADS GRID
Northeast Quadrant

	Turner Road	Valley Road	Warren Road (Rte. 341)	West Morris Road	Whittlesey Road	Wilbur Road			
Unpaved Road	✓			✓	✓				
Stone Walls and/or Buffer Zone	✓			✓	✓	✓			
Tree Canopy	✓			✓	✓	✓			
Winding Road	✓			✓	✓				
Wetlands and Waterways		✓		✓	✓				
Long Views					✓				
Pastoral, Rural and Open Areas					✓				
Narrow, No Shoulders	✓	✓		✓	✓	✓			
Undeveloped Lightly Settled					✓				
Road Conforms to Geography	✓	✓			✓				
Steep Ascent or Descent Hilly	✓			✓	✓				
Scenic Area, Intersec, Hollow or Hilltop				✓	✓				
Dramatic Slopes or Unusual Geol. Features		✓			✓				
Historic District or Settled Areas pre-1900's Arch					✓				
TOTALS	7	4	0	8	14	3			

APPENDIX F

SCENIC ROADS GRID
Southwest Quadrant

	Barnes Road	Chapin Road	Church Hill Rd. (Rte 109)	Cook Street	Curtis Road	Fenn Hill Road	Ferry Bridge Road	Frisbie Road	Green Hill Road
Unpaved Road		✓					✓	✓	
Stone Walls and/or Buffer Zone	✓		✓		✓	✓			
Tree Canopy	✓				✓		✓		
Winding Road	✓	✓					✓		✓
Wetlands and Waterways		✓			✓				
Long Views			✓			✓			
Pastoral, Rural and Open Areas									
Narrow, No Shoulders	✓	✓	✓	✓		✓	✓		
Undeveloped Lightly Settled		✓				✓			
Road Conforms to Geography	✓	✓	✓	✓			✓		✓
Steep Ascent or Descent Hilly	✓	✓	✓				✓		✓
Scenic Area, Intersec, Hollow or Hilltop									✓
Dramatic Slopes or Unusual Geol. Features									
Historic District or Settled Areas pre-1900's Arch	✓						✓		✓
TOTALS	7	7	5	2	3	4	7	1	5

APPENDIX F

SCENIC ROADS GRID
Southwest Quadrant

	Kirby Road	Kirby Brook Road	Lower Church Hill Road	Moody Bridge Road	Nichols Hill Road	River Road	Rossiter Hill Road	Roxbury Road (Rte. 199)	School Street
Unpaved Road		✓							
Stone Walls and/or Buffer Zone			✓		✓		✓	✓	
Tree Canopy	✓	✓					✓	✓	✓
Winding Road		✓	✓	✓				✓	✓
Wetlands and Waterways			✓			✓		✓	
Long Views									
Pastoral, Rural and Open Areas			✓					✓	
Narrow, No Shoulders	✓	✓	✓	✓	✓	✓	✓	✓	✓
Undeveloped Lightly Settled		✓	✓		✓				
Road Conforms to Geography		✓		✓					✓
Steep Ascent or Descent Hilly		✓		✓	✓			✓	
Scenic Area, Intersec, Hollow or Hilltop					✓				
Dramatic Slopes or Unusual Geol. Features		✓	✓					✓	
Historic District or Settled Areas pre-1900's Arch	✓		✓				✓		✓
TOTALS	3	8	8	4	5	2	4	8	5

APPENDIX F

SCENIC ROADS GRID
Southwest Quadrant

	Shinar Mountain Road	South Street	South Fenn Hill Road	Split Rock Road	Spring Hill Road	Steeples Road	Steeples Road (S)	Top Pasture Road	Tunnel Road
Unpaved Road	✓			✓	✓				✓
Stone Walls and/or Buffer Zone		✓	✓						✓
Tree Canopy	✓		✓		✓				✓
Winding Road	✓	✓	✓	✓	✓	✓		✓	✓
Wetlands and Waterways									✓
Long Views			✓			✓			
Pastoral, Rural and Open Areas	✓		✓					✓	
Narrow, No Shoulders	✓	✓	✓	✓	✓	✓	✓	✓	✓
Undeveloped Lightly Settled	✓		✓	✓	✓				✓
Road Conforms to Geography	✓			✓	✓				✓
Steep Ascent or Descent Hilly	✓				✓				
Scenic Area, Intersec, Hollow or Hilltop		✓	✓						
Dramatic Slopes or Unusual Geol. Features					✓				
Historic District or Settled Areas pre-1900's Arch			✓						
TOTALS	8	4	9	5	8	3	1	3	8

APPENDIX F

SCENIC ROADS GRID
Southwest Quadrant

	Walker Brook Road (S)	West Church Hill Road	Winston Drive	Woodbury Road (Rte. 47)	Worcester Road				
Unpaved Road	✓	✓			✓ partial				
Stone Walls and/or Buffer Zone	✓	✓			✓				
Tree Canopy	✓				✓				
Winding Road	✓	✓		✓					
Wetlands and Waterways	✓			✓					
Long Views		✓	✓		✓				
Pastoral, Rural and Open Areas		✓	✓		✓				
Narrow, No Shoulders	✓	✓			✓				
Undeveloped Lightly Settled	✓	✓			✓				
Road Conforms to Geography	✓	✓		✓					
Steep Ascent or Descent Hilly		✓		✓					
Scenic Area, Intersec, Hollow or Hilltop		✓							
Dramatic Slopes or Unusual Geol. Features		✓		✓					
Historic District or Settled Areas pre-1900's Arch		✓		✓	✓				
TOTALS	8	12	2	6	8				

APPENDIX F

SCENIC ROADS GRID
Southeast Quadrant

	Bell Hill Road	Calhoun Hill Road	Carmel Hill Road	Clark Road	East Street	Horse Heaven Road	Judea Cemetary Road	Nettleton Hollow Road	Nichols Hill Road
Unpaved Road		✓		✓					
Stone Walls and/or Buffer Zone	✓	✓			✓	✓	✓	✓	✓
Tree Canopy	✓	✓		✓			✓	✓	
Winding Road		✓	✓		✓		✓	✓	
Wetlands and Waterways		✓			✓	✓	✓	✓	
Long Views	✓	✓			✓	✓	✓		
Pastoral, Rural and Open Areas	✓	✓			✓	✓	✓	✓	
Narrow, No Shoulders		✓					✓	✓	✓
Undeveloped Lightly Settled		✓	✓	✓	✓	✓	✓	✓	✓
Road Conforms to Geography		✓	✓				✓	✓	
Steep Ascent or Descent Hilly	✓	✓	✓				✓		✓
Scenic Area, Intersec, Hollow or Hilltop		✓			✓		✓	✓	✓
Dramatic Slopes or Unusual Geol. Features								✓	
Historic District or Settled Areas pre-1900's Arch	✓	✓	✓		✓		✓	✓	
TOTALS	6	13	5	3	8	5	12	11	5

APPENDIX F

SCENIC ROADS GRID
Southeast Quadrant

	Old Litchfield Road	Old North Road	Orchard Lane	Painter Ridge Road	Parsonage Lane	Plumb Hill Road	Potash Hill Road	Sabbaday Lane (S)	Sunny Ridge Road
Unpaved Road			✓				✓		
Stone Walls and/or Buffer Zone	✓	✓	✓	✓		✓	✓	✓	✓
Tree Canopy		✓		✓	✓	✓	✓		✓
Winding Road		✓					✓	✓	
Wetlands and Waterways	✓	✓					✓	✓	
Long Views	✓	✓		✓	✓	✓	✓	✓	
Pastoral, Rural and Open Areas	✓			✓		✓	✓	✓	✓
Narrow, No Shoulders		✓	✓		✓		✓	✓	✓
Undeveloped Lightly Settled							✓	✓	
Road Conforms to Geography		✓					✓	✓	
Steep Ascent or Descent Hilly						✓	✓	✓	
Scenic Area, Intersec, Hollow or Hilltop				✓	✓		✓	✓	✓
Dramatic Slopes or Unusual Geol. Features		✓							
Historic District or Settled Areas pre-1900's Arch				✓	✓	✓		✓	✓
TOTALS	4	8	3	6	5	6	12	11	6

APPENDIX F

SCENIC ROADS GRID
Southeast Quadrant

	Titus Road	Tompkins Hill Road	Two Rod Highway	West Mountain Road (E)	West Mountain Road (W)	Wood Creek Road	Wykeham Road		
Unpaved Road			✓		✓				
Stone Walls and/or Buffer Zone			✓	✓	✓	✓	✓		
Tree Canopy					✓		✓		
Winding Road		✓	✓		✓		✓		
Wetlands and Waterways					✓		✓		
Long Views			✓	✓	✓		✓		
Pastoral, Rural and Open Areas			✓	✓	✓	✓	✓		
Narrow, No Shoulders		✓	✓		✓		✓		
Undeveloped Lightly Settled			✓	✓	✓	✓			
Road Conforms to Geography		✓			✓		✓		
Steep Ascent or Descent Hilly		✓		✓	✓		✓		
Scenic Area, Intersec, Hollow or Hilltop						✓	✓		
Dramatic Slopes or Unusual Geol. Features									
Historic District or Settled Areas pre-1900's Arch							✓		
TOTALS	0	4	7	5	11	4	11		

APPENDIX G

SCENIC AREAS NARRATIVES

Baldwin Hill Area

This mostly rural area offers some stunning long views. The shorter views along sometimes tree-lined roads in this area offer charming glimpses into fields surrounded by old stone walls and woods, fruit orchards and pastoral farmland.

Calhoun Street/Ives Road Area

The boundaries of this scenic area coincide with those of the Historic District. As one drives through this charming, mostly wooded area, one has a sense that just beyond a stand of trees lies another visual surprise. The roads are densely treed, but lovely short views still abound. Although it is mostly residential now, its rural roots are evident in old stone walls, orchards and occasional small fields.

Carmel Hill Area

This scenic area consists of the vicinity surrounding the intersection of Nettleton Hollow Road, Wykeham Road and Carmel Hill Road. On the west, Wykeham Road snakes steeply down to a ravine on the SW corner with a pond and outcrops on the NW corner. On the NE corner the historic Eliot Jaffe home and barns overlook beautiful fields with a pond on the SE corner. The Jaffe home is the only one that can be seen from the intersection. A bucolic setting, little changed from earlier times.

Church Hill Road/Popple Swamp Road Area

This area is notable primarily for wide open farm land with wooded borders. Also, there is a stunning, long northeast view.

Judea Cemetery Road/ East Street/Potash Hill Area

Potash Hill Road and Calhoun Hill Road offer an easterly panoramic view down into and across Nettleton Hollow to Bethlehem. The area affords innumerable views from different locations. Woodlands, a large pond and areas of meadow are all visible here. One of the Town's unique octagon houses (Solley) is located in this area.

New Preston Area

This is an attractive, well-maintained rural and residential area with a number of long views. It is also the focus of long views from several other locations. Along the East Aspetuck River a few former mill buildings have either been restored or well maintained through the years; they are now private homes or small shops that work well within the surrounding landscape. The narrow roads traverse hilly terrain and offer pleasant new sights with each twist and turn.

Nichols Hill Road/Painter Ridge Intersection

This quiet intersection offers classic period architecture in a setting of stone walls, tree canopies and other natural elements.

Nichols Hill Road/South Street Intersection

This intersection is notable for its undeveloped "country crossroads" quality. The junction, bordered by trees on all sides, is somewhat blind; only the near distance of each road is visible, lending a tranquil and somewhat mysterious quality. The one house present, known as the Beach House, is an old brick farmstead, screened by many trees.

Painter Ridge Farm Area

Travelling south along Painter Ridge Road, the area surrounding Painter Ridge Farm beginning with the farm house and outbuildings and continuing on to Two Rod Highway has an unspoiled rural quality, with views of the farm's open meadows and the gently rolling hills beyond. Some of the most expansive long views in Town can be seen here.

Sabbaday Lane/ Blackville Road/Turner Road Area

The area north of Sabbaday Lane from Blackville Road to the intersection of Turner Road is scenic in many regards, and is enhanced greatly by the properties that border it, especially the horse farm. At the north end, the road makes a sharp right bend; at this point a broad view extends beyond the field across Hidden Valley to the far ridge. House densities near the road intersections are village-like.

APPENDIX G

Sabbaday Lane/Mallory Brook Road Area

This quiet area offers a sweeping view of fields, forest and waterways as well as period architecture.

Steep Rock and Hidden Valley Areas

The Steep Rock Reservation and Hidden Valley Preserve contain undeveloped, unspoiled land, wetlands and waterways, areas which are densely forested and possess countless other natural and geological features.

Sunny Ridge Area

The boundaries of this scenic area coincide with the Sunny Ridge Historic District. The area features open fields and woodlands crossed by old stone walls. The trees form a partial canopy to create an intimate sense of enclosure further enhanced by descending approaches from either direction on Route 109. An atmosphere of calm exists in this settled but still rural, agricultural and woodland area. Steep Rock holds a conservation easement over a portion of the adjoining fields which lie in the triangle between Sunny Ridge, Route 109 and Nettleton Hollow Road.

Washington Green Area

The Washington Green Area is noteworthy and scenic primarily due to its concentration of well-maintained architecture of historic value in a relatively unspoiled setting, with many natural scenic elements, such as rock outcroppings and tree canopies. For the purposes of this report the Washington Green Scenic Area is defined by the boundaries designated for the Green Historic District.

West Church Hill/South Fenn Hill/ Shinar Mountain/Lower Church Hill Area

The meandering roads of this bucolic, relatively undeveloped area traverse pastoral open farmland, gently rolling hills, and areas of dense forest; with each curve of the road a different, yet equally noteworthy scene unfolds. The area features compatible architecture from various periods in keeping with the natural surroundings. There are exceptional views, near and long, of hillsides, open fields and water.

West Morris Road/Smokey Hollow Area

As West Morris Road descends, one enters an area Brigadoon-like in nature known as Smokey Hollow. It is a small, isolated pocket where once a few water mills operated; now, the river is slowed into millpond flats and an unimposing bridge crosses the Bantam river. The few houses are clustered along the dirt road, which winds along the river toward Morris. The train once passed through here, and the sense that this was once a small community is still evident. This is a good example of the small settlements that were once so common to the area.

West Mountain Road Area

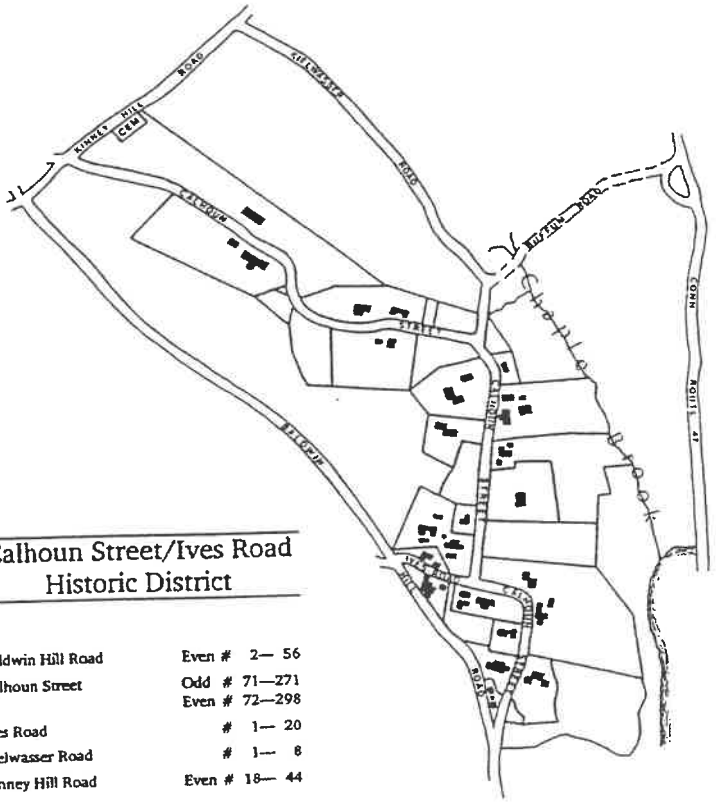
The primary focal point in the West Mountain Road scenic area is the westerly panoramic view from the road over Nettleton Hollow and the surrounding open 360 degree vista of long field views. It is an exquisite pastoral setting and the approach along the unpaved and twisting Mountain Road presents differing views at each turn or rise.

Whittlesey Road Area

This exceptionally scenic area is traversed by a winding dirt road that follows the terrain. The banks, which ascend and descend sharply from the road, are lined with mature trees, old split rail fencing and original stone walls. From the crest of the hill descending the eastern slope toward the Shepaug River valley, an area of remarkable beauty is revealed to the southeast. The near slope is mostly farmland, still maintained and open, and is part of an 18th century homestead and farm through which the road passes. The view to the south opens to Hidden Valley as well as to the opposite, largely undeveloped ridgeline. The descent continues into a more densely forested area through which one may catch glimpses of the Shepaug River. The entire area possesses a sense of timelessness and is emblematic of rural Southern New England.

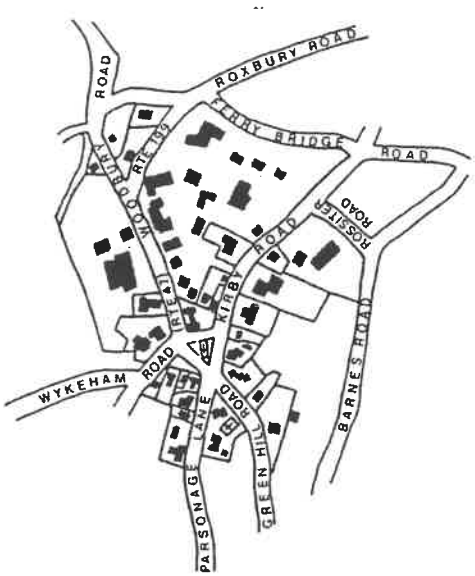
APPENDIX H

HISTORIC DISTRICT MAPS



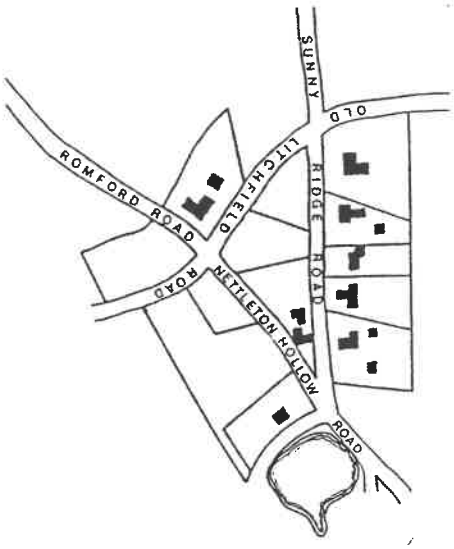
Calhoun Street/Ives Road Historic District

Baldwin Hill Road	Even # 2— 56
Calhoun Street	Odd # 71—271 Even # 72—298
Ives Road	# 1— 20
Kielwasser Road	# 1— 8
Kinney Hill Road	Even # 18— 44



Washington Green Historic District

Barnes Road	Even # 50— 56
Ferry Bridge Road	Even # 2— 36
Green Hill Road (Rte. 47)	Odd # 67—107 Even # 74—108
Kirby Road	Odd # 1— 25 Except #3,#7, & #9 Even # 2— 36
Parsonage Lane	Odd # 1— 9 Even # 2— 12
Rossiter Road	Even # 2— 10
Roxbury Road (Rte. 199)	# 1— 16
Woodbury Road (Rte. 47)	Odd # 109—119 Even # 110—120
Wykeham Road	Odd # 1— 5 Even # 2— 8



Sunny Ridge Historic District

Nettleton Hollow Road	# 1— 24
Old Litchfield Road	Odd # 139—163 Even # 146—186
Romford Road	# 1— 10
Sunny Ridge Road	# 1— 36

Taken from Washington's 1993 Plan of Development

APPENDIX I

OPEN SPACE
ADDITIONAL INFORMATION

What is Open Space?

Washington's Open Space Steering Committee developed the following definition: "Open Space shall consist of land permanently preserved for agriculture, forestry, recreation, wildlife habitat, natural resource conservation, maintenance of community character or as undeveloped land." (OSSC, 2000)

Washington's Planning Commission defines Open Space as "land that is dedicated or reserved in perpetuity for public or private use and enjoyment and on which development is limited or prohibited. The parcel may be used for agricultural purposes or forestry, or non-profit, non-commercial activities such as active or passive recreation, wildlife habitat, natural resource conservation, or scenic preservation." (Washington Planning Commission, 2000)

Why do we want to save Open Space?

A. Environmental functions (Gibbons, 1998)

1. Natural Resources protection areas- including animal and vegetative habitat, streambelt corridors, traprock ridges, and critical/threatened habitats.
2. Outdoor Recreation - including parks, playgrounds, beaches, trails and corridors connecting open space.
3. Resource management - forests, fisheries and farmlands. (Note: renewable).
4. Protection of public health and safety - floodplains, surface water, wetlands (flood storage, filtration, aquifer protection), areas of limitations of development because of steep slopes (erosion), high water table and shallow depth to bedrock.
5. Areas that shape community character or design- buffer strips, greenways, open space dedication related to development, unique and significant natural features (i.e. prime agricultural soils, river banks and scenic vistas).
6. Historic and archaeological sites - historic structures and grounds.

B. Fiscal Impacts

1. Residential development may cost the towns more in terms of infrastructure and services than is derived from property taxes as opposed to forest and farmland.
2. Real Estate Enhancement Values - Protected tracts can create measurable enhancement value for adjacent properties, increasing property values and therefore taxes. (Tibbets, 1998).
3. May increase tourism and benefit commercial establishments.

Ways to Protect Open Space (Tibbetts, 1998)

A. Regulatory Measures

1. Agricultural Zoning - Strict development limits are placed on farmland parcels.
2. Conservation Zoning - (aka: Open Space Housing or Cluster Zoning). "Subdivision is allowed at the same overall density on a particular tract as would be allowed under existing or conventional zoning; the crucial difference being that conservation zoning requires new construction to be located on no more than half of the land. The remaining open space is forever protected and can include such valued amenities as walking trails, scenic views and farming. The open space is either offered under an easement to the town as a park or donated to a land trust to manage." (Tibbetts, 1998)
3. Village Districts - Existing village properties are granted density and use bonuses in exchange for protection of adjacent undeveloped land.

APPENDIX I

This must be done in conjunction with a comprehensive planning process.

4. Dedication of Land - Subdivisions can be required to provide a certain percentage of land as Open Space if included in the town's regulations.
5. Fees-in-lieu-of dedicated land (sometimes referred to as impact fees) - The Planning Commission can charge the subdivider a one-time fee if the Commission finds that land from an open space set-aside would not be desirable or appropriate. Payments collected under this program would be placed in a separate fund which would be used to acquire additional land for open space, recreation or agriculture.
6. Recapture land tax - Tax incentives for land used as farmland, forest or open space under CT Public Act 490. Under the P.A. 490 Program, land can be taxed at a lesser rate which is based upon its current use rather than its market value. If the land is sold within 10 years from the date of entry into 490 classification, a recapture tax is assessed (prorated depending on time in 490).
7. Density Regulation
8. Transfer of Development Rights - (TDR) This scheme can preserve open space by shifting development potential from one part of town to another. This is accomplished by allowing developers to build at a greater density in one area provided they purchase development rights from another area. Once the development rights to a property have been sold, that land cannot be developed and is preserved either for open space or agriculture.
9. Inland Wetland Protection

B. Acquire Land Outright

1. Bonding - Borrowing money though the issuance of municipal bonds.
2. Line item in the municipal budget - Could accrue to a Land Acquisition Fund (CGS 7-131r). A few alternatives follow:
   a. Flat amount
   b. Percentage of the mil rate (maximum of 2 mills allowed)
   c. Percentage of the annual budget
   d. Percentage of the increase of the previous year's grand list
3. Real Estate Transfer Tax - Available if / when enabling legislation is passed. Could accrue to a Land Acquisition Fund.
4. Private Funding
5. Forgive back taxes and receive land for Town as Open Space.
6. Donation of land

C. Conservation Easements

Land ownership is retained by the property owner, but restricted to conservation related uses such as forest, farm or open land. The easement is granted in favor of a Land Trust or Town agency, often in return for tax deductions or credits.

APPENDIX J

WASHINGTON SOILS TABLE

STATE SYMBOL	COUNTY SYMBOL	PREVIOUS CLASS	EXISTING CLASS	NSGT[1]	DESCRIPTION[2]	(SLOPE)	(STONINESS[3])
2	Rd	III	F	C-3a	Ridgebury fine sandy loam		
3	Le, Lg	III	F	B-3a,b	Ridgebury, Leicester & Whitman soils		XS
3	Rg, Wp	III	F	C-3a,b	Ridgebury, Leicester & Whitman soils		XS
4	Lc	III	F	B-3a	Leicester fine sandy loam		
12	Rc	III	F	G-3a	Raypol silt loam		
13	Au, Wl	III	F	A-3a	Walpole sandy loam		
14	Fr	III	F	A-3a	Fredon silt loam		
15	Gn, Sf	III	F	A-3a,b	Scarboro mucky loamy sand		
16	Bz	III	F	G-3b	Halsey silt loam		
17	Pm	III	F	A-3b	Adrian & Palm soils		
18	Pk	III	F	F-1	Carlisle muck		
21A	BaA, BaB, TwA, TwB	I	B	A-2	Ninigret & Tisbury soils	(0-5%)	
22A	HeA	I	B	A-2	Hero gravelly loam	(0-3%)	
31B	CwB	I	A	A-1d	Copake gravelly loam	(0-8%)	
31C	CwC	I	A	A-1e	Copake gravelly loam	(8-15%)	
32A	EsA, HbA	I	A	A-1d	Haven & Enfield soils	(0-3%)	
32B	EsB, HbA	I	A	A-1d	Haven & Enfield soils	(3-8%)	
32C	EsC, HbC	I	A	A-1e	Haven & Enfield soils	(8-15%)	
34A	MyA	I	A	A-1d	Merrimac sandy loam	(0-3%)	
34B	MyB	I	A	A-1d	Merrimac sandy loam	(3-8%)	
34C	MyC	I	A	A-1e	Merrimac sandy loam	(8-15%)	
36A	WvA	I	A	A-1a	Windsor loamy sand	(0-3%)	
36B	WvB	I	A	A-1a	Windsor loamy sand	(3-8%)	
36C	WvC	I	A	A-1b	Windsor loamy sand	(8-15%)	
38A	HkA, HmA	I	A	A-1a	Hinckley gravelly sandy loam	(0-3%)	
38C	HkC, HmC	I	A	A-1b	Hinckley gravelly sandy loam	(3-15%)	
38F	Tg	II	B	A-1c	Hinckley gravelly sandy loam	(15-45%)	
45A	WxA	II	D	C-2a	Woodbridge fine sandy loam	(0-3%)	
45B	WxB	II	D	C-2a	Woodbridge fine sandy loam	(3-8%)	
45C	WxC	II	D	C-2a	Woodbridge fine sandy loam	(8-15%)	
46B	WyA, WyB	II	D	C-2a	Woodbridge fine sandy loam	(2-8%)	VS
46C	WyC	II	D	C-2a	Woodbridge fine sandy loam	(8-15%)	VS
47C	WzA, WzC	II	D	C-2b	Woodbridge fine sandy loam	(2-15%)	XS

APPENDIX J

WASHINGTON SOILS TABLE

STATE SYMBOL	COUNTY SYMBOL	PREVIOUS CLASS	EXISTING CLASS	NSGT[1]	DESCRIPTION[2]	(SLOPE)	(STONINESS[3])
50A	SvA	I	B	B-2a	Sutton fine sandy loam	(0-3%)	
50B	SvB	I	B	B-2a	Sutton fine sandy loam	(3-8%)	
51B	SwA, SwB	I	B	B-2a	Sutton fine sandy loam	(2-8%)	VS
52C	SxA, SxC	I	B	B-2b	Sutton fine sandy loam	(2-15%)	XS
54B	WeB	I	B	B-2a	Wapping silt loam	(2-8%)	VS
57B	GaB	I	A	B-1a	Glouster gravelly sandy loam	(3-8%)	
57C	GaC	I	A	B-1b	Glouster gravelly sandy loam	(8-15%)	
57D	GaD	II	B	B-1d	Glouster gravelly sandy loam	(15-25)	
58B	GbB	I	A	B-1a	Glouster gravelly sandy loam	(3-8%)	VS
58C	GbC	I	A	B-1b	Glouster gravelly sandy loam	(8-15%)	VS
59C	GeC	I	A	B-1c	Glouster gravelly sandy loam	(3-15%)	XS
59D	GbD, GeE	II	B	B-1d,e	Glouster gravelly sandy loam	(15-35%)	STX
60B	CaA, CaB, CaB2	I	A	B-1a	Canton & Charlton soils	(3-8%)	
60C	CaC, CaC2	I	A	B-1b	Canton & Charlton soils	(8-15%)	
60D	CaD	II	B	B-1d	Canton & Charlton soils	(15-25%)	
61B	ChB	I	A	B-1a	Canton & Charlton soils	(3-8%)	VS
61C	ChC	I	A	B-1b	Canton & Charlton soils	(8-15%)	VS
62C	CrC	I	A	B-1c	Canton & Charlton soils	(3-15%)	XS
62D	CaE, ChD, Crd	II	B	B-1d,e	Canton & Charlton soils	(15-35%)	XS
73C	HoC, HrC, SkC	III	C	D-1	Charlton-Chatfield complex	(3-15%)	VR
73E	HrE, SkE	III	D	D-2	Charlton-Chatfield complex	(15-45%)	VR
75	HxC, SmC	III	D	D-2	Hollis-Chatfield rock outcrop complex	(3-15%)	
75E	HxE, SmE	III	D	D-2	Hollis-Chatfield rock outcrop complex	(15-45%)	
76E	Rh	III	D	D-2	Rock outcrop-Hollis complex	(3-45%)	
76F	Rh	III	D	D-2	Rock outcrop-Hollis complex	(45-60%)	
84B	PbA, PbB, PbB2	II	C	C-1a	Paxton & Montauk soils	(3-8%)	
84C	PbC, PbC2	II	C	C-1b	Paxton & Montauk soils	(8-15%)	
84D	PbD, PbD2	II	D	C-1d	Paxton & Montauk soils	(15-25%)	
85B	PdB	II	C	C-1a	Paxton & Montauk soils	(3-8%)	VS
85C	PdC	II	C	C-1b	Paxton & Montauk soils	(8-15%)	VS
86C	PeA, PeC	II	C	C-1c	Paxton & Montauk soils	(3-15%)	XS
86D	PbE, PdD, PeD	II	D	C-1d,e	Paxton & Montauk soils	(15-35%)	XS

APPENDIX J

WASHINGTON SOILS TABLE

STATE SYMBOL	COUNTY SYMBOL	PREVIOUS CLASS	EXISTING CLASS	NSGT[1]	DESCRIPTION[2]	(SLOPE)	(STONINESS[3])
92B	DoA, DoB	I	A	B-1a	Nellis fine sandy loam	(3-8%)	
94C	FaC	III	C	D-1	Farmington-Nellis complex	(3-15%)	VR
100	St	III	F	E-1	Suncook loamy fine sand		
101	On	III	F	E-1	Occum fine sandy loam		
102	Po	III	F	E-2	Pootatuck fine sandy loam		
103	Ru	III	F	E-3a	Rippowam fine sandy loam		
107	Lm	III	F	E-3a	Limerick & Lim soils		
108	Sb	III	F	E-3b	Saco silt loam		
109	Am	III	F	E-3a	Fluvaquents - Udifluvents complex freq. flo		
305	Bk, Bl, Ma	IV	E	U	Udorthents - pit complex, gravelly		
306	Bk, Bl, Ma	IV	E	U	Udorthents - urban land complex		
308	Bk, Bl, Ma	IV	E	U	Udorthents - smoothed		

Shaded portions of the table indicate wetland soils.

NOTE: The State of Connecticut is moving away from the usage of County symbols; the most recent soils maps,available in digital format, use only the State symbols. This table was compiled by the Ad Hoc Conservation Committee as an aid during this transition. The 1996 Soil Conversion Legend for Litchfield County was used to associate the County symbol with its representative State symbol, though such backward conversion was never intended.

[1] The Natural Soil Group Types were assigned by County Symbol using *Know Your Land Natural Soil Groups for CT.*

[2] Descriptions (and State Symbols) were taken from the GIS database.

[3] Stoniness categories: STX :
VR : Very Rocky
VS : Very Stony
XS : Extremely Stony

APPENDIX K

WASHINGTON'S NOTABLE TREES

SPECIES	LOCATION	CIRCUMFERENCE	HEIGHT
Dwarf Alberta Spruce[1,7] *(Picea glauca* var. *albertiana)*	Residence / Shearer Road	42″	17′
Camperdown Elm[4] *(Ulmus glabra* 'Camperdownii')	St. John's Episcopal Church Washington Green	60″	16′
Cilician Fir[1, 4] *(Abies cilicica)*	Residence / Barnes Road	173″	113′
European Copper Beech[4] (*Fagus sylvatica* 'Atropunicea')	Residence / Barnes Road	236″	90′
Full Moon Maple[1, 4] *(Acer japonicum)*	St. John's Episcopal Church Washington Green	27″	34′
London Plane[2, 4] *(Platanus* x *acerifolia)*	Washington Congregational Church / Washington Green	132″	84′
Northern Arbovitae *(Thuja occidentalis)*	St. John's Episcopal Church Washington Green	101″	51′
Northern Catalpa[2, 4] *(Catalpa speciosa)*	Residence / Moody Bridge	187″	82′
Northern Catalpa[4] *(Catalpa speciosa)*	Residence / Moody Bridge	126″	77′
Northern Red Oak *(Quercus rubra)*	Carmel Hill	~192″	N/A
Norway Maple[4] *(Acer platanoides)*	Residence / Barnes Road	143″	80′
Quaking Aspen[1] *(Populus tremuloides)*	Steep Rock Reservation	60″	75′
Red Horsechestnut[1, 5] *(Aesculus* x *carnea)*	Residence / Washington Green	61″	29′
Red Maple *(Acer rubrum)*	Residence / Barnes Road	135″	79′

APPENDIX K

SPECIES	LOCATION	CIRCUMFERENCE	HEIGHT
Serviceberry[2, 6] *(Amelanchier canadensis)*	Residence / New Milford Tpke.	99″	N/A
Shagbark Hickory *(Carya ovata)*	Residence / Roxbury Road	122″	97′
Sugar Maple[3] *(Acer saccharum)*	Residence / Old Litchfield Road	174″	86′
Sweet Cherry[1, 4] *(Prunus avium)*	Residence / Judea Cemetery Road	198″	49′
Weeping White Mulberry[2, 4] (*Morus alba* 'Pendula')	Washington Congregational Church / Washington Green	51″	15′
White Ash[3] *(Fraxinus americana)*	Residence / Shearer Road	179″	96′
White Ash *(Fraxinus americana)*	Meeker Swamp	135″	N/A
White Mulberry[1, 4] *(Morus alba)*	Residence / Kirby Road	183″	61′
White Oak *(Quercus alba)*	Meeker Swamp	~192″	N/A
Yellow Birch *(Betula lutea)*	Meeker Swamp	128″	N/A

[1] New England Champion (*CT Notable Trees 2nd revision,* 1998)
[2] Previous New England Champion (*CT Notable Trees 1st revision,* 1990)
[3] One of the Top 10 of its kind in CT (*CT Notable Trees,* 1989)
[4] Not native to Connecticut
[5] Accidentally cut down in 1998
[6] Storm damaged in 1999
[7] Cut down in April 2000

APPENDIX L

BIRDS KNOWN* TO BREED IN WASHINGTON, CT

Order Ciconiiformes (Herons and Bitterns)
- Great Blue Heron[1]
- Green Backed Heron[2]

Order Anseriformes (Waterfowl)
- Canada Goose
- Wood Duck
- American Black Duck[1]
- Mallard

Order Falconiformes (Vultures)
- Turkey Vulture[2]

Order Falconiformes (Hawks)
- Northern Harrier[1]
- Sharp Shinned Hawk[1]
- Northern Goshawk
- Broad-winged Hawk
- Red-tailed Hawk
- American Kestrel

Order Galliformes (Grouse)
- Ruffed Grouse

Order Galliformes (Quail)
- Northern Bobwhite[2]
- Ring Necked Pheasant

Order Galliformes (Turkeys)
- Wild Turkey

Order Gruiformes (Rails)
- Virginia Rail[2]

Order Charadriiformes (Plovers)
- Killdeer

Order Charadriiformes (Sandpipers)
- Spotted Sandpiper[2]
- American Woodcock[2]

Order Columbiformes (Pigeons and Doves)
- Rock Dove
- Mourning Dove

Order Cuculiformes (Cuckoos)
- Black-billed Cuckoo[1]
- Yellow-billed Cuckoo[1]

Order Strigiformes (Typical Owls)
- Eastern Screech-Owl
- Great Horned Owl
- Barred Owl[2]

Order Caprimulgiformes (Goatsuckers)
- Whip-poor-will[2]
- Common Nighthawk[2]

Order Apodiformes (Swifts)
- Chimney Swift[2]

Order Apodiformes (Hummingbirds)
- Ruby-throated Hummingbird

Order Coraciiformes (Kingfishers)
- Belted Kingfisher

Order Piciformes (Woodpeckers)
- Pileated Woodpecker
- Northern Flicker
- Red-bellied Woodpecker[2]
- Yellow-bellied Sapsucker
- Downy Woodpecker
- Hairy Woodpecker

Order Passeriformes (Flycatchers)
- Eastern Kingbird
- Great Crested Flycatcher
- Eastern Phoebe
- Eastern Wood-Peewee
- Acadian Flycatcher[2]
- Willow Flycatcher
- Least Flycatcher
- Alder Flycatcher[2]

Order Passeriformes (Swallows)
- Cliff Swallow
- Barn Swallow
- Tree Swallow
- Northern Rough-winged Swallow
- Bank Swallow

Order Passeriformes (Crows and Jays)
- American Crow
- Blue Jay

APPENDIX L

Order Passeriformes (Titmice)
- Black-capped Chickadee
- Tufted Titmouse

Order Passeriformes (Nuthatches)
- White-breasted Nuthatch

Order Passeriformes (Creepers)
- Brown Creeper[2]

Order Passeriformes (Wrens)
- House Wren
- Winter Wren[2]

Order Passeriformes (Kinglets)
- Blue-gray Gnatcatcher

Order Passeriformes (Mimic Thrushes)
- Brown Thrasher
- Gray Catbird
- Northern Mockingbird

Order Passeriformes (Thrushes)
- Eastern Bluebird
- American Robin
- Hermit Thrush
- Veery
- Wood Thrush

Order Passeriformes (Waxwings)
- Cedar Waxwing

Order Passeriformes (Starlings)
- European Starling

Order Passeriformes (Vireos)
- Red-eyed Vireo
- Warbling Vireo
- Yellow-throated Vireo
- White-eyed Vireo[1]
- Solitary Vireo

Order Passeriformes (Wood Warblers)
- Northern Parula[2]
- Black-Throated Green Warbler[2]
- Black-and-White Warbler
- Black-throated Blue Warbler
- Cerulean Warbler[1]
- Magnolia Warbler[1]
- Yellow-rumped Warbler[2]
- Canada Warbler[1]
- Chestnut-sided Warbler
- Blackburnian Warbler[2]
- American Redstart
- Prairie Warbler
- Blue-winged Warbler
- Yellow Warbler
- Worm-eating Warbler[2]
- Golden-Winged Warbler[1]
- Nashville Warbler
- Common Yellowthroat
- Northern Waterthrush[1]
- Louisiana Waterthrush
- Ovenbird

Order Passeriformes (Blackbirds)
- Red-winged Blackbird
- Brown-headed Cowbird[2]
- Common Grackle
- Bobolink
- Eastern Meadowlark
- Orchard Oriole[1]

Order Passeriformes (Tanagers)
- Scarlet Tanager

Order Passeriformes (Weaver Finches)
- House Sparrow

Order Passeriformes (Finches)
- Dark-eyed Junco[1]
- Northern Cardinal
- House Finch
- Purple Finch[2]
- American Goldfinch
- Indigo Bunting
- Rose-breasted Grosbeak
- Rufous-sided Towhee
- Chipping Sparrow
- Field Sparrow
- Swamp Sparrow
- Song Sparrow

*CT DEP Natural Diversity Database 1996
([2]Probable and [1]Possible Breeders)

APPENDIX M

KNOWN INVASIVE PLANTS OF CONNECTICUT[1]

AQUATIC SPECIES:	
Cabomba caroliana[3]	Fanwort
Egeria densa[3]	Giant Waterweed (Brazialian Elodea)
Hydrilla verticillata[3]	Hydrilla
Myriophyllum heterophyllum[3]	Variable-leaved Watermilfoil
Myriophyllum spicatum[3]	Eurasian Watermilfoil
Potamogeton crispus[2]	Crispy-leaved Pondweed
Trapa natans[3]	Water Chestnut
UPLAND SPECIES:	
Ailanthus altissima[2]	Tree of Heaven
Alliaria petiolata[2]	Garlic Mustard
Ampelopsis brevipedunculata[3]	Porcelain Berry, China Berry
Berberis thunbergii[2]	Japanese Barberry
Cardamine impatiens[3]	
Celastrus orbiculatus[2]	Oriental or Asiatic Bittersweet
Centaurea maculosa[2]	Spotted Knapweed
Elaeagnus umbellata[2]	Autumn Olive
Euonymous alatus[2]	Winged Euonymous
Euphorbia cyparissias[2]	Cypress Spurge
Frangula alnus[2]	European Buckthorn
Froelichia gracilus[3]	Cottonweed
Hesperis matronalis[2]	Dame's Rocket
Lepidium latifolium[3]	Tall Pepperwort
Microstegium vimineum[3]	Japanese Stilt Grass
Rhamnus cathartica[2]	Common Buckthorn
Robinia pseudoacacia[2]	Black Locust
Rosa multiflora[2]	Multiflora Rose
Rubus phoenicolasias[3]	Wineberry
Vincetoxicum nigrum[2]	Black Swallow-wort
Vincetoxicum rossicum[2]	Swallow-wort
UPLAND/WETLAND SPECIES:	
Humulus japonicus[3]	Japanese Hops
Lonicera x *bella*[2]	Bella Honeysuckle
Lonicera japonica[2]	Japanese Honeysuckle
Lonicera morrowii[2]	Morrow's Honeysuckle
Phragmites australis[2]	Common Reed
Polygonum cuspidatum[2]	Japanese Knotweed
Tussalago farfara[3]	Coltsfoot
WETLAND SPECIES:	
Iris pseudocorus[3]	Yellow Iris
Lysimachia vulgaris[3]	Garden Loosestrife
Lythrum salicaria[2]	Purple Loosestrife
Nasturtium officinale[2]	Watercress

APPENDIX M

POTENTIALLY INVASIVE PLANTS OF CONNECTICUT[1]

AQUATIC SPECIES:

Callitriche stagnalis	
Marsilea quadrifolia	Water Shamrock
Myriophyllum aquaticum	Parrotfeather
Nelumbo lutea	American Water Lotus
Najas minor	Eutrophic Water-nymph

COASTAL SPECIES:

Datura stramonium	Jimson-weed
Kochia scoparia	Summer Cypress
Rosa rugosa	Japanese Rose

UPLAND SPECIES:

Acer ginnala	Amur Maple
Acer platanoides	Norway Maple
Acer pseudoplatanus	Sycamore Maple
Aira caryophyllea	Silver Hairgrass
Allium vineale	Wild Garlic
Berberis vulgaris	Barberry
Bromus tectorum	Drooping Brome-grass
Cirsium arvense	Canada Thistle
Elaeagnus angustifolia	Russian Olive
Elsholtzia ciliata	Elsholtzia
Euphorbia esula	Leafy Spurge
Geranium nepalense	Nepalese Crane's-bill
Ligustrum obtusifolium	Border Privet
Ligustrum ovalifolium	California Privet
Ligustrum vulgare	European Privet
Lonicera maackii	Amur Honeysuckle
Lonicera tatarica	Tatarian Honeysuckle
Lonicera xylosteum	European Fly-honeysuckle
Lychnis flos-cuculi	Ragged Robin
Miscanthus sinensis	Eulalia
Ornithogalum umbellatum	Star of Bethlehem
Poa compressa	Canada Blue-grass
Polygonum cespitosum	
Polygonum perfoliatum	Mile-a-minute Vine
Populus alba	White Poplar
Pueraria lobata	Kudzu
Rumex acetosella	Sheep Sorrel
Silphium perfoliatum	Cup Plant
Valeriana officinalis	Garden Heliotrope

APPENDIX M

POTENTIALLY INVASIVE PLANTS OF CONNECTICUT[1]

UPLAND/WETLAND SPECIES:	
Arthraxon hispidus	
Paulownia tomentosa	Empress Tree
Ranunculus ficaria	Lesser Celandine
Solanum dulcamara	Climbing Nightshade
WETLAND SPECIES:	
Aegopodium podagraria	Goutweed
Amorpha fructicosa	False Indigo
Butomus umbellatus	Flowering-rush
Glechoma hederacea	Gill-over-the-ground
Lysimachia nummularia	Moneywort
Myosotis scorpioides	Forget-me-not
Phalaris arundinacea	Reed Canary-grass
Veronica beccabunga	Brooklime

[1]The above lists were adapted from *Non-native Invasive and Potentially Invasive Vascular Plants in Connecticut* (UCONN, CT DEP and USDA, 2000).

[2]Widespread and Invasive

[3]Restricted and Invasive