SALISBURY
CONNECTICUT

NATURAL RESOURCE INVENTORY
2009

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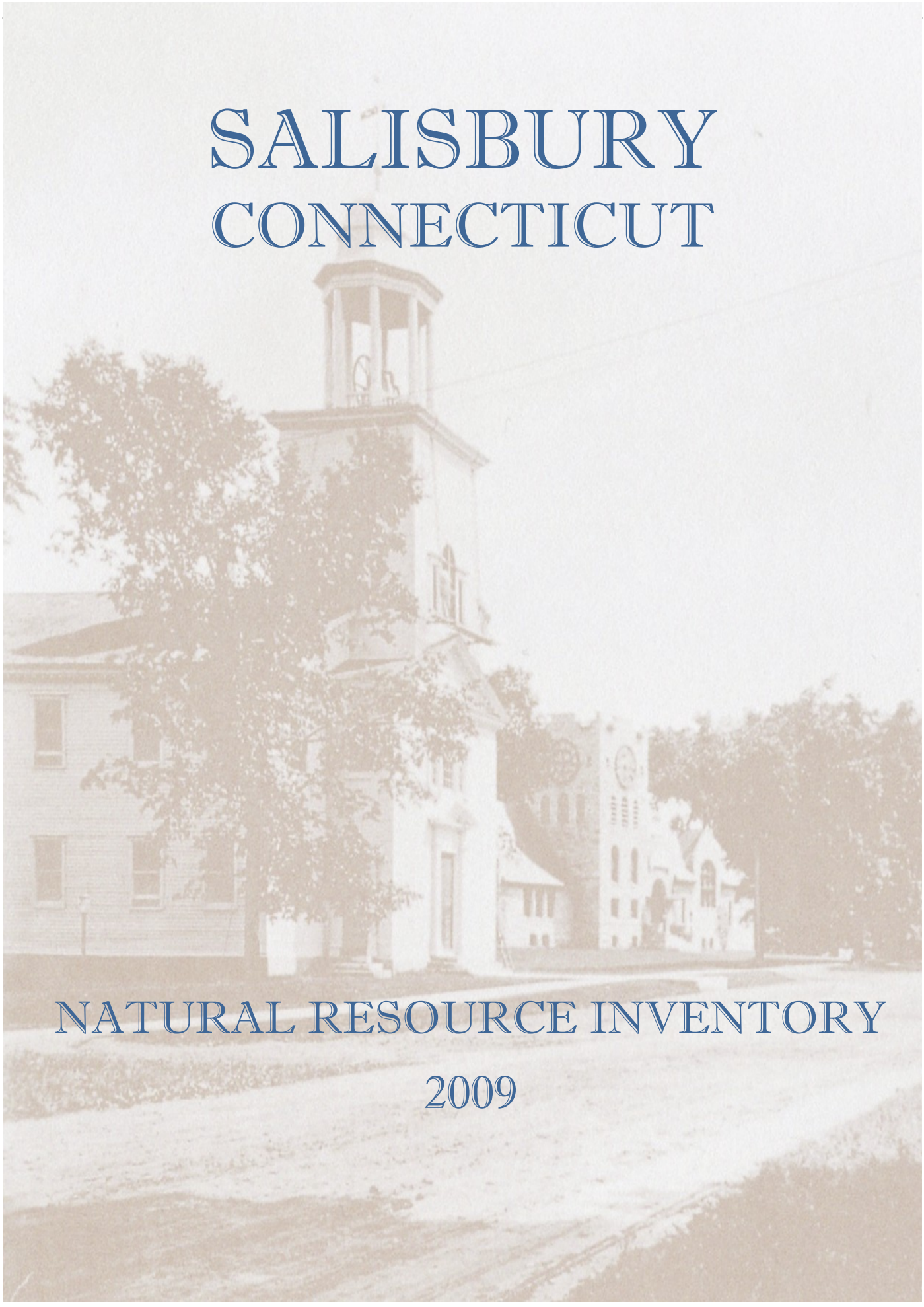

NATURAL RESOURCE INVENTORY

2009

Preface

The Salisbury Conservation Commission is pleased to present this 2009 Natural Resource Inventory to the Town of Salisbury. Every 10 years our towns are required to create a Plan of Conservation and Development (POCD). The document is sponsored by the Planning and Zoning Commission and used to guide development and conservation activities in the town. An important part of the POCD is a Natural Resource Inventory (NRI), which is usually developed by a town's Conservation Commission.

The Salisbury Conservation Commission was formed in 1973 to oversee the conservation of the town's natural resources. The Commission has official jurisdiction over the town's inland wetlands, but it works on non-regulatory conservation efforts as well. For example, the Commission has worked with private landowners to find the best solutions for the long-term preservation of their lands, and it also has an active role in seeking ways to preserve Salisbury's water quality, which is among the best in Southern New England.

The most noteworthy feature of this important NRI document is that it has been entirely conceived and created by local citizens, using scientific and ecological knowledge of our town's natural resources gathered from many sources.

While the Conservation Commission may be the official public entity to present this report, all credit must go to the members of the Salisbury Association and others who volunteered to oversee this project from start to finish. In particular, the tireless efforts of Elaine Hecht are among the most exemplary examples of volunteer dedication in our town. Elaine has acted as team leader, organizer and skilled editor. Thanks to her contributions, this Natural Resource Inventory will surely serve as a template for all future inventories of Salisbury's ecological assets.

We are also grateful to the numerous writers and researchers of the various chapters who catalogued and described our lakes and streams, farmlands, historic sites, forests, wildlife, and other features of our natural landscape. We are fortunate to have so much working knowledge from sources within or near Salisbury. In addition, many volunteer hours have been spent by members of our Conservation Commission and zoning boards in an effort to manage development and preserve our natural resources.

The Conservation Commission meets regularly throughout the year and all residents are encouraged to participate. Copies of their regulations, minutes and agendas are available on the town website www.salisburyct.us.

Curtis Rand
Salisbury First Selectman
Chairman, Conservation Commission

Acknowledgments

In October 2008 the Salisbury Conservation Commission formed a task force to research and document the natural resources of the Town. The Commission, working with the Salisbury Association, provided guidance for the Natural Resource Inventory (NRI) Task Force. The project utilized the knowledge of local and regional experts and the talents of many citizen scientists who gathered information, prepared map data, performed field work and wrote the narrative for the NRI report. It is hoped that this effort will provide useful information for town officials responsible for long-term planning and also serve as an educational reference for the entire town.

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Peter Oliver, Administrator	Rod Lankler
Steve Belter	Donna Lloyd
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NRI Report

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Special thanks to Dave Heck, president of the Salisbury Association and member of the Conservation Commission, for encouragement and oversight during the NRI process. Thanks also to the Salisbury Association Land Trust for its financial support for the project.

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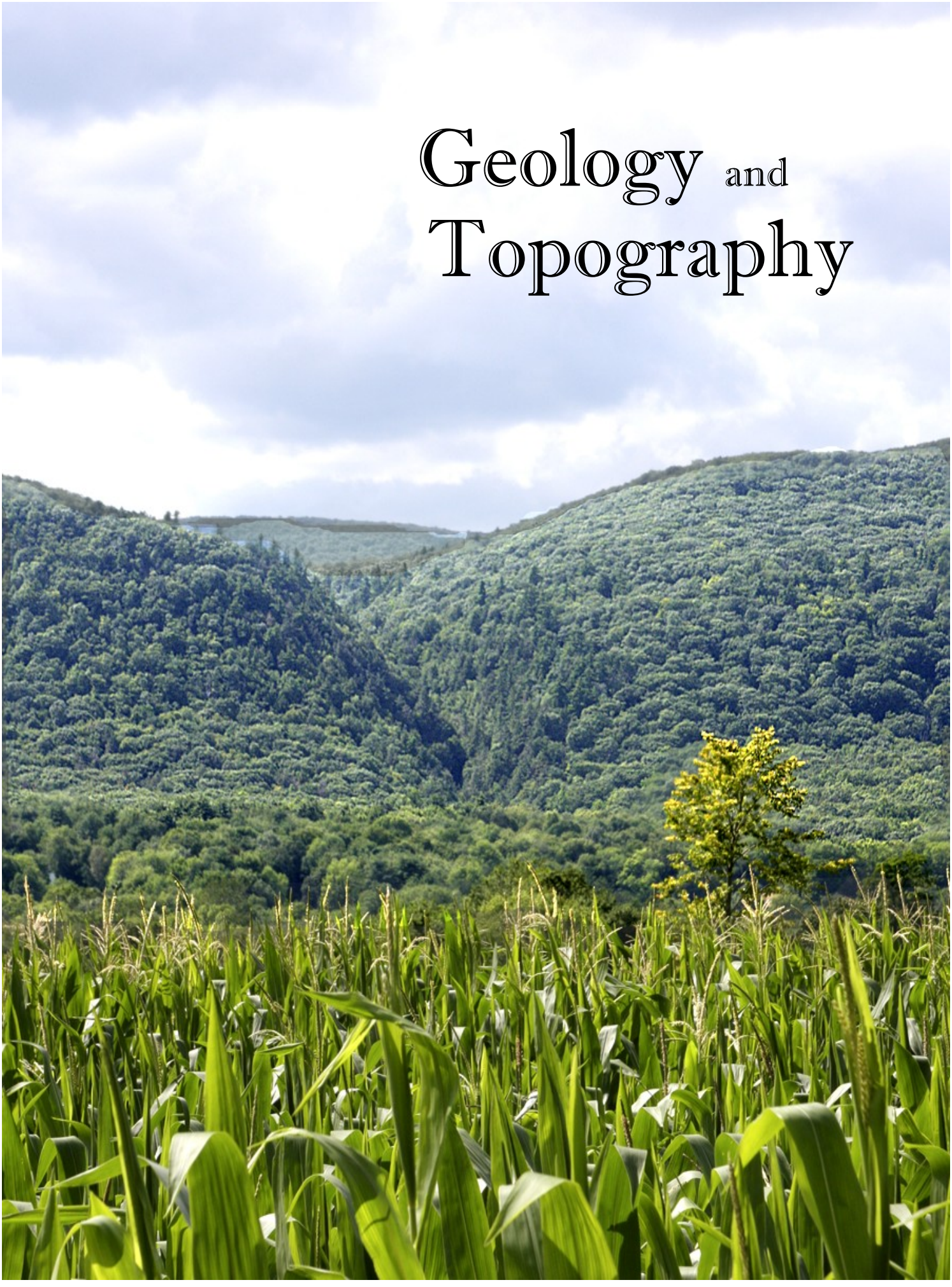


Geology and Topography

Introduction

The town of Salisbury, 60.1 square miles in area, forms the northwest corner of Connecticut in Litchfield County. The Town is bordered on the north by Sheffield, in Berkshire County, Massachusetts; to the east by North Canaan (Canaan) and Canaan (Falls Village), at the center of the Housatonic River; on the south by Sharon; and on the west by North East, in Dutchess County, New York. The highest point (also the highest point in Connecticut) is located on the south shoulder of Mt. Frissell on the northern border at 2,380 feet above mean sea level (a.m.s.l.). The lowest point is on the Housatonic River at the Sharon border at 540 feet a.m.s.l. resulting in a total relief of 1,840 feet, the most extensive in Connecticut.

Topographically and geologically, Salisbury may be classified into four physiographic subdivisions:

Western Uplands: The northwest corner of Salisbury extends north to Sage's Ravine and south-southwest to Indian Mountain at the border with Sharon. These highlands constitute the eastern border of the Taconic Range. In the outstanding views from the south are most of Connecticut's highest peaks including Bear Mountain (2,316'), Gridley Mountain (2,210'), Round Mountain (2280') and Bald Peak (2,010'). The bedrock formations of these upland peaks are formed of ancient schist.

Central Lowlands: The lowlands extend from the northern border east of the Western Uplands to the Eastern Uplands and south through the Twin Lakes area, Salisbury Village, Lakeville and the Town Hill area to the Sharon border. The lowlands are underlain by carbonate bedrock, primarily Stockbridge Marble.

Eastern Uplands: The border extends along the western base of Red Mountain, east to the extent of Sharon Mountain, north through Falls Mountain and Prospect Mountain. The bedrock of the uplands includes basement gneiss of the region along with overlying quartzite and schist.

Eastern Lowlands: The lowlands generally follow the path of the Housatonic River, underlain by Stockbridge Marble south to a point near the junction of U.S. Route 7 and Connecticut Route 112. From that point south to Cornwall Bridge, the lowlands are underlain by the basement gneiss. The Eastern Lowlands also extend into Lime Rock Village and southwest to Sharon in the White Hollow Valley.

Importance of Bedrock

- The marble valley land is agriculturally rich. Marble bedrock creates neutral soil pH chemistry. This, in turn, enhances the efficiency of nutrient uptake by vegetation.
- In wet areas, outcrops of calcium-rich Stockbridge Marble create rare habitats known as calcareous wetlands.
- Bedrock outcrops are scenic. Salisbury's rocky landscape creates considerable visual interest and frequently provides some of the best views.
- Rock outcrop zones provide specialized habitat for some plant and animal life.
- Significant areas of rock outcrops often require blasting and excavation to accommodate development. Blasting, if uncontrolled, can damage adjacent properties, impact nearby wells and waterbodies and visually scar the landscape.

Over the years, the geology of the region has provided an economic base for the town. Among the natural resources historically found here are iron ore, located between the Walloomsac Schist and Stockbridge Marble along the eastern slopes of the Western Uplands, lime from Stockbridge Marble quarries in Lakeville and Lime Rock, gravel, clay and a variety of soils. Following the discovery of iron ore in 1731, forges were put into production using locally mined limonite and goethite ore. In more recent times the plentiful gravel from glacial kames and glaciolacustrine terraces was used for the construction of roads and for making concrete.

Today, a portion of Salisbury's geological heritage exists in the buildings, foundations, stone walls, and industrial structures of the 18th and 19th centuries.

Bedrock Resources Map

Map 2, Salisbury Bedrock Resources, displays bedrock types and bedrock units from the CT DEP Bedrock Geology GIS dataset. The legend and key identify six general bedrock types in Salisbury occurring in seven specific bedrock units and formations.

The most prevalent bedrock types are the schist, underlying the Taconic Plateau and many of the uplands in the eastern part of Salisbury, and the marble valleys that lie between them. There are small and locally restricted bedrock types in the extreme southeast corner of Salisbury that are associated with the Highlands massifs and among the oldest rock in Connecticut. There is also a tiny area of Chesire quartzite east of Washinee Lake, labeled Cc on the map. All of these bedrock types represent metamorphic rock that either formed in the hard cores of ancient mountain ranges or were originally laid down as sediments in shallow seas.

The DEP Bedrock Geology GIS dataset provides the following glossary of rock terms for the bedrock types found in Salisbury:

Gneiss: Light and dark, medium- to coarse-grained metamorphic rock characterized by compositional banding of light and dark minerals, typically composed of quartz, feldspar, and dark minerals; occurs with a variety of compositions and is a characteristic rock of the uplands.

Granitic gneiss: Light-colored, medium- to coarse-grained, compositionally banded metamorphic rock of granitic composition. Quarried for use as dimension stone.

Marble: Conspicuously white, or gray, medium- to coarse-grained, massive to layered metamorphic rock composed of calcite and/or dolomite. It is a metamorphosed limestone and underlies several major valleys in the Western Uplands. It is quarried for industrial uses.

Quartzite: Light-colored to gray, massive to layered, medium-grained metamorphic rock. Very hard and resistant; a metamorphosed sandstone composed primarily of quartz.

Schist: Light, silvery to dark, coarse- to very coarse-grained, strongly to very strongly layered metamorphic rock whose layering is typically defined by parallel alignment of micas. Primarily composed of mica, quartz, and feldspar; occasionally spotted with conspicuous garnets.

Schistose marble: Light-colored, fine- to coarse-grained, marble interlayered with schist or with phyllite.

These general bedrock types are further differentiated into the seven bedrock units identified in the map key.

Slopes

The topography of Salisbury is one of its most memorable and recognizable features. Located at the southern end of the Taconic Plateau, Salisbury's

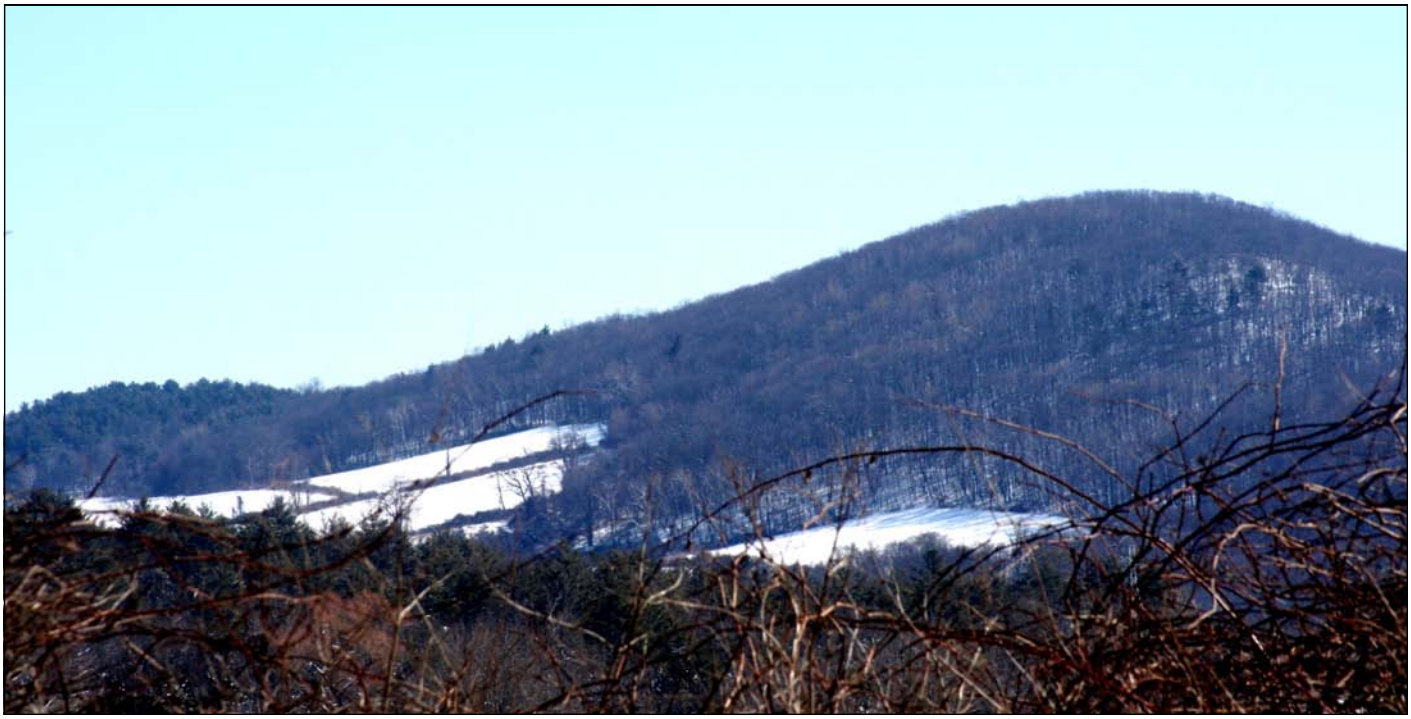
landforms range from hilltops to hollows. Its high fields and steep hillsides create a diversity of special character. Varying slopes and terrain increase the apparent extent of the landscapes. Intricate, inward-oriented hollows lie in contrast to expansive, outward-viewing hilltops and ridgelines.

The most recent predominant event that shaped Salisbury's terrain was glaciation. Ice sheets a mile thick moved down from the north, pushing tons of rock and earth in their path. This movement created the general pattern of predominantly north-south ridgelines separated by parallel valleys.

Salisbury's terrain has influenced the development of the town and its roadways more than any other factor. Its narrow valleys and steep slopes provide natural constraints that limit future road development which, in turn, impacts future growth.

Ridgelines

Salisbury's scenic roads and views owe much to the area's undeveloped ridgeline landscape. Large houses perched on or near hilltops, with extensive areas of clearing over steep slopes, can seriously impact scenic character. Unfortunately, these locations are in great demand because of the views they afford. Additional protection of Salisbury's ridgelines and adjacent slopes is vital in order to preserve the scenic character of the rural environment.



The Town has four principal ridgelines which run, generally, north to south:

- The southern end of the Taconic Range from Sages Ravine to Bird Peak north of Belgo Road. This ridge is visible from Route 41 (Undermountain Road) and from many secondary roads.
- The ridgeline east of Salisbury town center and Salmon Kill Road, which includes Wetauwanchu Mountain, Prospect Mountain, Raccoon Hill, Falls Mountain, Forge Mountain, and Gallows Mountain.
- Indian Mountain running from near the south side of Route 112 to the Sharon border, and most visible from Indian Mountain Road and Route 41.
- Red Mountain viewed from the portion of Route 41 before the Sharon border and from Route 112 east of Hotchkiss to Lime Rock.

In addition to the major ridgelines noted above, a number of smaller ridges are also vital to Salisbury's rural appearance. These include Toms Hill and Cannon Mountain.

Scenic ridgeline views enjoyed by those traveling down the Housatonic River provide an important aspect of the river experience.

Recommendations

Bedrock

1. Encourage alternatives to proposed construction of roads and buildings and the drilling of wells 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 to conserve their habitat qualities.
3. Encourage landowners to not disturb stone walls, foundations and other archaeological remnants of Salisbury's history.
4. Where appropriate require the assistance of qualified professionals such as engineers and hydrologists to review proposals that involve significant geological alteration.

Slopes

1. Development within slopes of 15 to 25% should require architectural and site-plan solutions for irregular terrain including detailed sedimentation and erosion-control plans.
2. Development within steep slopes should proceed with extreme caution, if at all, and only after thorough engineering, planning, and environmental impact studies.

Ridgelines

1. Because only traprock ridgelines are directly protected by Connecticut state statutes, it is important that the Planning and Zoning Commission investigate and implement the best methods used by other towns to protect ridgeline development, even if protections are limited in nature.
2. Focus on protecting the viewable horizons of these ridgelines, which are sometimes of greater importance than the ridgelines themselves.
3. Control the number of houses to be built on key ridgelines by acreage requirements.
4. Consider the use of varied setbacks to create an irregular building line or varied distances from the road to make a development's appearance compatible with the irregularities of nature.
5. Minimize clearing and require use of vegetation—trees, shrubs and hedges—to provide screening.
6. Establish buffer zones along steep slopes abutting ridgelines to protect the most visible areas from the sight of buildings.
7. Encourage conservation groups to permanently protect ridgeline lands by purchase of these lands, if possible, or through use of conservation easements.
8. Consider both road and river views in future planning.

References

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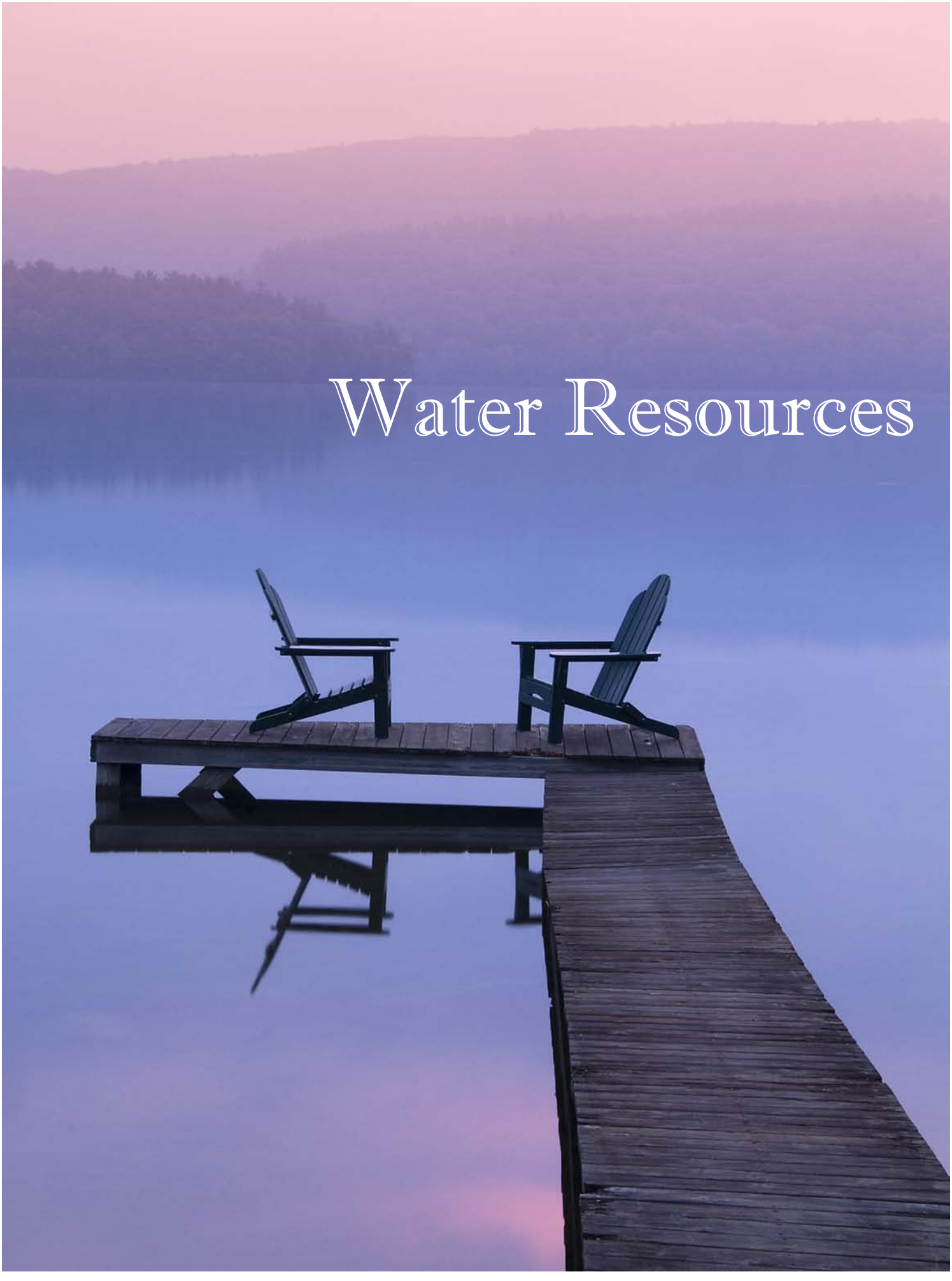
Water Resources



Water Resources

Introduction

Salisbury is rich in hardwater lakes, wetlands and watercourses. They are indispensable, irreplaceable and fragile resources that form an interrelated web essential to the adequate supply of surface and underground water. Most of these waterbodies were formed some 11,000 years ago as the runoff from retreating glaciers. There are nine sub-regional watersheds within the boundaries of Salisbury that supply our water *(Salisbury Connecticut Subregional Basins and Surface Water Flow Directions Map).*

Water has always been a valuable resource to the residents of Salisbury. The early colonists used the rivers, especially the Salmon Kill, to power their gristmills and sawmills. The remote community on Mt. Riga, next to South Pond, was located there because of the water resources and charcoal required by the iron industry. Iron mining and manufacturing was the leading industry in Salisbury for almost 200 years. During that time, the natural resources of lumber and water were used so extensively that today's inhabitants would not recognize what is now a bucolic landscape. During the twentieth century, the recreational and scenic values of Salisbury's lakes and streams have attracted many visitors.

Salisbury's watershed is also home to many animal species. Among the mammals are beaver, otter, mink, muskrat, bobcat, black bear, coyote, red fox and white-tailed deer. Reptiles include common species such as snapping turtles and painted turtles, as well as rare species with narrow habitat needs such as the bog turtle and timber rattlesnake. Fish include native large mouth bass, small mouth bass, perch, blue gills, and stocked species such as rainbow trout, brook trout, a sterile hybrid tiger trout, brown trout, Kokanee salmon (Washining Lake), alewives, chain pickerel and catfish. Birds found directly near the water include kingfisher, bald eagle, osprey, red winged blackbird, Canada goose, great blue heron and many species of ducks.

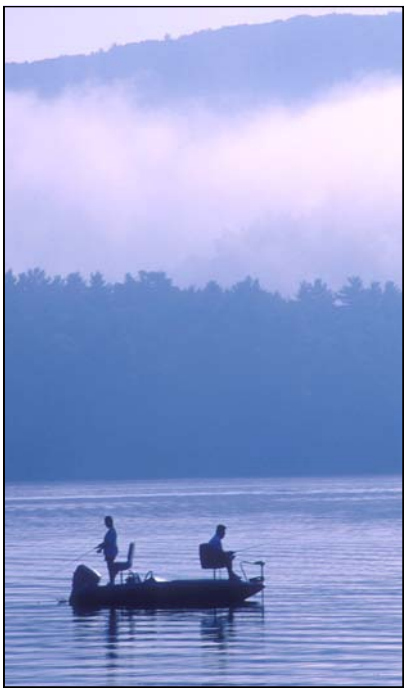
Currently, Aquarian rates Salisbury's water as "good to excellent," assumed suitable for drinking or other public uses without treatment *(Aquarian Report on Water Quality, 2007).* To ensure the quality and availability of abundant water resources for future generations, *now* is the time to encourage on-going monitoring programs, land-use regulations and stronger requirements for development planning.

Following is a discussion of Salisbury's water resources: Lakes and Ponds, Aquifers and Wetlands, Streams and Rivers.

Lakes and Ponds

Hardwater lakes in this part of the state are of particular value because they have a narrow geographic distribution and provide the core habitat for many aquatic species that are scarce or absent in other aquatic habitats. A substantial portion of the regional aquatic flora is dependent on this relatively rare habitat *(Berkshire Taconic Hardwater Lakes).*

There are several large lakes in Salisbury as well as numerous ponds that enhance the natural environment and our quality of life by serving as water supplies, flood-storage basins, water sources for fire fighting, habitat for wildlife and popular recreational resources. Some of these waterbodies, such as Fisher Pond, Riga Lake, and South Pond, are privately owned while other lakes such as Wononpakook, Wononscopomuc, Washining and Washinee have public access.



Generally, most lakes in Connecticut thermally stratify if depths are greater than 20 feet. Thermal stratification occurs during the summer (July–September) and simply means that water within the lake separates into distinct layers based on temperature, with the warm (lightest) water on top and the coldest (heaviest) water at the bottom. This stratification has many implications for fish species, especially those (trout, salmon) that require cold, well-oxygenated water to survive.

The upper layer, or epilimnion, is well-oxygenated but the warm temperatures may be stressful to some fish. In contrast, the bottom layer, or hypolimnion, is cold but usually very low in dissolved oxygen. The middle layer, or metalimnion, is where ideal conditions exist for many lake-dwelling fish, but even this varies from lake to lake. Stratification does not exist during spring and fall when water temperatures become more homogeneous throughout the lake and mixing of chemicals and nutrients occurs.

In more shallow ponds, sunlight typically penetrates to the bottom, allowing rooted plants to produce oxygen. However, unless the pond has adequate cold ground-water inflows, summer temperatures may become too warm for many aquatic organisms.

Riga Lake and South Pond

The two lakes on Mt. Riga, owned and protected by Mt. Riga, Inc., are a valuable resource to Salisbury. Their watershed consists of 3600 acres of mostly natural vegetation. The organization recently hired Dr. George Knoecklein of Northeast Aquatic Research to assess the condition of the lakes.

Overall, despite the acid precipitation problems that continue to plague the Northeast, the lakes are in pristine condition at this point with no non-native invasive lake weed species or nutrient concentration problems. In an effort to prevent the influx of invasive species, the Mt. Riga directors initiated precautionary policies in 2009 prohibiting the bringing in of boats.

The aquatic plant population, consisting of bladderwort and other beneficial natives, also includes a state-listed protected species.

Lake Wononscopomuc

Also known as Lakeville Lake, Wononscopomuc covers 353 acres. Its watershed (small for a lake this size) is 1621 acres and includes the drainage for Belgo Hill and Sucker Brook. There are numerous underground springs that feed the lake. The lake it-

self drains into Factory Pond (a dam-controlled body). A stream connects to the Salmon Kill, which flows eventually into the Housatonic River.

History of Water Quality: Wononscopomuc is the deepest natural lake in Connecticut, reaching depths greater than 30 meters. It is a significant example of an aquatic ecosystem embedded in calcareous bedrock. Before the 1940s, Wononscopomuc was classified as a mesooligotrophic system, with limited biological productivity and a hypolimnion rich in oxygen *(Deevey, Jr., E.S., Ecological Monographs, Oct. 1941).* By the 1970s, due to a combination of land-use changes and accompanying construction of septic systems that poorly controlled nutrients, the lake suffered from algae blooms and hypolimnetic anoxia. Efforts to combat the problems included construction of a sewer system around part of the lake *(Salisbury NRI Soil Potential for Septic map, 2009),* a hypolimnetic withdrawal system for a few years, education of the public on nutrient controls at their properties and removal of plant biomass through weed harvesting.

Dr. Nina Caraco, of the Institute of Eco Studies, reported that after a study of the lake in 1990, the main cause of lake eutrophication was phosphorus input through sub-surface water from fertilizer use, detergents and mismanaged septic systems. The Lake Wononscopomuc Association encourages the construction of a comprehensive septic system around the lake *(Septic Systems and Phosphorus Loading, 2006).*

Water Chemistry: The recent Nature Conservancy study, *Berkshire Taconic Hardwater Lakes*, reports that Lake Wononscopomuc has a Bioindex Rank of 14 and a species richness of 15 plants, with no rare plant species found. The small littoral zone (compared to the large, open and deep-water volume) that supports larger plants contributes relatively low amounts of oxygen and removes less carbonates to the formation of marl than other lakes in the region. Carbon dioxide levels are 0 mg/l at the surface, increasing to 4 mg/l at a depth of 10 meters, while oxygen levels are 8 mg/l at the surface and begin to drop slowly in the metalimnion at the end of light penetration (around 5 meters), not reaching zero until 26 meters in the hypolimnion. Additionally, this lake has lower overall concentrations of calcium magnesium hardness than other lakes. Nutrient loading has been reduced so that recent studies of Lake Wononscopomuc have found that the lake clarity is improved (down to 4-6 meters), but anoxia does appear in the deep hypolimnion during summer *(Oostenink, Hotchkiss School, 2009).*

Plants and Animals: The biological community of Lake Wononscopomuc has been heavily modified over the years through accidental and intentional introduction of species. The two common invasive plants of the region, *Myriophyllum spicatum* (Eurasian water milfoil) and *Potamogeton crispus* (Curly leaved pondweed) are abundant in water over 2 meters in depth. Harvesting of the plants has been quite successful, with 3.8 million pounds of Eurasian water milfoil collected in 2008. *Trapa natans* (Water chestnut) is not, at present, found in the lake but it is found in nearby lakes. The plankton *Planktothrix rubescens*, quite a problem in the 1970s, is greatly reduced. However, another potentially problematic plankton species, *Gloeotrichia*, has been observed recently. As of this date, there has not been a successful invasion of zebra mussels in Wononscopomuc although the nearby Lakes Washining and Washinee have an established population *(Oostenink, Hotchkiss School, 2009).*

The introduction of alewives to the lake in the early 1970s probably resulted in shifts in the zooplankton population which may have affected the phytoplankton populations. Also negatively affected were the stocked Kokanee salmon, which are no longer being stocked. Other non-native species of fish that are still being stocked are rainbow trout and brown trout *(Oostenink, Hotchkiss School, 2009).*

Land Use: Within a buffer zone of 100 meters, land use is varied. Natural vegetation comprises 66%, agri-

culture 22%, high-density development 2%, and low-density development 9%. When the watershed use was measured, as of 2001, 14% was wetland, 25% was agriculture, 34% natural vegetation, and 6% development *(Berkshire Taconic Hardwater Lakes)*.

Lake Health: Lake Wononscopomuc, like all lakes in the area, is under increasing pressure from human activities. The Lake Wononscopomuc Association has assumed responsibility for maintaining and even improving the health of the lake. Monitoring of lake use, weed harvesting, and the recent institution of a Lake Keeper program are all part of their actions. Continuing efforts to educate the public about the state of the lake through reports about water quality and aquatic vegetation and suggestions about what individuals can do to protect the lake are also helping to combat the aging and deterioration of the waters. The Association has also strongly advocated the construction of a more efficient sewer system around the entire lake.

Wononpakook (Long Pond)

Physical Characteristics: A productive mesotropic lake with a Secchi transparency of 2.73 meters, it seems to have two thermoclines in midsummer, one beginning at about 2 meters, the second at 3 meters. This would reflect a period of intense heat, sunlight and little wind to mix the waters, developing a new thermocline within the old epilimnion. Since the maximum depth of the lake is 7.9 meters, there could be a hypolimnion but, because of the fairly exposed waters of the lake, it doesn't exist and the metalimnion extends to the bottom of the lake.

Water Chemistry: Looking at the chemical testing data, The Nature Conservancy scientists found that hardness, total alkalinity and carbon dioxide rise as the depth increases through the metalimnion. Oxygen and pH fall, probably due to the low rate of pho-

tosynthesis at lower depths where sunlight does not penetrate. The relatively high hardness (146 mg/l) in the epilimnion probably reflects a precipitation of marl. Significant photosynthesis extends down to at least 5 meters (even though it has a shallow Secchi transparency of 2.73 meters) since carbon dioxide is still low and oxygen content is relatively high to that depth (*Berkshire Taconic Hardwater Lakes).*

Plants: Wononpakook Lake covers an area of 68.81 hectares, with a watershed of 1191.30 hectares. It has a Bioindex Rank of 11 and a species richness of 20 plant species. There are no rare species found in the lake but the two common invasive species, *Myriophyllum spicatum* (Eurasian water milfoil) and *Potamogeton crispus* (Curly leaved pondweed) are plentiful. The Eurasian water milfoil dominates the water areas that are over 2 meters deep while the Curly leaved pondweed is much less prevalent. There is an annual three-week harvesting program to control the invasive plants, the sole management program *(Berkshire Taconic Hardwater Lakes).*

Land Use: Land use of the Wononpakook watershed within a 100 meter buffer zone is as follows: 92% is in natural vegetation; 7% is in agriculture; there is no high- or low-density development. The residential site is mainly restricted to the Interlaken Inn site.

The overall watershed land use shows a similar situation with 13% of the land being wetlands, 40% being agricultural, 38% being natural vegetation and virtually no high- or low-density development. It seems that any increase in nutrients, and therefore plant growth, would come from the farms in that area.

Washining and Washinee Lakes (Twin Lakes)

***History*:** The arrival of the railroad in 1867 was the beginning of Twin Lakes becoming a favorite summer recreation area. In the latter two decades of the 19th century, camping and picnicking were popular, especially with people from North Canaan. Cottages began to spring up as families arrived from New York and Philadelphia for summer vacations. A boarding house owned by the O'Hara family operated in the early 1900s on the site behind the existing O'Hara's Boat Landing *(A History of Twin Lakes).* Today, the lakes have a growing number of year-round houses and day visitors during summer.

Physical Characteristics: The two lakes in the northeast section of Salisbury are nestled between the foothills of the Taconic and Berkshire ranges. They are known by several names. Washining Lake, the larger of the two lakes, is also known as East Twin Lake. Washinee Lake, the smaller and shallower of the two, is also known as West Twin Lake. It is partially divided by a former railroad bed into two sections: a round bowl and a long, narrow body that flows directly into the outlet or channel. Washining Lake covers 562 acres with the dimensions of .9 mi by 1.3 mi. It has depths up to 80 ft. with an average depth of 32 ft. Washinee Lake covers about 260 acres and measures 1.6 mi. by .25 mi. in the long section and .5 mi. by .6 mi. in the bowl-like area. The bowl-shaped part of Washinee Lake is the deeper of the two with an average depth of 21 ft. The longer narrow section is very shallow throughout most of its length. The lakes lie in the marble, schistose marble and schist valley that runs through the eastern part of Salisbury *(Salisbury Bedrock Resources Map, 2009).*

The combined watershed area of the two lakes totals 4681.10 acres. Most of it lies in natural vegetation, with 27% being wetlands. It lies partially in Ashley Falls, Massachusetts, so cooperation between the two towns is crucial.

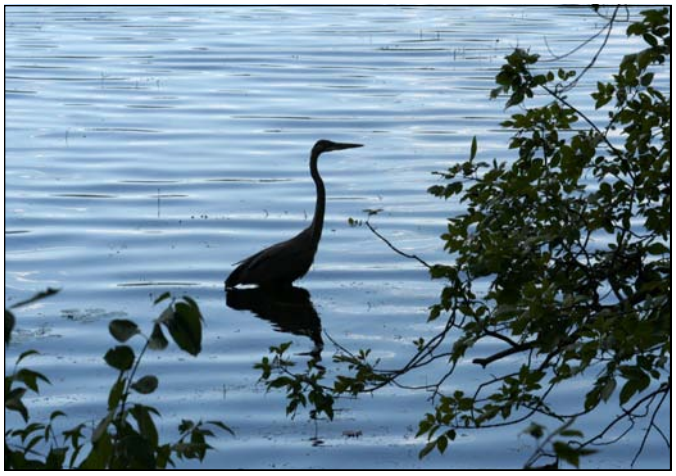
The land immediately around Twin Lakes is about 85% natural vegetation, 11% agriculture and only about 4% used by residences *(Berkshire Taconic Hardwater Lakes).*

Features of the lakes include an island, Isola Bella,

owned and used as a summer camp by the Hartford School for the Deaf on Washining Lake. There is a man-made causeway connecting the island to the north shore of the lake. Located next to the small bridge on Between the Lakes Road, where the two lakes flow together, is a small shallow pond filled with water lily plants.

Plants and Animals: Despite the growing environmental pressures on Twin Lakes from increased habitation and recreational use, the waters and wildlife are of high quality. According to The Nature Conservancy's testing in 2001, Washining Lake has a Bioindex Rank of 2 and supports 31 different plant species *(Berkshire Taconic Hard Water Lakes).* Two protected native species of plants are found in the lake: *Megalodonta beckii and Scirpus acutus.* Of the 31 plant species in the lake, two invasive species, Eurasian water milfoil, *Myriophyllum spicatum,* and Curly-leaved pondweed*, Potomogeton crispus,* have caused considerable problems in areas of the lake. Beginning in 2001, specific, troublesome areas of the lake (away from protected species) were treated with Sonar or Fluridone. The treatment was deemed successful in both control and specificity and continued in 2002. Then, in the following year, about 75 acres were treated with Diquat or Reward. Diquat is still being used, in decreasing amounts (about 55 acres were treated in 2007), to treat the lake *(ACT report 2007, map 2006).*

Washinee Lake has a Bioindex Rank of 5 with 33 different plant species (*Berkshire Taconic Hardwater Lakes*). There are three protected rare species found in the shallow wetlands along its edges: *Megalodonta beckii, Najas guadalupensis* and *Scirpus acutus.* The same two invasive species found in Washining Lake, *Myriophyllum spicatum* and *Potomogeton crispus,* are present in Washinee Lake, and they are being treated in specific areas in the same way with Sonar and now Diquat *(ACT report, 2007).*



An invasive invertebrate, the zebra mussel, was introduced into the lakes by visiting boats. However, since most of the substrate of the lakes is mud, the mussels have not developed into as much of a problem as expected although they are still present in large numbers in certain sections of the lake.

Water Quality: Lake Washining and Washinee are alkaline lakes with good water quality and clarity. Lake Washining has definite trophic layering due to its depth, resulting in varying amounts of oxygen, carbon dioxide, and alkalinity between the relatively deep epilimnion (5 meters) and the hypolimnion. The different measures of alkalinity at varying depths are affected by sediments of marl on the substrate and the amount of carbon dioxide trapped in the hypolimnion and not used by photosynthesis *(Berkshire Taconic Hardwater Lakes).*

Lake Washinee is too shallow to contain a hypolimnion and, with the clear water, photosynthesis takes place to some degree throughout the water column. Therefore, oxygen is still present in the deeper waters and the alkalinity is less in this lake than in Lake Washining *(Berkshire Taconic Hardwater Lakes).*

Lake Stressors

The rate at which eutrophication advances is determined by the rate at which the lake is fertilized by its watershed. The key is to limit the amount of phosphorus, nitrogen and sedimentation entering the lake *(Lake Wononscopomuc Association).*

Lake stressors include:

1. Increasing development of residential buildings, especially those that create visual pollution by being built on ridgelines and in prominent positions along the shorelines without natural vegetation to screen them.
2. Conversion of stone or natural grassy driveways or roads to paved surfaces, thus increasing runoff containing contaminants.
3. Over-abundance of Canada Geese.
4. Use of fertilizers and pesticides on lawns close to the water.
5. Gas and oil spills from motor boats.
6. Increasing number of motor craft using the lakes.
7. Increase in populations of plant and animal invasive species and the introduction of new species.
8. Contamination from septic systems not in compliance or not properly maintained.

Aquifers and Wetlands

The location and characteristics of our significant waterbodies are interrelated with the watersheds and stratified drift aquifers. In addition to Salisbury's visible lakes, ponds, and rivers, there are underground rivers and streams known as aquifers. Aquifers are divided into two major categories: stratified drift and bedrock.

Aquifers

Stratified Drift Aquifers: Stratified drift aquifers are the major rivers of our underground waterways. Past glacial periods deposited layers of porous gravel along valley bottoms, which allow the accumulation and flow of water. These aquifers are of variable capacity, yielding up to 50-2000 gallons per minute. They are subject to extreme impact from surface events. Leaking fuel tanks, oil spills, salt storage contamination, and salt and urban runoff can all enter the aquifer through permeable soils, with long-lasting consequences *(Washington, CT NRI).*

Salisbury's coarse stratified drift aquifers reach from the Massachusetts border north of Fisher Pond down both sides of Route 41 into Salisbury village. There it splits into "legs," one going to Lakeville and Wononscopomuc Lake, the other following Salmon Kill to Lime Rock village, then along Route 7. There is a separate area along the eastern border of town along the Housatonic River to Route 7 and west along Dugway Road through Lime Rock village to White Hollow Road *(Salisbury Drinking Water Resources Map, 2009).*

The Aquifer Protection areas are delineated for active, public water-supply wells in stratified drift serving more than 1000 people. They become the regulatory boundary for land-use controls designed to protect the wells from contamination. The area around the village of Salisbury extends east along Route 44 almost to Taconic Road and west to the center of town. The area around the village of Lakeville runs more in a north-south direction through the village center and west almost to the northeast shore of Lake Wononscopomuc *(DEP, Aquifer Protection Areas map).*

Bedrock Aquifers: In the glaciated terrain of New England, bedrock aquifer characterization is complex because the character of both bedrock and overlying glacial materials varies greatly over short distances (*Characterization of Bedrock Aquifers in Connecticut, 2002).* Bedrock aquifers are small streams flowing through a complex network of fractures in the bedrock. At lower housing densities, bedrock aquifers are generally dependable sources of adequate water for single-family homes. Consumptive use of water extracted from bedrock wells is usually offset by septic systems returning water to the soil, hence to underlying bedrock fractures *(Washington, CT NRI).*

Bedrock aquifers, with their network of fractures, may be negatively affected by extensive blasting and improperly or poorly designed septic systems that fail to purify domestic sewage prior to its entry into the bedrock. Excessive large-scale development in zones of low-yield bedrock can impact existing wells, resulting in water shortages in times of drought.

Wetlands

Inland wetlands are fragile natural resources. They form a natural web essential to the adequate supply of surface and underground water. They contribute to hydrological stability, flood and erosion control and the recharging and purification of ground water. Wetlands are also crucial to the existence of many forms of animal, plant and aquatic life. Not only do many animals use wetlands for breeding, foraging and movement corridors, but there are also some very specialized plant and animal species that live only in wetland ecosystems. Wetlands can be areas of great scenic beauty.

The Connecticut Inland Wetlands and Watercourses Act defines wetlands by soil type (Class F), as noted below *(Sharon, CT NRI):*

- *Poorly drained:* Water is removed so slowly that the soil is wet at shallow depths periodically during the growing season or remains wet for long periods. Free water is commonly at or near the surface during the growing season. There is often Adrian's peat and muck, thick organic deposits of decomposed plants. Poorly drained soils often support tussock sedge, red maples, cattail, spicebush and skunk cabbage (*Washington, CT NRI).*
- *Very poorly drained:* Water is removed from the soil so slowly that free water remains at or very near the ground surface during much of the growing season.
- *Alluvial:* These soils form the sediment deposited by streams.
- *Flood plain:* Formed in the nearly level alluvial plain that borders a stream, these soils are subject to flooding unless protected artificially. They are often better drained than poorly drained soils but are still considered to be Connecticut state wetlands because they are subject to flooding (*Sharon, CT NRI).* These areas should be avoided for development because of flooding danger and because they are highly prone to rapid infiltration of pollutants due to their high permeability. These areas are also valuable as they often produce the greatest crop yields *(Washington, CT NRI).*

Wetland Locations: Numerous wetlands occur near the large bodies of water in Lakeville and Salisbury *(Aquifer Protection Areas map, DEP; Inland Wetland Map, Salisbury Town Hall).*

1. North of Lakes Washining and Washinee into Massachusetts
2. North and south of Fisher Pond into Massachusetts
3. Along the Housatonic River near Dutcher's Bridge on Route 44
4. North and east of the two lakes on Mt. Riga and near Mt. Washington Road
5. South of South Pond on Mt. Riga

6. West of Lake Wononscopomuc into New York
7. West of Lake Wononpakook and Indian Mountain Road
8. East of Lake Wononscopomuc and Route 41

Aquifer and Wetland Stressors

Even though the "image" of wetlands has vastly improved, from the belief that wetlands were dumping grounds and areas to fill, to recent understandings of their inestimable value as water-cleansing systems and breeding grounds for numerous plants and animals, the fragility of these ecosystems is often not recognized. The following activities put enormous stress on wetlands:

1. Development of residential and commercial buildings too close to wetlands
2. Filling and disturbing wetlands
3. Poor runoff controls from commercial sites
4. Use of salt and other contaminants on roads in the winter
5. Invasive plant species that crowd out native plants and alter the ecosystem
6. Pumping of groundwater for irrigation
7. Extensive use of chemical pesticides and fertilizers by homeowners, schools and town properties near wetlands and aquifers

Streams and Rivers

Salisbury is fortunate to have many streams and rivers that have excellent water quality and provide numerous ecological and recreational benefits. There are miles of small, rocky, high-gradient headwater streams that flow through undisturbed upland forests. When these streams enter a more level topography, they change to a more meandering type of meadow stream, often flowing through agricultural valleys. These larger streams, in turn, find their way to our largest river, the Housatonic, or, in the case of Beeslick Brook, the Ten Mile River in New York.

A watershed describes an area of land that collects rainwater, snowmelt and ground water, and transports this water, along with sediment and dissolved minerals, to a destination via brooks and streams. Water travels from a higher to lower elevation, from small headwater brooks to large rivers. Streams and rivers are ranked by orders, with the single headwaters being first order; larger streams with several headwaters being a second or third order, and a river such as the upper Housatonic perhaps a fifth-order river. Salisbury is part of the upper Housatonic watershed, and each smaller tributary is in itself a watershed of a smaller drainage area *(CT DEP)*. Poor land-use practices in the upland tributary areas can have negative impacts on water quality downstream.

The water quality of streams and rivers is often determined by chemical analysis, temperature, and the resident fish species. Fish species that can tolerate the warmer temperatures, sometimes resulting from poor land-use practices, are known as warmwater species, while those species that need cold, clear water are coldwater species. The former include bass, sunfish, perch and suckers, while coldwater species include trout and slimy sculpins. Sculpins and brook trout are very sensitive to warm or polluted water, so these species are considered a key indicator of water quality *(CT DEP)*.

Housatonic River

The Housatonic River forms Salisbury's eastern boundary. It originates in Massachusetts and flows through miles of Berkshire County farmland before reaching the Connecticut border. By the time it reaches Salisbury, it has become a major river with a width in excess of 100 feet.

Once the southern limit of natural runs of Atlantic salmon, a species that demands clean, cold water, the river has been compromised by a variety of land-use practices that have a negative impact on water quality. They include agricultural cultivation that is too close to the river's edge, dams, pollution from factory discharges and thermal warming from clearing of trees along the riparian zone. The Salisbury section is primarily a slow-moving, wide, meandering river, although below the Great Falls it changes to faster water and a more rocky substrate. The upper section is primarily a warmwater fishery, with species including sunfish, smallmouth bass, some northern pike and perch. Below the falls, the water moves faster and becomes more oxygenated, creating more favorable habitat for brown trout. The State of Connecticut has established a catch-and-release fishery program for the ten-mile section below the falls, and this has resulted in a popular destination for fly fishing enthusiasts. There are also ample opportunities for recreational boating.

First Light Power Resources owns a hydro-power generating plant on the east side of the river in Falls Village. This plant is regulated by the Federal Energy Regulatory Commission (FERC), and several years ago FERC required that the plant generate power only by use of the river's natural flows and not by use of impounded water above the falls. This new policy has helped to reduce thermal stress due to unnaturally low flows during the dry summer months *(HVA)*.

In addition, there is a section of the river with contamination from prior discharges of the chemical PCB. Remediation of this has been designed and a fund for river restoration established *(Trout Unlimited)*. A brighter future for the river is anticipated as restoration of its natural system progresses.

Salmon Kill

The Salmon Kill is a third-order stream which originates from three primary tributaries: Wachocastinook (Riga) Brook, Factory Brook and Moore Brook. The Salmon Kill runs for five miles from its origin in the Indian Cave area to its confluence with the Housatonic River below Lime Rock. It is a meandering, meadow type of stream that bisects generally open and agricultural valley lands. Its substrate is marble and limestone, which results in high alkalinity (pH) and good productivity *(Hartzler)*.

The lack of forest cover results in higher than optimal water temperatures, and this has reduced or eliminated brook trout from much of its length

(*Trout Unlimited*). However, the valley soils provided an important agricultural heritage for Salisbury, and several farms continue to operate today. In recent years there has been a coordinated effort to restore sections of the stream and to provide shade by reforestation. In addition, much of the valley has been permanently preserved by private conservation easements, contributing to the continued improvement of this important and scenic valley stream *(Salisbury Association Land Trust)*.

Factory Brook

This second-order stream flows out of Lakeville Lake (Wononscopomuc) through a low gradient, three-mile valley section of town that is fairly developed, including a section that is adjacent to the sewage treatment plant (WPCA). Despite these potential stress factors, water quality remains good, with a mix of warm and coldwater species present. The stream has a cobble and gravel bottom and good vegetative cover along the banks. Like Moore Brook and the Salmon Kill, it flows over a marble bedrock substrate that increases the water's alkalinity, creating favorable conditions for stream life *(CT DEP)*.

Moore Brook

This brook flows for three miles through a forested, marble valley with numerous wetlands and seeps that contribute high-quality groundwater to the brook. It has a calcareous fen type of habitat which results from the marble substrate and numerous groundwater springs. This creates a very unique and significant habitat that includes large numbers of rare plant and animal species, some of which are federally and/or state endangered (*Hudsonia*). There have been numerous documentations of rare biota by various private and public researchers. The water quality is excellent throughout the brook *(TNC)*. Most of the lands along the brook are privately held, but thanks to efforts from the Salisbury Association Land Trust and The Nature Conservancy, most of the brook has been protected by conservation easements donated by landowners.

White Hollow Brook, Beeslick Brook and Sucker Brook

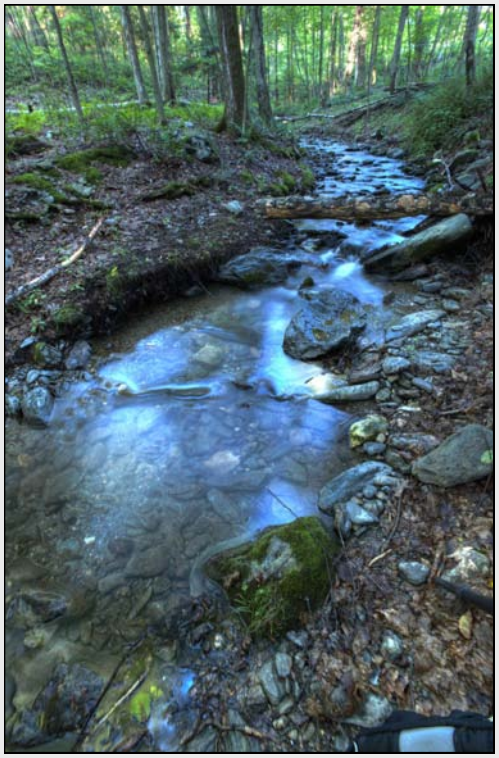
These small streams are generally shallow and narrow and flow through low-gradient valley terrain. Beeslick Brook originates in Beeslick Pond, a rich fen owned by The Nature Conservancy, and flows northwest into Long Pond, Mudge Pond and into the upper Ten Mile River system. White Hollow Brook drains forest and agricultural land before joining the Salmon Kill near Lime Rock Park. Sucker Brook flows through old-growth hemlock stands and is the main tributary of Lakeville Lake. Each of these streams has high scenic beauty and is ecologically significant.

Headwater Streams

Headwater streams include Sage's Ravine, Ball Brook, Wachocasinook (Riga) Brook, Pettee Brook, Burton Brook, and numerous smaller tributaries. These brooks are typically fast moving and contain cold, clean water due to the undeveloped condition of most of the forested watersheds. Unlike Salisbury's marble valley streams, the headwaters flow over steep gradients and a granite or schist substrate, resulting in a lower pH and less productivity. Nevertheless, each of these streams provides habitat for brook trout and other biota, indicating high-quality water and intact forested watersheds *(CT DEP)*.

Riga Brook is the most significant of Salisbury's headwater streams. It originates as Monument Brook in the high elevation, remote watershed along the Riga plateau, then forms the Riga lakes, and then plunges through a narrow ravine as Wachocastinook Brook, finally reaching a lower gradient along the Scoville Library and the Indian Cave area. The section below the lakes is managed as a Wild Trout area by cooperative agreement with the Connecticut Department of Environmental Protection.

Moore Brook: Salisbury's Hidden Treasure



From its source at the spillway of Fisher Pond to the point where a small sign notes its passage beneath Route 44 at the village of Salisbury is a journey of little more than three miles. In all that length there is not another road crossing, and Moore Brook lies hidden from public view. Nonetheless, it is one of the true ecological treasures of the region.

Unlike its cold tributaries, plunging over the Taconic Plateau and down through its dark ravines, Moore Brook has a low gradient and flows through a relatively flat valley. It receives both surface water and groundwater, containing few nutrients but rich in calcium. A wetlands complex of seepage swamps and peat lands results from these conditions all along the Brook, aided in recent decades by a resurgent beaver population. They are part of a mosaic of rare habitat types that only occur with the right combination of climate, soil chemistry and ground water hydrology.

Its rare habitats include sloping fens, which are spring fed and perched on accumulations of peat. Fens are often confused with bogs; in fact, Kampoosa Bog just up the road in Stockbridge, Massachusetts, should rightly be called a basin fen. The key distinctions between the two are that fens depend on groundwater that tends to be neutral to alkaline and are dominated by sedge species.

A study by the USFWS of the calcareous wetlands of our area identifies a large number of rare plant species, including handsome sedge (*Carex formosa*), blunt spikerush (*Eleocharis obtusa* var. *ovata*), swamp birch (*Betula pumila*), larger Canadian St. John's-wort (*Hypericum majus*), marsh valerian (*Valeriana sitchensis* ssp. *uliginosa*), and Schweinitz sedge (*Carex schweinitzii*). Most of these are known to occur within the wetlands of Moore Brook. There is a rich diversity of insect life here as well. The same USFWS study notes that other studies have found in excess of 500 moth and butterfly species and more than 50 types of damselflies and dragonflies within the calcareous wetlands of Northwest Connecticut.

Some of the rare species of Moore Brook are highly threatened and vulnerable to collection, and conservationists are rightly secretive about their precise locations. The lands along the Brook are privately held, but thanks to a conservation effort spearheaded by the Salisbury Association Land Trust and The Nature Conservancy, most of the Brook itself lies on lands protected through conservation easements with willing private landowners.

Even with these protections, Moore Brook is still vulnerable to environmental degradation from elevated nutrient levels and subject to infestations of invasive plants that out-compete native varieties. Conserving fen and seepage swamp habitat in our area also means finding ways to mimic the historic levels of natural disturbance that once included fires set by Native Americans. In the absence of the right combination of browse by large herbivores, beaver pond abandonment, and rare but vital episodes of fire, natural succession gradually transforms open fens to shrubby fens and then forested swamps, which exclude some of the rarest fen species that need more light. Here is a classic case where land protection without stewardship capacity may not ensure that the natural resource is securely conserved.

Tim Abbott, Litchfield Hills Greenprint Collaborative

Stream and River Stressors

Maintaining the health of our watershed requires minimizing the stressors that can cause degradation. Stressors include deforestation, thermal pollution, and the introduction of non-native species into our riparian and aquatic habitats.

- Deforestation in a watershed decreases the ability of soil to properly filter groundwater and runoff, especially in riparian areas. Streamside deforestation exposes aquatic plants and fish to pollutants and chemicals in surface runoff. Nutrient loading can occur due to agricultural and residential activities within a watershed. Nutrient loading refers to a process in which excessive amounts of nutrients build up in waterways, causing the oxygen to be depleted, and the organisms to be replaced with algae.
- Thermal pollution is caused by pond construction and deforestation. It occurs when storm water passes over hot surfaces before entering a waterway, causing an increase in temperature and resulting in a loss of biodiversity and the possible introduction of non-native species.

Drinking Water Resources Map

Refer to map 3, Salisbury Drinking Water Resources, for information on the Town's public water supply and our Ground Water and Surface Water Quality Classes. The purple checkered areas labeled "GA impaired" are places where the long-term goal is to bring the water quality back to GA (drinking water) quality. The data source for these three sites is a leachate and wastewater dataset that dates back to the 1980s, and is in turn part of a DEP groundwater quality dataset. The blue checkered areas labeled "GAA, GAAs" are either buffers around public drinking water wellheads or, in the case of the basin running into Lakeville Reservoir, tributaries to a public drinking water watershed.

Ground Water Quality Classes

GAA: Existing or potential public drinking water supply; suitable for consumption.

GA: Existing private water supply and potential public water supply; suitable for consumption. This class covers most of Salisbury.

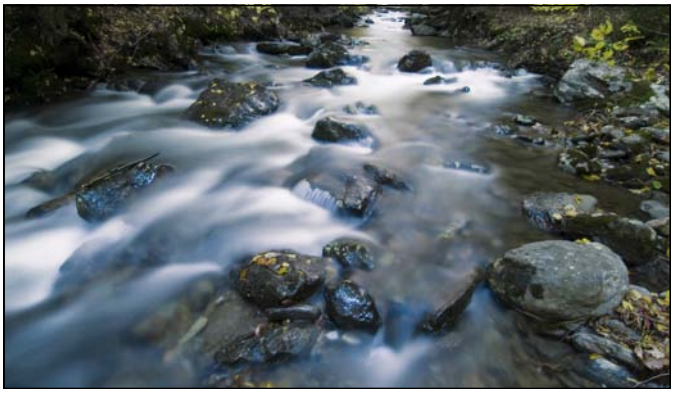
GB to GA: Groundwater currently not suited for consumption without treatment due to pollution. Goal is to restore the water quality.

GB: Groundwater within urbanized or industrial areas; not suitable for human consumption. This class is not present in Salisbury.

Surface Water Quality Classes

AA: Water suitable for drinking water supply, fish and wildlife habitat, recreational use, and agricultural use within an existing or potential public water supply watershed.
A: As above, but outside water supply watersheds.
B: Water suitable for fish and wildlife habitat, recreational, agricultural and industrial use.
C: One or more uses or quality criteria impaired.
D: Present conditions severely inhibit or preclude one or more uses.
B,C,D to A: Water currently impaired for one or more uses, but the state's goal is to improve the quality to A.
C, D to B: Presently not meeting water quality criteria or impaired for one or more uses due to pollution; the goal is to improve to class B. The Housatonic River falls in this category, due to PCB pollution.

From: Connecticut Resources Atlas Series Water Quality Classifications Map of Connecticut, compiled by James Murphy, CT Department of Environmental Protection, 1987



Recommendations

Lakes

1. Support the Twin Lakes Association and the Wononscopomuc Association in their efforts to keep water quality high.
2. Develop productive liasons with neighboring towns and states to define and enforce watershed regulations.
3. Limit boat access to avoid overcrowding and water and noise pollution.
4. Encourage policing of lakes for noise and water pollution during high-use times.
5. Encourage new technological advances in septic system design.
6. Require the pumping of septic systems within the watersheds on a schedule that prevents contamination of the lakes.
7. Encourage the establishment of native vegetative buffer zones of 100 feet along waterbodies.
8. Explore regulations that require vegetative buffers as part of zoning and inland wetland permits.
9. Encourage erosion control to minimize nutrient and pesticide runoff.
10. Regulate more stringently the size and height of houses built close to water to minimize visual and chemical pollution.
11. Increase the distance to 100 ft. that a house may be sited from the lake.
12. Monitor plant and animal populations.
13. Monitor visiting boats for presence of invasive species.

Aquifers and Wetlands

1. Minimize or avoid wetland disturbance and prohibit wetland filling.
2. Adhere to proper erosion and sedimentation controls.
3. Require/encourage native buffer plantings for development near wetlands.
4. Strictly regulate commercial uses near wetlands and stratified drift aquifers.
5. Require groundwater recharge of storm water runoff, where feasible.
6. Require that any new development yield a "zero increase" in storm water peak runoff.
7. Require storm water biofiltration and bioengineered detention/retention basins where any residential or commercial development occurs near wetlands.
8. Prohibit discharge transfers from one watershed to another because of the danger of altering the hydrology of both areas.
9. To offset unavoidable wetland disturbance, encourage wetland enhancement/restoration.
10. Enforce alternatives to traditional road salting practices near major wetland systems and stratified drift aquifers.
11. Require logging projects to submit detailed erosion, sedimentation control and restoration plans.
12. At wetlands and watercourses limit uncontrolled access of livestock.
13. Manage/eradicate non-native invasive plant species in or adjacent to wetlands.
14. Regulate pumping of groundwater to avoid negative impact to groundwater levels and wetlands.
15. Require permits for irrigation systems covering areas greater than one acre.
16. Encourage the planting of native and drought-tolerant plants to minimize irrigation.
17. Strictly control fertilizer, herbicide and pesticide use adjacent to any wetland or stratified drift aquifer.
18. Encourage preservation of critical or unique wetland systems.
19. Extend buffer zones around large wetlands and aquifer systems.
20. Exclude wetland areas from calculations of building lot size.

Streams and Rivers

1. To lessen the stress on Salisbury's watershed, a riparian buffer zone of at least 150 feet should be required in any activity or development proposal involving the removal of trees.
2. The CT DEP should be consulted to identify ways to reduce the introduction of non-native biota into streams and rivers.
3. Pond construction should not be allowed in any areas if resulting in a loss of wetlands or a degradation of water quality.
4. Continue to support land assessment based on conservation use of land, including Open Space, Forest and Farmland under Public Act 490.

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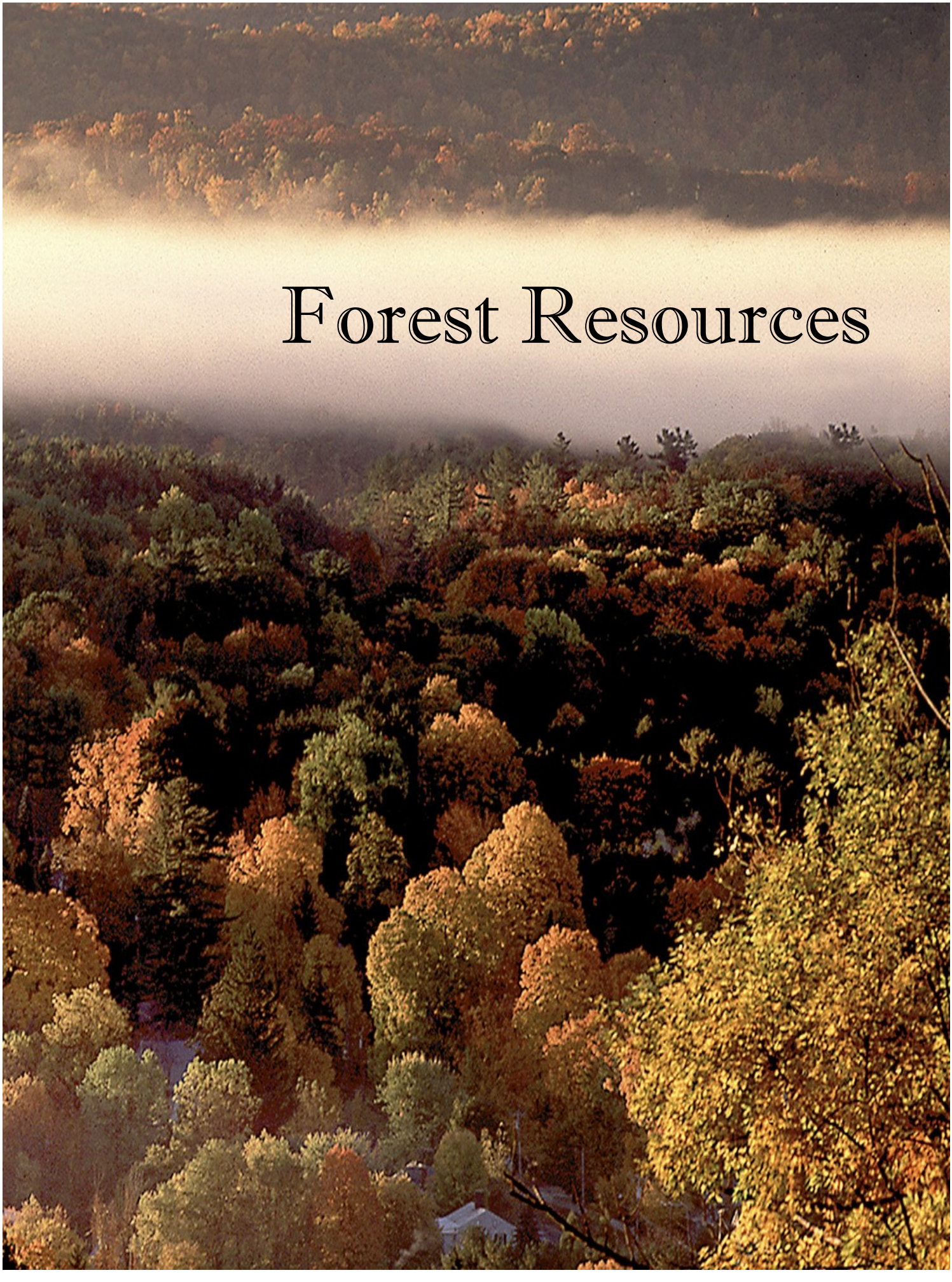

Forest Resources

Forest Resources

Introduction

Salisbury's forests are diverse, extensive and productive. They are home to many species of plants and animals, including rare species that depend on large tracts of interior forest that are undisturbed by human development. Our forests offer numerous recreational opportunities, including the Appalachian Trail, and they create dramatic viewsheds that are enhanced by our unusual topography. Wood products from Salisbury forests can compete in the global marketplace and they help to sustain a regional rural economy.

Factors Influencing Forests

Forest types are generally located according to three factors: soils, climate, and history of disturbance in the area.

Soils

Salisbury forests are influenced by several broad categories of soil. Residual soils are based on the underlying bedrock geology, which in our town includes large upland areas of schist along the Taconic Range, and a much different marble type in most of the valley floors. The upland soils support extensive stands of predominantly oak-hickory, known as Central Hardwoods, while the richer marble soils include a greater mixture of species, including maples, birch, ash, cherry, elm, basswood, and others. The dominant conifer species are white pine and hemlock; these are found on most Salisbury soils.

Climate

Our climate is very favorable for growing trees because we are in a zone between the cold northern climate and the warmer south. We find trees from both climates mixed together in a transition forest that includes many species. Climate is also a local influence and varies within small areas due to topography and relation to the sun.

Disturbance

Salisbury's forest history includes a long period of

settlement by Native Americans, who probably used fire to control vegetation for hunting and agriculture. The settlement by colonists brought intensive exploitation for both agriculture and industry. Any forest that was not cleared for agriculture was probably clear-cut to supply charcoal for the town's iron industry. In addition, settlement brought the end of the large predators such as mountain lions and wolves, thus creating favorable conditions for deer, which, in turn, has greatly influenced our present forest.

There are also numerous and continual natural disturbances that create ever-changing forests through the process known as succession. These include biotic stresses such as insects and disease, and abiotic stresses such as drought, fire, air pollution and mechanical injury. Several introduced insects and diseases have resulted in significant changes to Salisbury's forests, including chestnut blight, gypsy moth and Dutch elm disease. Recent threats are also potentially serious, including hemlock wooly adelgid and Asian long-horned beetle.

Forest Types

Deciduous Forest

Deciduous trees are known as broadleafed. They lose their leaves before winter to prevent damage to the sensitive system of veins during frozen weather. This is the most extensive forest type in Salisbury and includes over 40 species of trees and shrubs, many of them of commercial value. On the drier slopes, the predominant species are mixed oaks, hickory, beech, and red maple. The lower slopes tend to be more productive, with deeper soils, more moisture and less extreme climate. Here we find the species mentioned above, with mixtures of ash, sugar maple, black cherry, tulip poplar, the birches, and several others. There is rarely a distinct line that divides forest types unless the stand results from agricultural abandonment or other large-scale disturbance; species are very mixed in a transition type of forest. The evergreen species such as hemlock and white pine are also common within the deciduous forest, although not as a dominant feature.

Many of our forests result from earlier disturbance and are approaching a mature or even old-growth

condition. The oaks at the Town Grove are a particularly noteworthy stand of old trees, many of which are over 300 years old and deserve our special protection. In addition, there are large stands of trees that are within the National Park boundaries; here, there will be no commercial activity and these forests will advance to an old-growth condition.

Evergreen Forest

These trees are generally known as conifers and with one exception (tamarack) they do not lose all of their needles in the fall. They are more primitive than the deciduous trees in terms of reproduction and biological function, and while they retain their needles during the winter, they are dormant to avoid damage to their foliage. The predominant Salisbury evergreen species are white pine and hemlock, with lesser representations of cedar, larch (tamarack), and even isolated stands of the cold-loving red spruce and northern white cedar.

Our evergreen forests may occur as nearly pure stands or in mixtures with many other species. Hemlock plays an important role along our upland streams by cooling the water with its dense shade. It is a very long-lived species and has attained a documented age of over 300 years in one Salisbury stand, while white pine is a handsome and commercially valuable species that rarely lives for over 200 years.

It is possible that the pre-settlement Salisbury forest included more conifers, but they may have been eliminated in the heavy clearing during the previous centuries. Unlike most deciduous species, pine and hemlock lack the ability to re-sprout from stumps after cutting, and this factor probably favored the deciduous species. Nevertheless, we are fortunate to have a fine representation of each species within our forests.

Forested Wetlands

There are two main types of wetland forest in Salisbury. The first, the red maple swamp deciduous, occurs throughout our wetland soil types and is common throughout southern New England. The predominant species is red maple, with lesser representations of elm, black ash, aspen, white pine and basswood, as well as other tree species and many shrubs. These forest stands are common along Moore Brook and the areas along the Salmon Kill that have had no recent agricultural use.

The second wetland forest, known as bottomland hardwoods, occurs primarily along the Housatonic and lower Salmon Kill Rivers. This forest is common along most river systems in the eastern United States, and it includes sycamore, silver and red maple, cottonwood and swamp white oak. The forest provides a valuable ecological function in regulating flood waters and providing wildlife habitat.

Mountain Laurel Understory

Mountain laurel is the Connecticut State Flower. It occurs as a native shrub in Salisbury in numerous habitats, with the most prolific population in the oak forests along the Mt. Washington Road and the ridge areas along Bear Mountain. It is found at a variety of sites ranging from dry to moist, but appears to achieve its best growth in the drier areas. It occurs in the valleys as isolated small populations.

Mountain laurel blooms regularly in June, with showy displays of attractive white and pink flowers. Although a relatively small shrub, Native Americans valued its wood for use as a utensil, and the early botanists named it spoon tree. It has some horticultural value for nursery greens and provides shelter for wildlife species, particularly in winter.

Mountain laurel may form dense and almost impenetrable patches, competing with other species and forming a barrier to juvenile trees, inhibiting their growth. It is possible that Mountain laurel was able to colonize areas due to earlier burning, which creates an environment that is favorable to its development. It may have also gained an advantage from the loss of American chestnut to an introduced disease, allowing increased growing space for laurel.

Interior Forest

This is not a specific forest type, but includes the larger areas of contiguous, undeveloped forest. These areas create important wildlife habitat for many species including forest birds such as warblers, as well as mammals such as black bears that are wide-ranging and need solitude. Salisbury is fortunate to have areas of interior forest. Many citizens have worked to protect some of these lands through donations of conservation easements and the active protection of habitat.

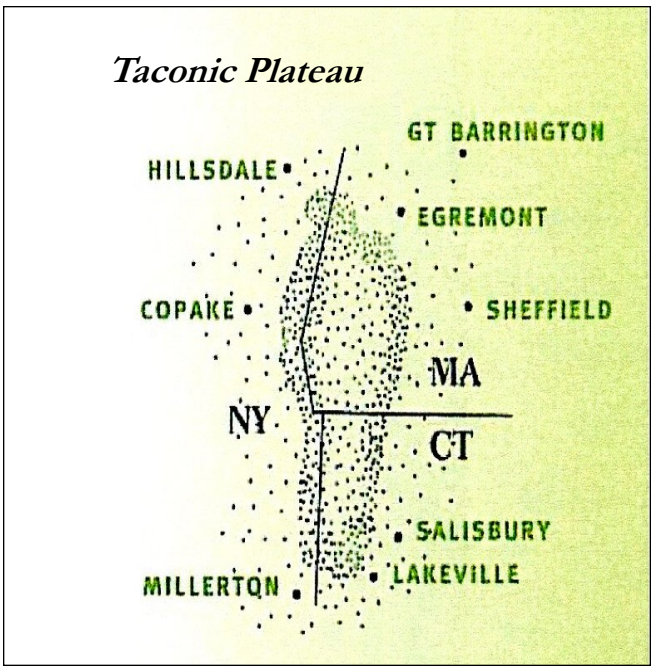
Forest Resources Map

Map 5, Salisbury Forest Resources, identifies forest types and locations in Salisbury. The Contiguous Forest Habitat layer was derived by HVA from the CLEAR Land Cover Data. Pixels with Forest and Wetland land-use codes were selected to create the initial areas. These areas were then buffered inward (shrunk) by 300 ft. +/- to account for edge disturbances. Remaining areas greater than 200 acres were selected to create the final layer.

The HVA Litchfield Hills Greenprint Collaborative, a partnership of regional conservation organizations, tracks significant conservation resources. It reports that Salisbury has 12,052 acres of interior forest, 4,476 acres of which are protected, representing 35.8% of this resource. The Greenprint figures do *not* include Mt. Riga which, while unprotected, has a lower degree of threat of conversion to development.

Berkshire Taconic Landscape

Salisbury's forests exist within the diverse Berkshire Taconic landscape. As this Nature Conservancy diagram illustrates, the landscape spans the intersection of three states: Massachusetts, Connecticut and New York. It contains a steep-sided mountain plateau that stands like an island amidst gently rolling hills. The plateau and its adjacent valley create some of the most scenic vistas in our town.



Trickling down from these vast tracks of mountain forests, rainfall creates a unique wetlands in the valley below. With calcium-rich, high-alkaline water, rare wetlands support a concentration of rare species and provide clean water as well as flood protection.

Over a four-year-period ending in 2008, The Nature Conservancy initiated an effort called Weed-It-Now to remove invasive plants from 9,000 acres of forest habitat on the Berkshire Taconic plateau. As part of the project, over 20 private and public landowners in Salisbury signed up to allow this work on their properties. The objective was to abate the threat that invasive plants pose to the large forest in our landscape.

Recommendations

1. Support the use-assessment programs of Forest and Open Space as a way of conserving a working forest landscape.
2. Maintain balanced deer herds in areas overpopulated with deer to retain the natural vegetation and reduce the threat of Lyme disease.
3. Encourage the use of conservation easements and volunteer programs such as Forest Legacy to preserve larger, unbroken tracts of interior forest.
4. Explore techniques to reduce the impact of invasive plants in Salisbury's forests.
5. Keep activity away from fragile areas.

Suggested Readings

Eastern Forests (Audubon Field Guide), by Ann Sutton.

Reading the Forested Landscape: A Natural History of New England, by Tom Wessels and Brian Cohen.

Working with Your Woodland: A Landowner's Guide, by Beattie, Thompson and Levine.

The Practice of Silviculture: Applied Forest Ecology, by Larson, Kelty and Ashton.

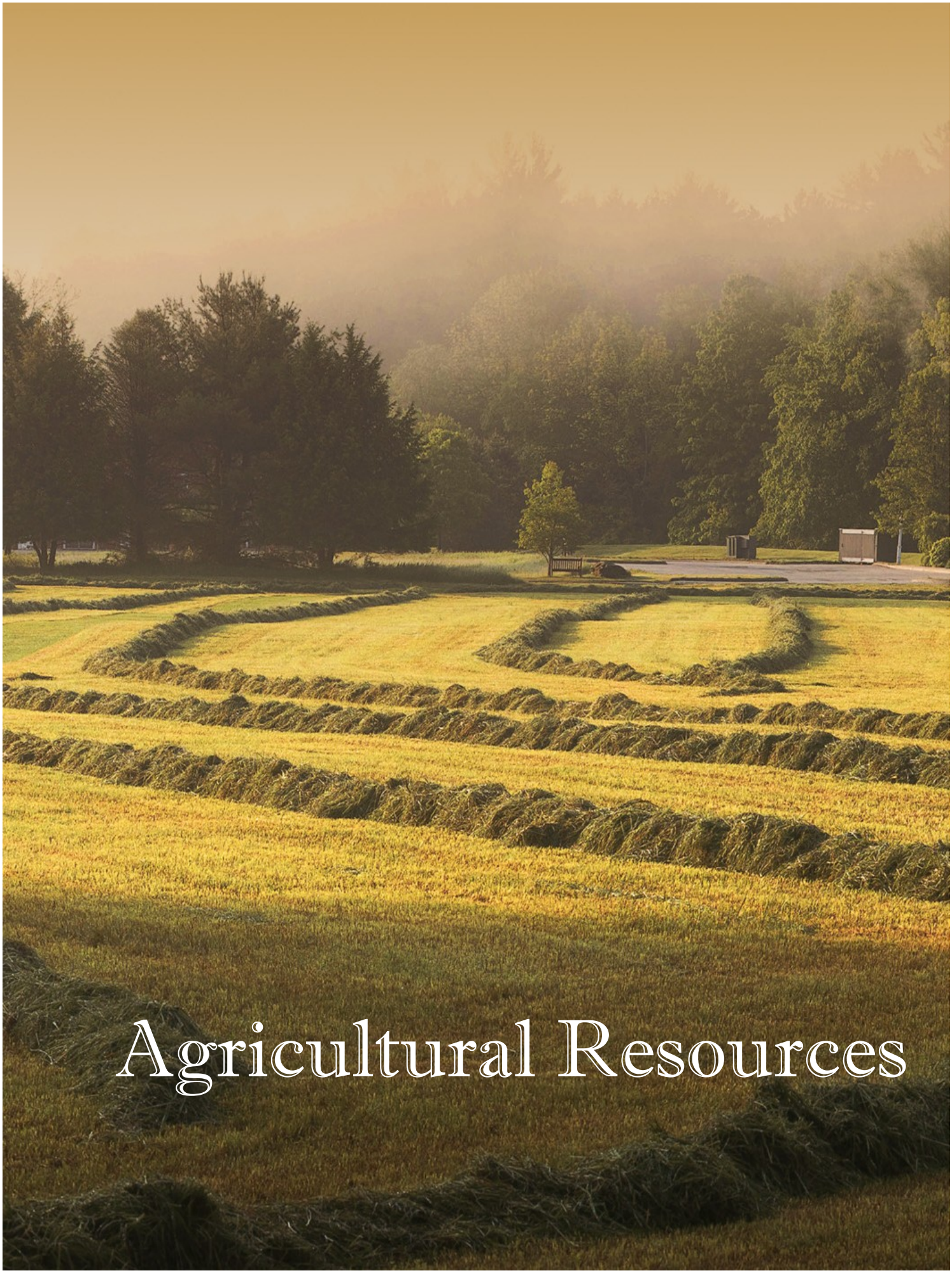
Landowner's Guide to Wildlife Habitat: Forest Management for the New England Region, by Richard deGraaf.

Our Changing Forests

At first glance the forest seemed an unchanging, timeless thing, yet it was anything but that. If you watched it you saw that it was changing by the hour and by the day; then soon you realized that it must have been changing by the year and by the decade; and finally you knew quite well that it was always changing, always in flux, and probably always would be.

Christopher Rand

The Changing Landscape,1968


Agricultural Resources

Agricultural Resources

Introduction

Farms and farmland remain cornerstones of Salisbury's rural character, linking the past to the future through a patchwork of fields and pastures, old fences and weathered barns. Generations of hard-working farm families have shaped this landscape, from its iconic pastoral views to the succession of upland forests that old stone walls reveal were once fields with livestock. Salisbury is blessed with extensive concentrations of high-quality farmland soils, yet these are also among the most vulnerable to development. As enduring as Salisbury's agricultural character may appear, significant changes are underway that affect its agricultural resources and the future of farming in this community.

Valuing Local Agriculture

Many of the benefits of local agriculture are self-evident: food for human and animal use, nursery products, local jobs, open space, and rural roads that offer scenic views to residents and passersby. Other benefits may be less obvious. Numerous studies by the American Farmland Trust, including from Litchfield, Connecticut, indicate that working lands provide more revenue to municipalities than they demand in services, even when assessed at current-use value. Employing best-management practices for farmland can also provide a host of environmental benefits.

Some values are more difficult to quantify, such as the increased revenue that tourism opportunities bring, or the enhanced "quality of life" that makes Salisbury such a desirable place to live. There is also a growing interest in knowing the producers of the food that we eat and how that food is raised, both for reasons of supporting the rural economy and for health concerns.

Farmland Soils

The Litchfield Hills Greenprint Collaborative (HVA) provided the following data on Salisbury soils and farm fields. These soil types and farm fields are of great local and regional conservation significance.

The total amount of Connecticut prime and additional important farmland soils in Salisbury is 13,490 acres, or 35% of the Town's acreage.

The total amount of prime and additional important farmland soils in Salisbury that are also protected is 2,909 acres, or 22% of these soils.

The total amount of farm fields (digitized ortho photographs) is 4,346 acres, of which 1,524 acres are on protected land (35% of these fields).

The total amount of farm fields containing prime or additional important farmland soils is 3,964 acres (29% of the total farmland soils), of which 1,426 acres are on protected land (36% of these important fields).

Agricultural Resources Map

Refer to map 6, Salisbury Agricultural Resources, for data on farmland soils, protected lands, and farmland under active agricultural use as of spring 2009. The Farm/Field Land Cover data set was created for the USDA Forest Service Regional Highlands Study for Connecticut. Using aerial photography, the areas that appeared to be agricultural in use were manually digitized. The Farm/Field Land Cover data set was ground-verified by the NRI Agricultural committee to create the active agricultural use data set (the pink circles on the map).

Changes in Local Agriculture

With the passage of time, there has been a gradual shift away from farming as it has been traditionally practiced in Salisbury. Forty years ago there were multiple, family-run (though not necessarily family-owned) dairy and mixed-use farms. Agricultural enterprises were smaller, often providing a subsistence living for just one family. The regional economy supported farm-supply businesses and large-animal vets. Even so, the dairy industry was in steady decline in Salisbury and across the Northeast.

Over time, many of Salisbury's farms went out of business. Connecticut has lost nearly 18,000 farms since the end of World War II, with only 150 dairy farms left in the state today. Those dairy farms that remain have grown larger and adopted more progressive methods, but still struggle to remain viable. Increased real estate values and the growing age of the farming population have put many agricultural lands at risk of development.

At present, there are few large farms in Salisbury involved in food production. Among these are Deep Lake Farm, a dairy farm on Indian Mountain Road; Shady Maple Farm, a cattle business on Housatonic River Road; Whippoorwill Farm, a retail meat and egg business on Salmon Kill Road; Grassland Farm, producing milk on Hammertown Road; Twin Lakes Farm on Weatogue Road, which supplies the White Hart Inn with meat and produce; and Fairfield Farm on Route 41, supplying The Hotchkiss School. Other farmland in town is leased by dairy producers in neighboring communities.

Among the local agricultural businesses *not* involved in large-lot food production are a number of equestrian enterprises, plant nurseries, horticultural operations (as garden centers), a cut-and-dried flower business and a day lily farm. Other agricultural businesses involve eggs for sale, fiber production on llama farms and the occasional farmers' market.

Public Act 490

An important factor affecting local farms is the current high cost of land. While some farmers cannot afford to buy land, others see value in selling land, and still others are maintaining land in its current agricultural use under Public Act 490 for the positive effect it has on their real estate taxes.

In 1963 Connecticut passed Public Act 490, stating that "it is in the public interest to encourage the preservation of farm, forest and open space land." P.A. 490 provides for the assessment of farm, forest and open space land on the basis of its current use rather than its market value. Farm and forest lands require fewer services from local government than does residential land, which almost always requires more community services than it generates in tax revenue. Additionally, P.A. 490 reflects the reality that market-value taxation would likely result in the

development of farmland, leading to municipal costs far greater than the related gain in tax revenues.

Loss of Farmland

Salisbury has many significant open areas that look agricultural in character. Notable examples are found along Undermountain Road (Route 41) heading north towards the Massachusetts border; in the Salmon Kill Valley; along Indian Mountain Road near the intersection of Route 112; at the intersection of Taconic and Hammertown Roads; and along Route 41 near the Salisbury-Sharon border. However, much of this landscape is no longer in food production. It is maintained in an open condition by mowing or by lease as hayfields. A case in point is the Wells Hill area. While it gives the appearance of agricultural land, most of the land is not harvested but simply mowed to keep it open.

Significant portions of Salisbury land have a long history of settlement. Many of our developed areas, including the historic village centers of Salisbury and Lakeville, were established on prime and additional important farmland soils that are no longer available for commercial agriculture, though they make excellent areas for home gardens. The nearly 4,000 acres of agricultural fields that remain on farmland soils are vital to the future of agriculture in Salisbury.

"It's Not Farmland . . . without Farmers"

The decline of farming and the conversion of farmland soils to development are substantial losses for Salisbury, but just as significant is the loss of the rural, traditional knowledge represented by those who work the land. With fewer farms in the community producing food products, there is a corresponding decline in the number of local farmers who are familiar with the day-to-day operation of a meat, vegetable or dairy business. Fewer older farmers who acquired farming skills from their elders remain, breaking the continuum of knowledge, and fewer of their children wish to continue as farmers. Although there are more equestrian enterprises here than 40 years ago and, therefore, more people employed by those operations, the skill sets required for different types of agriculture are not the same.

Those who have worked the land for generations have a unique perspective on the changes to the landscape, the rhythm of the seasons, and an understanding of rural livelihoods that have been part of the fabric of this community since its early settlement. Salisbury benefits greatly from the diverse backgrounds and perspectives of its residents and

would be diminished if it saved its farmland only to lose the wealth of local knowledge of its farmers.

Recommendations

1. To protect future local agricultural potential, focus on the remaining undeveloped prime and additional statewide important farmland soils, particularly where there are existing farm fields and where agricultural lands are clustered in close proximity. Salisbury should begin actively planning for the regional transition from larger dairy farms that require considerable acreage to smaller farming enterprises, with particular attention to agricultural lands that are currently leased by dairy farms. The American Farmland Trust and Connecticut Conference of Municipalities have an excellent publication, *Planning for Agriculture: A Guide for Connecticut Municipalities,* with a wealth of information and guidelines.
2. Salisbury has a precious resource in its farmers who remain dedicated to our agricultural heritage. Assisting interested farmers with marketing and distribution of their products, or helping them to develop value-added agricultural businesses, such as cheese production at a dairy farm, would not only support human capital but encourage the active use of farmland by making agricultural businesses more economically viable.
3. Consider establishing a Farmland Preservation Committee, such as has been successfully done in New Milford.
4. Include a clear focus on agriculture in the town's plans of conservation and development and adopt regulations to promote local

agriculture as a valued part of the character of the community and its rural economy. The Capital Regional Council of Governments suggests a number of model recommendations to support local farms and protect farmland, which Salisbury should consider.

5. Think about establishing a municipal fund to purchase conservation easements on important agricultural lands. This fund could be used to leverage additional private, state and federal conservation dollars and increase the likelihood of successfully securing these funds for local projects.
6. Salisbury should consider applying for five-year, no interest loans from the newly established Loan Program for Purchasing Farmland, administered by the Commissioner of Agriculture under P.A. 07-131.

References

Planning for Agriculture: A Guide for Connecticut Municipalities (2008), a publication of the American Farmland Trust and the Connecticut Conference of Municipalities.

Conservation Options for Connecticut Farmland: A Guide for Landowners, Land Trusts & Municipalities, published by the American Farmland Trust.

Regulating the Farm: Improving Agriculture's Viability in the Capital Region (2007), by Capital Region Council of Governments.

New Milford Farmland Preservation Committee Strategic Plan (2007).

Spring Plowing (April)

The reason for spring plowing, the countryman will tell you, and look you in the eye when he says it, is to turn the soil and prepare a seedbed. He will go on, perhaps, and say that you plow as soon as the frost is out of the ground and it's dry enough to "get in" so you will be ready to plant oats early, or corn, or grass. He believes that.

Then he gets on his tractor and starts plowing, and if you watch him closely you will know that he told only half the truth. Spring plowing is to prepare the soil, yes, but it is also to prepare the man. He, too, has to get winter out of his bones. He has to get the sun into him again, and the wind. He has to know April if he is to know May and July and September.

So he plows his land. He turns the clear, straight furrows and something of the soil is plowed into him, the smell of it, the look, the feel. It isn't quite the same as it was when he walked the furrow behind a team of horses and felt the earth beneath his feet. But he still feels it, as he feels the morning, as he hears the blackbirds, as he smells the fresh-turned earth.

He plows, and the mild sun beats down, the robins strut, the brook just across the way prattles and shimmers. But—and this is the other half of the truth—the soil and the season are also working with him. The earth belongs to him again, but he also belongs to the earth.

Hal Borland
Twelve Moons of the Year (1979)

Critical Habitats

Critical Habitats

Introduction

Northwest Connecticut contains fully 25% of the state's biodiversity (*Preston, 1996*). A combination of factors relating to Salisbury's varied terrain, soil and bedrock characteristics, water quality and historic patterns of land use support occurrences of many rare species and natural communities here. From cliffs and caves to floodplains and seepage wetlands, Salisbury offers critical habitat for a broad array of plants and animals. Wide-ranging mammals and interior nesting birds benefit from Salisbury's extensive tracts of intact forest, a resource that has become increasingly fragmented by development elsewhere in Connecticut. Wild brook trout still reproduce in Salisbury's remote mountain streams.

Regional Significance

Numerous studies and official designations recognize Salisbury's biological diversity:

- The US Forest Service's Highlands Regional Study for Connecticut ranks large areas within Salisbury as containing biological resources of high conservation value.
- The Nature Conservancy's Lower New England–Northern Piedmont Ecoregional Plan (2000) identified conservation targets in Salisbury, ranging from matrix-forming forest communities to calcareous fens and individual rare and endangered plant and animal species.
- Connecticut's Comprehensive Wildlife Conservation Strategy, the basis for the state's biodiversity conservation efforts, recognizes many Key Habitats of Greatest Conservation Need (GCN) in Salisbury.
- The federally threatened bog turtle (*Clemmys muhlenbergii*) is at the extreme edge of its contiguous range in NW Connecticut and adjacent SW Massachusetts. Salisbury provides habitat for some of the last remaining populations of this species in the state.

Methodology

While it may be desirable to identify the full array of plants, animals and natural communities represented in Salisbury, that task lies beyond the scope and time frame of this natural resource inventory. This report anticipates that further studies will be incorporated into the NRI as they become available. While there are considerable data for biological resources at the regional level, and portions of Salisbury have been carefully studied by various institutions and researchers, it is not possible at this time to provide complete lists even of the state-listed rare species that occur in the Town. Connecticut's Natural Diversity Database (NDDB) is generally made available to towns in the form of 1000-acre circles depicting critical habitat for unidentified species.

For this reason, this natural resource inventory places its emphasis on critical habitats and unique natural communities. This approach is consistent with current conservation biology practices and the focus of the state's Comprehensive Wildlife Conservation Strategy. Conservation strategies and recommendations for maintaining these habitats should benefit the majority of species associated with these places. A few species, such as the bog turtle (*Clemmys muhlenbergii*) and eastern timber rattlesnake (*Crotalus horridus*) will require additional conservation measures beyond habitat protection.


Bog Turtle

Critical Habitats Map

Map 7, Critical Habitats, depicts some of Salisbury's natural communities but is limited to those for which special data was available and predictive modeling is possible. It is not a substitute for a comprehensive natural community inventory by field biologists and botanists, but does indicate those portions of Town where certain rare habitats are known to occur. The inclusion of these habitat areas along with the State's NDDB critical habitat circles gives the best indication currently available of areas of particular biological value. Although a number of Endangered, Threatened and Special Concern species have been identified in Litchfield County, others that have been recorded in nearby Massachusetts or New York are likely to exist in Salisbury.

The fish habitat identified on the map was modeled by HVA within 100' buffers to perennial streams. The model predicts four types of fish habitat based on various gradients with different degrees of natural cover. Open habitat, which appears within the stream buffers in light blue, typically lacks sufficient riparian cover and shade to promote cool water conditions preferred by some fish species, though individual areas within these sections may possess appropriate habitat.

Key Habitats in Salisbury

The following Key Habitats of Greatest Conservation Need, along with their associated sub-habitats or vegetative communities, are identified in Connecticut's Comprehensive Wildlife Conservation Strategy and are known to occur in Salisbury:

- Upland Forest (calcareous forests, old growth forests)
- Upland Woodland and Shrub (red cedar glades, pitch pine – scrub oak woodlands)
- Upland Herbaceous (grassy glades and balds)
- Forested Inland Wetland (red/black spruce swamps, northern white cedar swamps)
- Shrub Inland Wetlands (bogs, seeps and fens)
- Herbaceous Inland Wetland (calcareous fens)
- Sparsely Vegetated Inland Wetland (vernal pools)
- Freshwater Aquatic (large rivers and streams and their associated riparian zones, cold water streams)
- Unique or Man-made Habitats (caves and other subterranean habitats)

Upland Forests

A matrix-forming forest is one that is of sufficient size and condition to support even wide-ranging species that require tens of thousands of acres of interior habitat to sustain viable populations. The

Pink lady's slipper on Mt. Riga

Mt. Washington/Mt. Riga matrix forest encompasses 36,000 acres of the Taconic Plateau in Salisbury and adjacent towns in New York and Massachusetts. This forest matrix also supports a number of smaller natural community types such as acidic rocky summits and outcrops that occur at places like Lions Head, Bear Mountain, Round Mountain, and Mt. Frissell. The forest also contains secluded cold-water streams in hemlock ravines such as Sages Ravine and Wachocastinook Brook. There are remnants of older growth forest high in some of these ravines that may never have been commercially harvested. Where the soils are less acidic, calcareous woodlands occur within the forest matrix as well as elsewhere in Salisbury where bedrock geology supports their development.

Stressors: These forest types are vulnerable to inappropriate development, especially the fragmenting effects of new driveways deep in the forest interior that can degrade habitat, becoming a vector for the spread of invasive plant species and brood parasites like brown headed cowbirds that displace the eggs of interior nesting species like neotropical migrating warblers. They are threatened by introduced forest pests and pathogens, such as Hemlock woolly adelgid. While some types of forest management may be beneficial in these areas, it is important that forest cutting plans for any specific property within the matrix forest take into account the species composition and structure of the surrounding woodlands.

Upland Woodland and Shrub

Limestone red cedar glades occur in small patches on calcareous slopes or rocky summits with small grassland opening. One of the most extensive of these habitats in our region occurs in Salisbury to the west of Route 41 near the boundary with Sharon, but they may also occur on limestone cobbles and within other calcareous woodlands.

Pitch pine/scrub oak communities are found in association with certain acidic rocky summits and outcrops in Salisbury. They may also provide habitat for eastern timber rattlesnake (*Crotalus horridus*), which may disperse several miles from its den sites during the summer. Many of the same moths and butterflies found in association with pitch pine barrens along the coast also occur in these acidic rocky summit habitats. Some pitch pines require low intensity ground fires to propagate by seed, although some studies suggest that the pitch pines of the Taconic Plateau may produce cones that open without the aid of the radiant heat of fire.

Stressors: The conservation value of limestone red cedar glades may not be apparent to landowners. They are threatened by invasive plants, a number of which thrive in calcareous soils. Fortunately most of the pitch pine/scrub oak communities on acidic rocky summits in Salisbury occur on protected land. More research is needed to determine whether they are capable of reproduction without fire or whether without proper management they will be replaced by oak heaths.

Upland Herbaceous

Grassy glades and balds may be found in association with calcareous uplands and cobbles, such as at Toms Hill, or in small patches that should rightfully be considered part of a red cedar glade community. They may also occur on exposed acidic bedrock on rocky summits and outcrops. They remain open because of the harshness of their growing environment or due to natural or man-made disturbance events such as windstorms or fire.

Stressors: Not enough is known about the status of this natural community type in Salisbury. Examples may be very small in size, and could be vulnerable to habitat loss due to natural succession where the natural disturbance regime may be inadequate to maintain them.

Forested Inland Wetland

Salisbury has significant examples of forested wetland types, ranging from calcareous seepage wetland assemblages along Moore Brook to the acidic peat lands at Bingham Pond. While Connecticut's Comprehensive Wildlife Conservation Plan emphasizes calcareous shrub and herbaceous wetland types, these often occur within a mosaic of forested seepage wetlands that are important in their own right. Examples include circumneutral seepage swamp habitat in Moore Brook as well as red maple / tamarack peat swamps. There may be other examples of these types at Beeslick Pond, State Line Swamp, and in the Housatonic Floodplain. Groundwater hydrology and bedrock geology are significant factors in determining where these types of habitat may occur. Bingham Pond with its acidic bedrock supports a red/black spruce swamp as well as a nonforested poor fen.

Stressors: Alterations to ground and surface water hydrology can significantly affect these forested wetland types. They are especially vulnerable to invasive species, including *Phragmities australis* and numerous shrubby invaders. It is particularly important to consider how upslope development may impact these wetlands and to minimize nutrient inputs which could compromise the quality of the water which sustains them. There may be small examples of Atlantic white cedar swamps in Salisbury which will need further study to identify.

Shrub and Herbaceous Inland Wetlands

These two habitat types are considered together, as they often co-occur and are driven by many of the same patterns and processes. It is thought that shrub fens are often a later successional stage of the open herbaceous examples of these wetland community types.

Bogs, seeps and fens are among the rarest and most significant natural communities that occur in Northwest Connecticut. Bogs and fens are peat lands that, along with the seeps and springs that often sustain them, provide habitat for rare and endangered spe-

Vernal Pools

Each spring, as the rains fall and the snows melt, countless depressions in the forested landscape of northwest Connecticut fill with water and may remain as temporary wetlands well into summer. These wetlands are known as "vernal" pools. These pools are an extremely important feature of our natural environment, as they serve as a breeding ground for a number of animals, particularly frogs, toads and salamanders.

In late March, when there may still be ice on the surface of the pools, wood frogs are the first to return and mate. As soon as the eggs are deposited, usually attached beneath the surface to sticks or to shrubs emerging from the pool, the wood frogs leave the pools to spend the remainder of the year in the woods. The wood frogs are quickly followed by spring peepers, American toads, and gray tree frogs. Certain salamanders, including spotted, Jefferson's and marbled salamanders, also depend on vernal pools as breeding grounds.

These amphibians can utilize vernal pools because the pools eventually dry up. Thus, fish that usually eat small tadpoles or salamander larvae, are unable to live in vernal pools. By the time the pools dry up in mid-summer, the tadpoles and salamander larvae have already become small versions of the adults and leave the pools to live in the surrounding woodlands.

Amphibians are not the only animals that use vernal pools. Numerous insects, small crustaceans such as fairy shrimp and fingernail clams, also depend upon these temporary, fish-free wetlands.

Unfortunately, many vernal pools have been lost over the years. Some were filled intentionally, others inadvertently. A homeowner moving into a new home in late summer or fall may look out into the backyard at the edge of the woods to see a depression filled with mud, dry leaves and sticks. Thinking that this unsightly spot could be improved, the homeowner brings in fill to plant a flower garden. The following spring, frogs and salamanders come out of the surrounding forest only to find that their vernal pool is gone. These animals do not lay their eggs and after several springs those populations are lost. It is imperative that remaining vernal pools be protected so they continue to provide habitat for these valuable components of our natural world.

Jay Kaplan, Roaring Brook Nature Center

cies of plants and animals. The primary differences between a bog and a fen relate to water chemistry (bogs tend toward the acidic, while fens are neutral to alkaline), vegetation (fens are dominated by sedges, while bogs support more woody plants), and hydrology (fens are groundwater-dependent, while bogs rely more on surface water). Fens may be further classified as either rich or poor depending on bedrock acidity. Mineral-enriched calcareous fens may occur on slopes with seeps or along lake basins, while the poor fen at Bingham Pond is influenced by acidic bedrock. State Line Swamp, Bauer Woods, Beeslick Pond, Bingham Pond, Sucker Brook and Moore Brook all support fen habitat.

Stressors: The greatest threats to fens and the habitat they provide for many unique and rare species come from inappropriate adjacent development, invasive species, pollution, nutrient loading, hydrologic disruption and altered disturbance regimes. Without periodic natural disturbance or management, many open fens will succeed to shrub fens and ultimately to forested seepage wetlands with less species diversity. It is possible that when fens were used as wet meadows and pastures and seasonally burned, there was more of this habitat than remains today. Some fen-dependent species of plants and animals are highly vulnerable to collection, such as the federally threatened bog turtle (*Clemmys muhlenbergii*) and several of our native orchids.

Sparsely Vegetated Inland Wetland

Vernal pools are seasonal wetlands that provide critical breeding habitat for a number of amphibian species, as well as fairy shrimp, that can only reproduce in wetlands without predatory fish. They may hold water for just a few months out of the year, but those that do, provide essential habitat for salamanders of the yellow spotted and Jefferson's complex and for wood frogs that return to the same pools every year in early spring.

Stressors: Vernal pools enjoy no specific protection under Connecticut's wetland regulations, but clear protocols exist for identifying functional vernal pools which would permit localities to adopt their own standards for protecting these important resources. Some communities have adopted 100' buffers around certified vernal pools where local conservation commissions have jurisdiction. Since studies show that adult amphibians require a minimum of 465' from a wetland edge *(Calhoun & deMaynadier)*, it is clear that a buffer is needed.

One of the long-term aims of this NRI is to establish a partnership of volunteer vernal pool monitors to identify likely vernal pool sites, confirm their use by obligate species, and determine the location of crossings along Salisbury's roads as the amphibians make their way to their vernal pools.

Freshwater Aquatic

Salisbury is blessed with many high-quality streams and rivers, as well as a number of large lakes of biological as well as scenic and recreational value. The Housatonic River contains a number of significant riparian areas as it passes Salisbury, including a series of oxbows below Dutcher's Bridge. The Salmon Kill basin contains numerous tributaries that are considered complete aquatic systems by the Connecticut DEP, and many of which support cold-water fisheries with wild populations of brown trout and even native brook trout. The major lakes of Salisbury contain several rare plant species and are important recreational fisheries.

Stressors: These aquatic systems require functional riparian areas to maintain their water quality. Clearing to the edge of a lake or stream should be discouraged and vegetated buffers maintained between lawns and cropland and aquatic habitats. Ponds in particular are threatened by invasive plant and animal species, such as zebra mussels in Twin Lakes, and water milfoil. The cold-water streams require adequate shade to maintain cold-water fish populations. Care should be taken when siting culverts and drainages that they not degrade these habitats.

Unique Habitats

The limestone and marble valleys of Salisbury contain a series of exceptional subterranean features, including the state's largest cave complex near Twin Lakes. These caves, mostly inaccessible to the public and located on private land, are unique habitats that provide shelter for hibernating bats and other creatures. Salisbury has a number of sinkholes where caves have collapsed, and there are sections of some of its upland streams that disappear underground only to reappear further down slope.

Stressors: Caves are vulnerable to degradation from inappropriate levels of use. Bat populations in a number of caves in nearby towns have been shown to be afflicted with White nose syndrome, which threatens a number of bat species and for which there is presently no cure.

Other Stressors

Invasive Plants and Animals: About a third of the thousands of plant species known to occur in the Northeast were introduced from some other country or region of the U.S. (*Oehler 2006*). Most are benign and are enjoyed by many as landscape and garden plants. However, free from diseases and organisms that keep a plant species in check in their land of origin,

a select few have aggressively spread since introduction and become extremely difficult to control. As a result, these invasives have degraded our natural communities by outcompeting native species for resources, costing millions of dollars to control. The negative impact of invasive species is a concern for all habitat types. In the fields and forests of Salisbury it is easy to find large areas taken over by Japanese barberry, Japanese honeysuckle, Asiatic bittersweet, multiflora rose, garlic mustard and other invaders. Japanese barberry has the added problem that areas around the plant have significantly greater numbers of Lime disease-carrying deer ticks. Controlling barberry reduces tick populations and may benefit human health by reducing a major vector of the disease agents that cause Lyme disease (*Ward, Williams & Worthy 2007*). Phragmities, purple loosestrife, and Eurasian water-milfoil are invasives in our wetlands.

Connecticut has enacted legislation banning certain invasive plants. The legislation makes it illegal to move, sell, purchase, transplant, cultivate or distribute any of the invasive-banned plants. This list includes many plants commonly grown in gardens and frequently used in commercial landscaping. See Appendix for a list of invasive plants.

Invasive animals can also have a devastating impact on critical habitats. Insects like hemlock wooly adelgid (*Adelges tsugae)* attack hemlock trees and can cause up to 60% mortality four-to-ten years after infestation. Hemlocks are important for shading trout streams, and they provide habitat for 120 species of vertebrates (*Ward 2002).* In area lakes, zebra mussels are a well-known problem.

Light Pollution: Part of the beauty of Salisbury is enjoying a clear view of the night sky. While the night sky in Salisbury may seem dark, we have gradually lost the ability to clearly see the Milky Way on most nights due to light pollution in the surrounding area. The National Oceanic and Atmospheric Association has calculated a measure of sky darkness called Zenithal Limiting Magnitude. The scale ranges from 4.5, typical in a large city where stars are not visible, to 7.1, where you easily see your way around by just the light of the Milky Way. Salisbury is 6.2 on this scale.

There are four components of light pollution that are often combined and overlapping:

- *Urban sky glow:* the brightening of the night sky over inhabited areas.
- *Light trespass:* light falling where it is not intended, wanted, or needed.
- *Glare:* excessive brightness which causes visual discomfort. High levels of glare can decrease visibility.
- *Clutter:* bright, confusing, and excessive groupings of light sources, commonly found in overlit urban areas. The proliferation of clutter contributes to urban sky glow, trespass and glare.

Unless communities take steps to control light pollution, our ability to clearly view the night sky will continue to deteriorate. While the negative effect on astronomy is well-documented, scientific research on how lighting affects wildlife is just beginning. Wildlife experience disorientation of their circadian rhythm when there is too much artificial light at night. Behaviors governing mating, migration, sleep, and finding food are determined by the length of nighttime. Light pollution negatively disrupts these age-old patterns. It is suspected that excess light has negative effects on amphibians, bats, moths and migrating birds.

Many communities, recognizing the importance of limiting light pollution, are adopting the guidelines and recommendations of the International Dark Sky Association to reduce the impact of excessive lighting and poorly designed fixtures.

Need for Further Study

As additional field work on critical habitats and species is conducted, data should be collected to update the NRI. For example, it would be useful to document and map the locations of vernal pools.

While open grassland habitat for dependent bird species is also a conservation priority in Connecticut, at this time it has not been possible to identify which field areas in Salisbury have sufficient size and compatible management regimes to be considered conservation priorities for this critical habitat type.


Bobolink


American kestrel

Generally speaking, large areas of hay fields and grazing land may offer breeding habitat for declining grassland bird species if properly managed, especially if the timing of haying happens later in the season than is considered optimal for producing high-quality forage. More research is required to identify areas within Salisbury where promoting grassland bird habitat is both possible and compatible with agricultural practices.

Additional Data in Appendix

Refer to the NRI Appendix for supplementary information pertaining to this chapter: data on vernal pools, breeding birds, known mammal, amphibian, reptile, and fish species, invasive and potentially invasive plants, and fur-trapping records. It is anticipated that the Town Web site will have more data as research and field work continue.

Recommendations

1. Incorporate ecological considerations into zoning regulations. Consider developing additional regulations and guidelines to ensure quality of unique habitats. Develop an upland review policy for sensitive areas.
2. Promote development that favors open space and minimizes further habitat fragmentation by using means such as mandatory set-aside requirements, cluster development, and buffer zones for land adjoining existing protected open space.
3. Identify the biological effects of proposed development. Require land-use applicants to show, based on scientific fact, that an intended project will not cause long-term negative impacts. Require thorough biological inventories for large-development proposals to properly assess at-risk natural resources. Conduct these inventories during the growing season to adequately evaluate possible impacts.
4. Require wetland and forest management violators to restore damaged and disturbed areas by replanting with vegetation local to the area and allowing native vegetation to become reestablished. This should be done in conjunction with non-native invasive plant monitoring and management.
5. Establish a standard for identifying and mapping functional vernal pools through the presence of obligate species. Establish 100' buffer zones around vernal pools.
6. Encourage use of vegetative buffers between lawns or cropland and aquatic habitats. Discourage clearing to lake, stream or river edges.
7. Educate the public on the value of protected lands, why natural systems and biodiversity are economically important and how they enhance our quality of life.
8. Work with land protection organizations to promote open space acquisition of areas that provide valuable wildlife habitat and wildlife corridors.
9. Control invasives. Make available to residents lists of state-designated invasive and potentially invasive plants and teach effective control methods. Plan and implement a strong invasives-control strategy to safeguard our important habitats, with particular attention to wetlands because of their sensitivity to the kinds of controls that may be used.
10. Investigate recommendations of the International Dark Sky Association and implement those that would reduce light pollution in the town.

Protecting water quality with a buffer of native plants

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Open Space

Open Space

Introduction

Throughout Salisbury's diverse landscapes are natural areas free of development that have important natural resources worthy of protection. These "open space" areas may contain forests, farmland, meadows, floodplains, lakes and streams, wetlands, and wildlife habitat. They may encompass scenic vistas or recreation areas.

Maintaining a large proportion of open space in Salisbury is critical for the town's ecological richness, its aesthetic beauty, the viability of agriculture and the preservation of the rural character and quality of life valued by residents and visitors alike. As of 2009, there were 9,654 acres of land under permanent conservation protection in Salisbury, representing 25% of the Town's total land area. This figure includes the Appalachian Trail land.

The importance of open space conservation was recognized in the Salisbury Town Plan of Conservation and Development (1999) with the following policy statement: "The Town will strive to protect and conserve as much as possible of its most distinctive and diverse natural resource and rural landscape features."

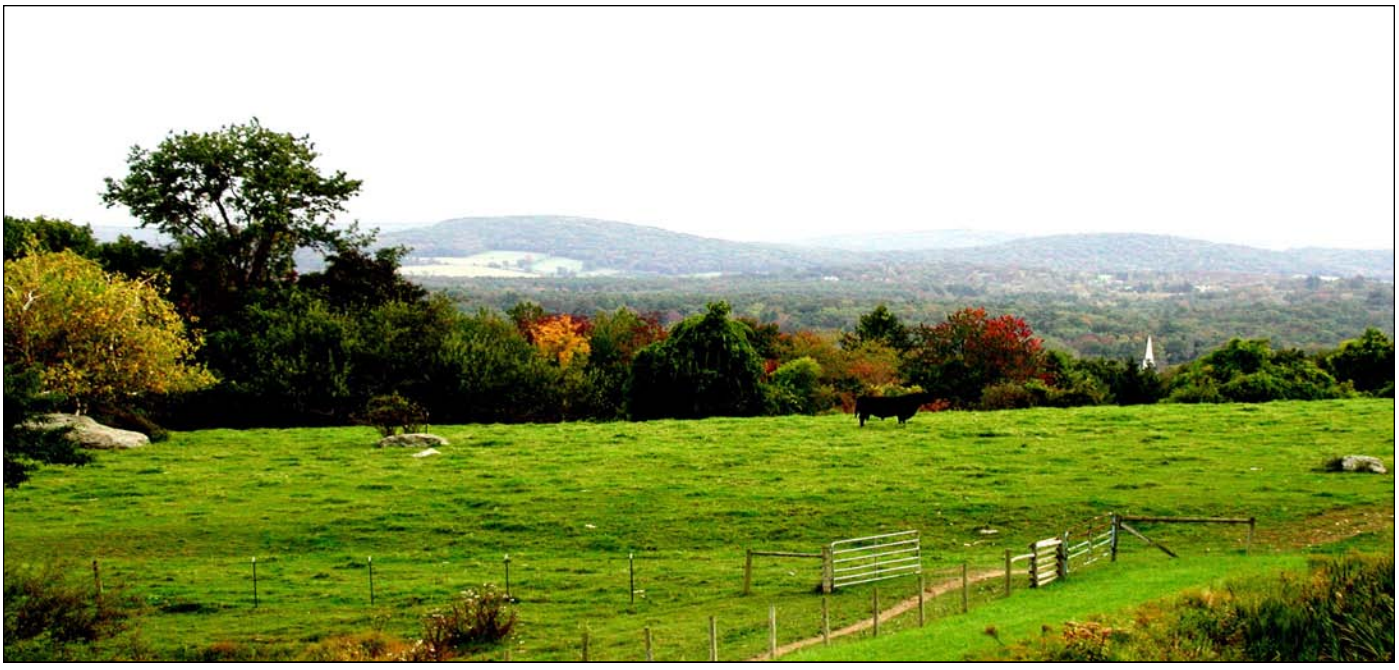
Open Space Map

Map 8, Salisbury Open Space, identifies land that is permanently protected through ownership by a government or conservation organization, or land permanently protected by a conservation restriction held by a government or conservation organization.

A conservation restriction is a binding agreement that permanently limits development of a property. The land remains in private ownership with its use limited to specific purposes that may include, for example, forestry, farming and recreation.

The Open Space map, developed by the Salisbury Association Land Trust, is periodically updated as additional properties come under conservation protection. Those interested in learning more about the permanent conservation protection of their land, should contact the Salisbury Association Land Trust or another conservation organization.

Properties colored green on the map are in private ownership but are protected by conservation restrictions. These properties are not open to public use. Yellow on the map designates protected land that is open to the public.



The Open Space map also identifies large institutional holders of land including Mount Riga Incorporated, Camp Sloane and several schools. These lands have no legal protection against development, but together they represent a significant portion of the town's current open space, and it is hoped that these lands will be preserved as open space.

Since the end of the 19th century, the families that have owned Mount Riga Incorporated have protected over 4,000 acres of the Berkshire Taconic Plateau. These holdings contribute to a vast regional forested ecosystem in three states.

Public Act 490

Salisbury participates in the Connecticut Public Act 490 program that allows for the significant reduction of tax assessments for qualifying acreage dedicated to forestry, agriculture or general open space. The tax deduction is justified because of the ecological, agricultural and aesthetic public benefits that result from keeping the land undeveloped. Also, it is recognized that these undeveloped lands still provide more in tax revenue than they require in public services expenditures.

Tax reductions depend on keeping the land undeveloped for ten years, with penalties assessed for removing the land prematurely from the program. To qualify for the agricultural classification, the land must be part of a commercial farming enterprise. To qualify as forest land, a minimum of 25 acres and a forestry plan by a certified forester are required. The general open space classification is available for parcels over 4 acres. The town assessor can provide complete details of the program. These P.A. 490 parcels are not shown on the Open Space map because they are subject to change.

In 2009 the P.A. 490 program in Salisbury included 4,897 acres classified as farmland, 12,861 acres classified as forest land and 2,588 acres classified as open space. By comparison, in 2004 there were 5,024 acres of farmland, 13,128 acres of forest land and 2,060 of open space.

The Natural Resource Inventory also produced the Salisbury Agricultural Resources map (map 6) which identifies fields in active agricultural use in 2009 and shows which of these fields are permanently protected. Many of the fields that are not permanently protected participate in the P.A. 490 program.

Recommendations

Recommendations for protecting and enhancing Salisbury's open space fall into three categories: funding, education and regulation.

Funding

1. To date, the protection of open space in Salisbury has been accomplished through the donation of conservation restrictions by generous landowners and through contributions from many generous individual donors. State funding has also played an important role in enabling the purchase of key parcels. In the future, however, it is likely that town funding will be required for a few critical conservation

purchases. Opportunities to protect critical land will arise, and those opportunities, once missed, may never return. It is recommended, therefore, that the town establish a "Land Preservation Fund" for the purchase of open space lands or easements on open space involving critically important parcels.

2. If authorized by the State, Salisbury should consider a real estate conveyance tax that accrues to the town's "Land Preservation Fund."
3. The town should be prepared to use town bonding in the special case of our most critical lands.

Education

1. Educate the public about the benefits of open space as well as land management and land development practices that best protect the town's natural resources.
2. Encourage environmental education at local schools. (The Salisbury Association Land Trust awards grants for children's environmental education programs.)

Salisbury Central School students doing insect investigation

In the end we will conserve only what we love. We will love what we understand. We will understand only what we are taught.

Baba Dioum

Regulation

1. Change subdivision regulations to require minimum mandatory conservation areas in subdivisions in order to properly address natural resource protection of the land.
2. Allow for a fee in lieu of a conservation set aside, when appropriate, with the fee deposited in the "Land Preservation Fund."
3. Require that building permits and subdivision applications identify any conservation restrictions covering the property and demonstrate that the plans do not infringe.


Scenic Roads

Scenic Roads

Introduction

Salisbury is blessed with many scenic views and rural roads. These views are often dramatic, whether long views of distant mountains, shorter views of agricultural fields and pastoral meadows, or stirring views of flowing rivers and streams, lakes and still ponds. Often they are framed by verdant forests or picturesque rural architecture. It is difficult to drive, bike or walk any distance in Salisbury without coming upon one of our scenic finds. The long vista from Sharon Road (CT Route 41) to the south, down the Mudge Pond Valley, rewards the soul and validates the reason we live here, work here, and visit Salisbury. From that same location, the northward view across Mount Riga and the Taconic Range is one of the finest vistas in all of Connecticut.

Salisbury's rural scenic roads provide the access and opportunity to enjoy the beauty of our landscape. From the long, broad vistas, such as those described above, to scenic views more defined in scope, such as those along the Salmon Kill valley, framed with stone walls, farm buildings and agricultural fields, the proximity and diversity of our natural beauty are communal assets belonging to all of Salisbury. These assets are not merely unique natural constructs of which Herman Melville, Nathaniel Hawthorne, Hal Borland and Christopher Rand wrote, but a context for the financial values we assign to our farms, rural properties and village houses. The market values of the homes we love are sustained by the maintenance and preservation of our beautiful scenic areas and rural roads.

Methodology

A word of explanation is in order about the methodology used in this Natural Resource Inventory to define scenic rural roads. Aesthetic judgments are inherently subjective. Notwithstanding, a certain framework exists in the general laws of our state which helps to quantify the elements of aesthetic values and suggests a matrix of those values which may be collected and assessed to derive a common judgment of what is scenic.

Connecticut General Statues Section 13b-31c prescribes the methodology for towns to seek Scenic Road designation for state highways within the town boundaries. In 1998 the Salisbury Association Land Trust led the effort to obtain "Scenic Road" designation for all of CT Route 41 and U.S. Route 44 within Salisbury. Refer to the *Salisbury Scenic Corridor*


Salmon Kill Road, 1900

Management Plan available at Town Hall. Criteria for designation as a Scenic Road included the following: a road which passes through agricultural land or abuts land on which is located a historic building or structure listed on the National Register of Historic Places or state register of historic places, or affords scenic vistas of marshes, shoreline, forests with mature trees, or notable geologic or other natural features. Together with the Town of Sharon's successful effort to designate all of CT Route 41 within its borders as a Scenic Road, the entire state road from Amenia Union in NY to Sheffield in MA is currently designated a Scenic Road. There are moderate protections against changes and widening attendant to this law.

Local Roads

A more local focus for the preservation and maintenance of rural scenic roads is possible under C.G.S. § 7-149a which gives towns the authority to enact a municipal ordinance to limit the changes to existing town roads. Among the criteria for evaluation as scenic town roads are that roads be free of intensive commercial development and vehicular use and that the roads:

- be unpaved.
- be bordered by mature trees.
- be less than twenty (20) feet wide.
- have scenic views.
- be along or over streams, brooks, lakes or ponds.

The Town of Salisbury does not have an enabling ordinance which permits the designation of Town Scenic Roads. However, the NRI committee used the criteria for town Scenic Road designation, among others, and created a Scenic Road Evaluation Form for use in this study. A copy of the form is included at the end of this chapter. All of the public roads and highways within the Town of Salisbury were evaluated by the committee using this evaluation form. Each public road was visited by at least three committee members in the company of one another.

Using the criteria identified, there was a committee consensus that the following roads qualified as rural scenic roads:

Between the Lakes Road

The highly scenic portion of Between the Lakes Road begins at U.S. Route 44 and extends for about two miles. This is an unpaved road that travels mainly through wooded areas. Near the bottom of a long, gradual hill is a view over Washinee Lake to the Taconic Range to the west and then across Washining Lake to Toms Hill to the east.

Housatonic River Road

Starting at the bridge at Amesville, this is a paved roadway for one mile. In the winter there are views of the Great Falls of the Housatonic. In the spring the noise from the volume of water can be deafening. A parking area is provided for viewing this natural site. There are extensive views of the farmed floodplain and the river to the east, with woods and rock outcropping to the west, as you continue north on the unpaved portion of the road until you reach U.S. Route 44.

Weatogue Road

From Twin Lakes Road to the Massachusetts line, this road provides views across farmland to Rattlesnake Hill as it runs parallel to the Housatonic River. The road is bordered by mature trees and a portion of the farmland is preserved by an agricultural easement. Heading south there are views across farm fields to Canaan Mountain.

Dugway Road

This scenic road runs from Amesville to Lime Rock, following the Housatonic River. The river, fields and forest land all add to the scenic quality of this drive. A pond, stone walls, and steep cliffs are visible from the road.

Brinton Hill Road

From Dugway Road to Salmon Kill Road this is a very narrow, winding road. It climbs from the Housatonic River over Brinton Hill, passing stone walls, mature trees and rock outcroppings.

Selleck Hill Road

From Factory Street, just a quarter of a mile west of Town Hall, Selleck Hill climbs several hundred feet above the town. It crosses Wachocastinook Brook, tumbling down from Mt. Riga, and runs parallel to another brook flowing through woodlands. At the top of the hill, it opens up onto views across farmland to Red Mountain and Lake Wonoscopomuc to the south and the hilltop of Selleck Hill to the north. Traveling downhill provides a 180 degree panorama that includes Canaan Mountain, Wetauwanchu and Red Mountain.

Twin Lakes Road

The first two-and-a-half miles of Twin Lakes Road, from the junction of U.S. Route 44, is a curving, country road. There are numerous rock outcroppings and old stone walls. The plant life appears to be mostly native, including ephemerals, ferns, a shrub layer and mature shade trees. The scenic features of the road end with a spectacular view across Washining Lake to the west, with a view of the Taconic Range in the background.

Taconic Road

Starting from U.S. Route 44, Taconic Road features a number of scenic attributes including protected open fields and wetlands, stone walls, a superb view of the Taconic Range and areas of woodlands and interesting ledge. This same one-and-three-quarter mile stretch of road southbound, offers views of Prospect Mountain and Wetauwanchu. The northern portion of Taconic Road, between Taconic Center and the Massachusetts line, provides several expansive views of the Taconic Range across farm fields.

Hammertown Road

Bucolic Hammertown Road, is an east-west road connecting Taconic and Undermountain Roads. At the junction of Hammertown and Taconic, a long vista across working farmland opens up to the Taconic Range and Sages Ravine. A rolling country road, Hammertown Road's scenic features also include agricultural land, a stream and ponds.

Beaver Dam Road

Shortly after entering this road from Undermountain Road, an excellent view across Fisher Pond highlights the Taconic Range to the north. Continuing east, there are wooded areas and fields on both sides of the road.

Dark Hollow Road

This is an unpaved, narrow roadway that is blocked off in winter and can be used for cross-country skiing and snowshoeing. During non-winter months it is often used by walkers, runners and bicyclers. Forest and spectacular rock outcroppings line the road. At the northern end there is a shaded wetland with native plants. In spring many ephemerals, along with native flowering shrubs and trees, can be seen from the road.

Belgo Road

This road runs east to west almost from the shore of Lake Wonoscopomuc to the New York state line. It has numerous old stone walls, mature trees, and a white oak (Quercus alba) near Ore Mine Road that is probably one of the oldest in our town. As you climb the hill, there are large stone outcroppings on the north side. On the south side there are distant views of the fields of Deep Lake Farm and Indian Mountain. Once over the hill, there are distant views on the south side and the road is lined with mature trees and stone walls. Driving eastbound on Belgo, there is a good view of the lake. At various places along the north side of Belgo, forested hillside is in evidence.

Salmon Kill Road

Starting from CT Route 112, the road is quite windy, with old stone walls, mature trees and forest land. Shortly after you cross the Salmon Kill, the view becomes open fields, farm lands and distant views of upland fields and mountains. On the east side, there are numerous rock outcroppings where the land rises from the Salmon Kill Valley. Going farther north, there are areas of conserved land and wetlands on both sides of the road.

Mt. Riga Road

This old highway served the needs of the iron industry community from the late 18th into the middle 19th century. It begins at the end of Factory Street and continues approximately six miles northward to the Massachusetts line. This gravel road is narrow and steep, passing through dense second-growth forest. After a winding assent for three miles, more or less parallel to Wachocastinook brook, there is an open vista of South Pond. The road continues through wooded old farm fields and forest without notable views. The "bones" of the landscape are more visible during early spring or late fall when the leaves are down. The road also has beautiful foliage in autumn, and mountain laurel blooms in early summer. This road is closed to traffic from the end of hunting season to the opening of fishing season.

Bunker Hill Road

Starting at the fork at the end of Factory Street, Bunker Hill Road rises quickly to high open fields. There is a view to the west of the Mt. Riga ridge. To the north, Lion's Head's stone outcrop is visible. The preserved farm fields provide scenic views to the south, as far as Cornwall. There is a blue trail to climb to Lion's Head with a hiker parking lot located approximately one mile from the start of the road. The road dead-ends near the hiker parking lot.

U.S. Route 7 in Salisbury

There are 1.3 miles of Route 7 in the town of Salisbury as it heads north from the town of Sharon until it crosses the Housatonic River. The west side of the road is state forest land and includes steep hillsides full of ledge, rock and boulder. Open fields on the east side feature vistas of the farmed floodplain along the river with wooded hills for a backdrop.

Route 112 from Route 41 to Route 7

Traveling eastward there are views to the north and south of wooded hills across conserved farmland. At the approach to Route 7, Lookout Point in Falls Village rises above the Housatonic River. The westward course on Route 112 also provides views of the Taconic Ridge.

Scenic Roads Map

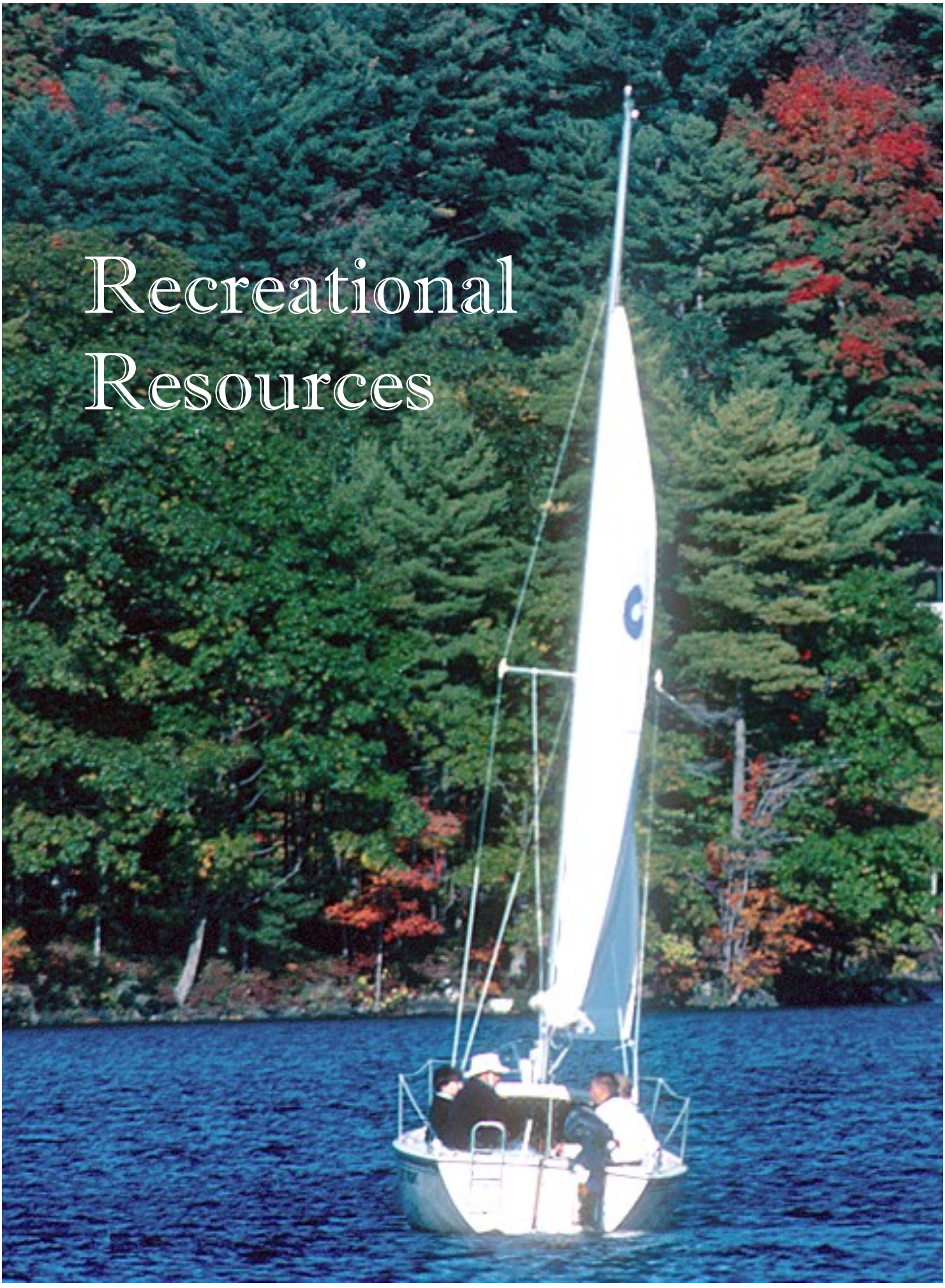
Map 9, Salisbury Scenic Roads, shows town roads and portions of town roads that the NRI Scenic Roads committee felt were scenic based on the identified criteria. However, designation as a scenic town road could come only after passage of a Town Scenic Road Ordinance (see working draft in the Appendix) followed by application from property owners along a given road, and then official designation by the Selectmen. The Salisbury Scenic Roads map also shows State Designated Scenic Highways and portions of Route 112 and U.S. Route 7 for which the committee felt state scenic road designation should be sought.

Recommendations

1. The Planning and Zoning Commission is urged to review its regulations to reduce the impact of future development and construction activity on the Town's scenic vistas and scenic areas. Set back rules should be re-examined toward this purpose. Rules for enhanced site planting of indigenous trees and shrubs should be reviewed to lessen adverse visual impacts. Perhaps lot sizes should be adjusted in certain areas to promote lower-density development, or raised to encourage high-density development with offsetting dedicated open space. Finally, any land-use regulation techniques that promote the creation of open space, or the donation of open space to qualified holders, should be evaluated for use here in Salisbury.
2. It is recommended that Salisbury adopt a Scenic Road Ordinance to permit owners abutting such roads to seek the protections of the State statutes for such roads. A working draft of such an ordinance is included in the Appendix.
3. The portion of U.S. Route 7 that passes through Salisbury should be designated a scenic highway under Connecticut General Statutes Sec. 13b-31c to continue the protection of that old federal highway from Sharon northward. The Town of Sharon and the State of Connecticut have so designated U.S. Route 7 as a state scenic highway. Also, scenic designation should be sought for Route 112 from its intersection with Route 41 easterly to U.S. Route 7.

	Scenic Road Evaluation Form	Belgo Rd. Eastbound			
1	Unpaved (may be used for vehicle traffic)				
2	Mature Trees	X			
3	Stone Walls	X			
4	Narrow Road without Shoulder (< 20 ft.)				
5	Scenic Views: scale of 1-5 (5 highest)	3, 4, 3			
6	Brooks, Streams, Lakes and Ponds				
7	Forest Land (25 acres min.)	X			
8	Notable Geological Features	X			
9	Other				

In this example, there were three "scenic views" with consensus scores of 3, 4, and 3 on the scale.



Recreational Resources

Recreational Resources

Introduction

Salisbury has an abundance of recreational resources including many lakes and ponds, the Housatonic River, and federal, state and local parks.

Many of our recreational opportunities depend on the natural resources present in Salisbury. For this reason, recreation is included in the Natural Resource Inventory. Resource-based recreation cannot be taken for granted. It depends on access to lands, protection of resource diversity and maintenance of healthy ecosystems.

The Salisbury Recreation Commission administers an impressive array of programs, many of which involve structured activities and the use of facilities: for example, ice hockey at indoor rinks; baseball, softball and soccer on prepared fields. Salisbury is also fortunate to have access to Lake Wononscopomuc and Factory Pond, where the Recreation Commission offers programs in swimming, sailing, kayaking and ice skating. A list of the Recreation Commission programs, by season, can be found at the end of this chapter.

The Salisbury Parks and Forest Commission oversees 14 town parks and forest areas, from the 9-acre Town Grove, to the 27-acre Barrack Matiff through which the Appalachian Trail winds, to the 288-acre Edith Scoville Memorial Sanctuary. These sites and others offer many opportunities to appreciate nature's beauty from trails, hills and lakes. Refer to the description of Parks and Forest Commission sites at the end of this chapter.

Recreation by Sport

Water Sports: Recreational opportunities on our larger lakes and the Housatonic River include swimming, kayaking, canoeing, sailing, rafting, fishing and limited motor boating. The Town Grove, located on the shore of Lake Wononscopomuc in Lakeville, includes a beach, playground, boat launch, boat storage areas, Grove Recreation buildings and other facilities. Twin Lakes has a private club for swimming, tennis, boating and social activities and a boat launch business at O'Hara's Landing. The Connecticut DEP has a public access boat launch on Twin Lakes. At Mt. Riga there is limited access to the lakeshore for Salisbury residents to swim on a permit-only basis.

On the Railroad Ramble

Skiing: The Salisbury Winter Sports Association (SWSA), organizer of the annual ski jump, offers miles of trails on lands accessible to SWSA members including cross-country skiing on Sellick Hill and downhill skiing at the Bittersweet Hill property held by SWSA. There are many public trails available for cross-country skiing, such as those at Turnip Top and the Railroad Ramble (Bike Path).

Ice skating: Ice skating is not restricted to the private school indoor rinks but also enjoyed on any number of small ponds and larger lakes in town.

Camping: Camping, a resource-dependent form of recreation, is available at two overnight camps: Camp Sloane, a YMCA camp on Indian Mountain Road, and Isola Bella on Twin Lakes, operated by the American School for the Deaf. The Connecticut Chapter of the Appalachian Mountain Club maintains the Northwest Camp: "a small, rustic cabin located on the northwest slope of Bear Mountain in Salisbury, CT. The cabin and surrounding land are owned by the Appalachian Mountain Club.

Railroad Ramble (Bike Path)

Biking: The State of Connecticut has designated a number of bicycle loop trails and roads in town on its Bicycle Map. The Railroad Ramble connecting Salisbury and Lakeville provides a vehicle-free path for bike riding, especially suitable for children. In addition, the town's many rural roads offer miles of excellent, scenic biking.

Horseback Riding: A number of horseback riding stables provide boarding and riding lessons as well as trail opportunities. Some stables take advantage of the many dirt roads in town for riding. There are also several outdoor courses for jumping. In addition, some facilities maintain indoor riding rings that provide year-round opportunities.

Available for year-round use by reservation only, NW Camp is managed and maintained entirely by volunteers." Mt. Riga has a permission-based camp site on the shore of South Pond. There are a few camping sites along the Appalachian Mountain Trail (AT) including a lean-to near the Aimsville section of the trail. The Wack Forest off Route 112 has historically offered camping access to the Girl Scouts and Boy Scouts.

Pony Club girls at Riga Meadow

Fishing on Twin Lakes

Hunting: Hunting is entirely a resource-dependent activity. Hunting and trapping seasons are regulated by Connecticut's DEP. Some private landowners allow hunting access. The Town permits hunting on some of its land, with permission from the Selectmen's office. The State of Connecticut has hunting access at the 98-acre East Twin Lakes Water Access Area for small game, waterfowl, fall archery (deer/turkey) and fall firearms turkey seasons, and at the 315-acre Mt. Riga State Park fall deer and turkey archery season.

Fishing: Salisbury is fortunate to have many lakes and streams with good or excellent water quality supporting a variety of fish. See the Appendix for a list of fish species in Salisbury's streams. On Opening Day of the fishing season, youngsters can try out their fishing skills at Factory Pond in Lakeville.

Hiking: The Town of Salisbury has some of the best hiking trails in Connecticut. Many miles of trails are open to the public. The best-known is the white blaze Appalachian Trail, 13 miles of which go through Salisbury, traversing the highest mountain as well as the highest ridgeline in town. There are also a number of blue trails (side trails) that offer good opportunities for hiking.

The Salisbury Association Land Trust maintains several hiking trails open to the public at its Dark Hollow nature preserve. The Hotchkiss School has a private trail system with permission-based, limited public access. Most of the town's dirt roads are used for walking, particularly at the height of the tick season when many people choose to avoid the fields and woods. The Railroad Ramble (also known as the Rail Trail or Bike Path) provides an easy walk between the villages of Salisbury and Lakeville. The two-mile path traverses a variety of habitats including a pond where birds, turtles, and other wildlife are often seen. The Land Trust's booklet "Hiking Trails and Short Walks around Salisbury" identifies other trails in the area.

Hikers on Bear Mountain

Tennis and Paddle Tennis: Tennis facilities are available at several locations, including the public courts at Community Field. The Salisbury Recreation Commission offers tennis lessons at different skill levels. The Paddle Tennis Club plays on courts at the Town Grove. Club membership has grown to over 100 players. Some racket activities involve fees.

Recreational Sites Map

Map 10, Salisbury Recreational Resource Sites, shows the location of hiking trails, public access sites, and other places where recreational opportunities are available. At some locations, a permit, fee, or permission are required to use the facility.

Recommendation

The Recreation Commission suggests that if additional land were available at Trotta Field and at the Town Grove, the Commission would be able to expand its recreational programs at those locations.

Town of Salisbury

Parks and Forest Commission

Thanks to the generosity of many former and present residents of Salisbury, we are able to appreciate nature's beauty from a number of walks, ski trails, hills and ponds.

BARRACK MATIFF
27 acres located on a wooded hillside adjacent to the south side of U.S. Route 44 about a mile East of Salisbury. The Appalachian Trail winds through part of this forest.

COBBLE PARK
An interesting geologic rock outcropping located just to the northeast of the Catholic cemetery in Salisbury. The total land area is about three acres of rocks and woods.

WASHINEE-HANGING ROCK PARK
Consisting of two adjacent parcels of land, three acres each, on Factory Street just west of the Old Salisbury Burying Ground. Picnic facilities are available.

WACK FOREST
A wooded area used primarily by the Girl Scouts, consisting of 50 acres opposite the old Wack home on Lime Rock Road.

ORE HILL PARK
Four and one-half acres located north of the old ore pit with some frontage on the north side of Route 44. The pit is now filled with water and is used for fishing, and in the winter for ice-skating.

BICENTENNIAL PARK
A small "vest pocket" park developed within the foundation of the old Holley Block in Lakeville, at the corner of Holley Street and Millerton Road (Route 44).

CANNON PARK
Located adjacent to the ballfield in Lakeville, affording the pleasant entrance to the ballfield area.

BAUER PARK
Four and one-half acres surrounding the old Lakeville Railroad Station and leading to the Town Grove. It includes Factory Pond and the parking area.

TOWN GROVE
Nine acres located on the shore of Lake Wononscopomuc in the center of Lakeville. It includes the Grove Recreation buildings, playground, beach and boat storage areas.

TACONIC CHAPEL PARK
The smallest town park, located at the former site of the Taconic Chapel at the intersection of Scoville Road and Twin Lakes Road in Taconic.

CIVIL WAR MEMORIAL PARK
A triangular parcel of land containing the Soldiers' Monument located directly in front of the White Hart Inn.

MARY V. PETERS MEMORIAL PARK
Consisting of 36 acres on the southwest shore of Long Pond. The park may be used for fishing, hunting, light camping, hiking and cross-country skiing.

EDITH SCOVILLE MEMORIAL SANCTUARY
288 acres located at the apex formed by Taconic Road, Lake Washinee and Route 44. It is beautifully wooded with many ski and hiking trails and a lean-to with fireplace.

REYNOLDS-ROCKWELL PARK
Two acres located next to Hanging Rock Park and Washinee Park at the corner of Locust Ave.

Town of Salisbury

Recreation Commission Programs

FALL PROGRAMS

Soccer: Trotta Field off Salmon Kill Road, owned by Town of Salisbury; Community Field behind Patco in Lakeville, owned by Lakeville Fire District, soon to become Town of Salisbury property; Salisbury Central School, owned by Town of Salisbury

Outdoor Basketball Courts: 1 court located on Pettee Street, land owned by Aquarion Water Company and leased to Town; 2 courts located at Trotta Field

Outdoor Street Hockey: 1 area at Trotta Field

WINTER PROGRAMS

Family Skating: Schmidt Rink at The Hotchkiss School (open to non-residents)

Outdoor Ice Skating: Factory Pond, owned by Town of Salisbury

Basketball: Salisbury Central School, owned by Town of Salisbury

Paddle Tennis: Courts at Town Grove, owned by Town of Salisbury

Indoor Walking Program: Hotchkiss School indoor track, owned by The Hotchkiss School (open to non-residents)

Adult Lap Swim Program: Hotchkiss School pool (open to non-residents)

Adult Exercise Classes: Salisbury Central School gym (open to non-residents)

SPRING PROGRAMS

Baseball: 1 field at Trotta Field, 1 field at Salisbury Central School

Lacrosse: Fields at The Hotchkiss School (regional program open to non-residents)

Field Hockey: The Hotchkiss School indoor turf (regional program open to non-residents)

Softball: Salisbury Central School softball field

SUMMER PROGRAMS

Summer recreation programs are open to Salisbury residents only. Non-residents may not participate.

Swim Lessons: Lakeville Lake at Town Grove

Swim Team: Swim team area, Lakeville Lake at Town Grove

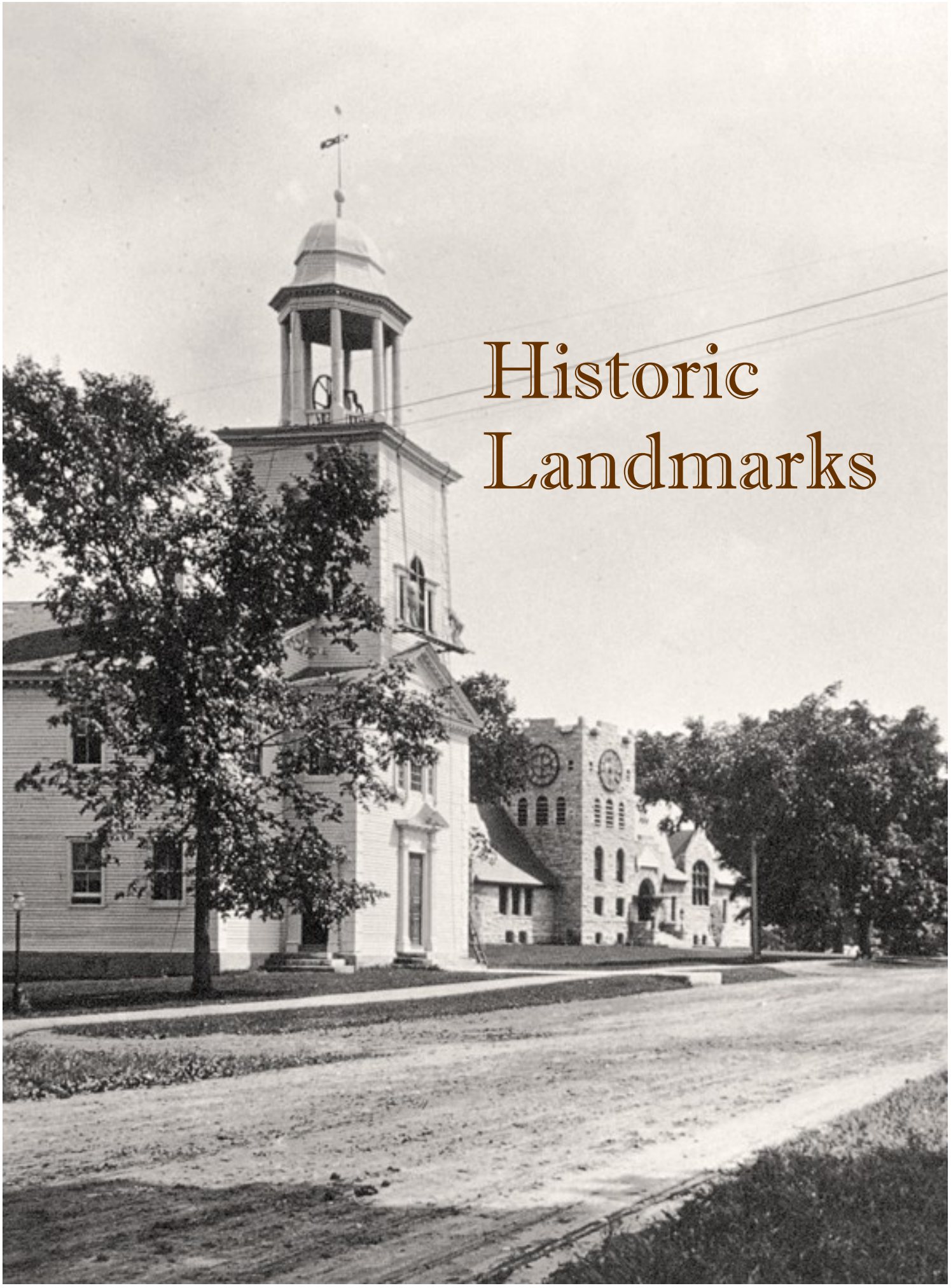
Kayaking Lessons: Lakeville Lake at Town Grove

Sailing Lessons: Lakeville Lake at Town Grove

Tennis Lessons: Town tennis courts on Pettee Street, land owned by Aquarion Water Company and leased to Town

Life Guard Training: Lakeville Lake, Town Grove (open to non-residents)

Babe Ruth Baseball: 1 baseball field located at Community Field



Historic Landmarks

Historic Landmarks

Introduction

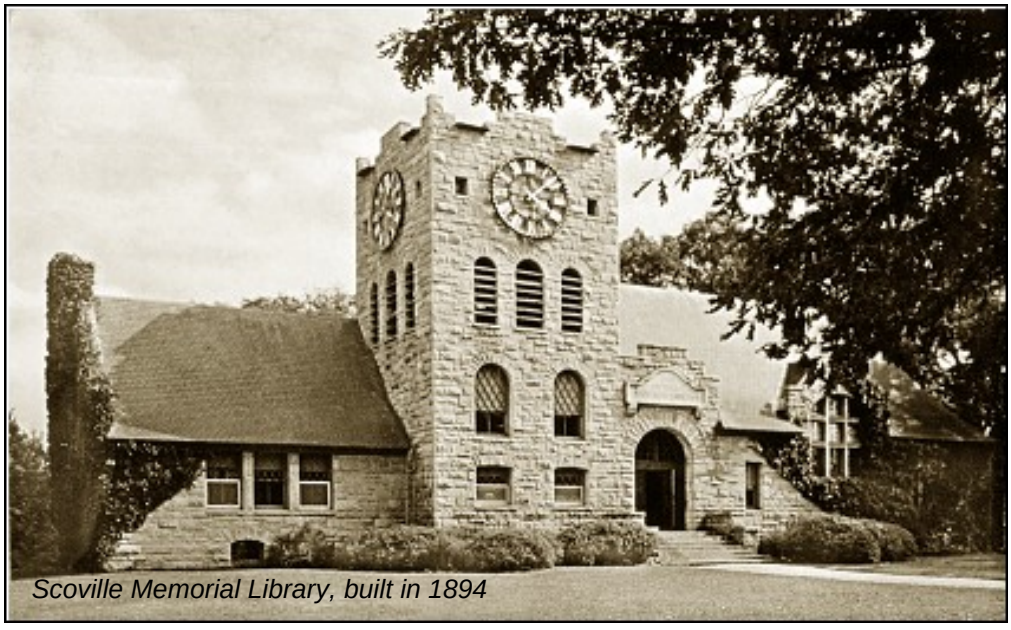
The settlement of Salisbury was driven by its natural resources, specifically iron. Settlements had been established along the Connecticut and Hudson Rivers nearly a century before Salisbury was founded, but progress inland from those rivers was slow. One factor slowing settlement of the Salisbury area was the fact that the Housatonic River was not navigable and thus could not offer an easy means of access to the interior, as the Connecticut and the Hudson Rivers do. Since the mountains in our area run north-south, travel east or west requires crossing multiple hills. This was a definite impediment to travel in the 17th and 18th centuries.


Academy Building

The first reports of iron ore deposits in the Salisbury area came about 1728, but it was the confirmed discovery of Ore Hill in 1731 that peaked interest in the area. Development came quickly after that discovery, with Thomas Lamb building a bloomery forge in Salisbury in 1734, and the beginning of production of iron goods either that year or early 1735. The Town was officially incorporated in 1741.

While industry may have driven the formation of the Town, by 1900 industry was no longer a major factor. As local industries declined, Salisbury was able to survive without passing through a "rust belt" phase. The transition away from an industrial economy was fairly smooth with the only major effect being a decline in population as people moved west to find new opportunities. Though not a major agricultural area, Salisbury has been able to support dairy farms and horse farms, and some farming activity continues today.

The natural beauty of the area stimulated tourism and made it an important part of the local economy. Large hotels prospered and the town developed a significant population of weekend visitors eager to find respite from nearby East Coast cities. The development of Lime Rock Park during the latter half of the 20th century added another attraction that brought visitors to the area. Today, Salisbury still has a vigorous weekend population as well as communities of retirees, artists and others who find the local environment stimulating and supportive.


Scoville Memorial Library, built in 1894

Grist mill, 1744, Factory Street

Historic Landmarks Map

Map 11, Salisbury Selected Historic Landmarks, and Map 11A, which highlights the villages of Salisbury and Lakeville, identify the natural and cultural sites that have played a role in each phase of the history of the town. As such they are not an exhaustive listing of all the historic sites and structures in Salisbury. The items listed include industrial sites, such as ore mines and the businesses they supported, as well as cultural features including homes, churches, schools and cemeteries. Also included are some of the inns, hotels and boarding houses that contributed to Salisbury's economy in its move away from industry.

On the two maps, priority is given to landmarks that still stand, but in a few cases it was necessary to include places where there are no standing structures because those sites help to form a clearer picture of the history of the area.

Some of the larger homes that housed the influential families who shaped Salisbury are also included, but, as noted above, the maps do not provide a full inventory of all of the older homes in the town.

The "key" on Map 11 identifies the historic sites numbered on the maps. For a more detailed description of these selected landmarks, see the next two pages in this chapter.

Historic District

The maps also show the Salisbury Historic District. Properties included in the district are managed with respect to exterior changes. Public hearings are held to obtain approval whenever a change to a district property is contemplated. This provides community oversight of the impact of changes to the property.

The concept used in Salisbury is somewhat different from that of other communities in that the "district" is not confined to fixed areas of the town. Some properties are "districts of one," where the owner wants to provide lasting oversight of present and future changes to his or her property even though the property may not be in the village center or near any other district properties. Several such properties can be seen on the map. Use of this concept helps to preserve the character of Salisbury not only in the village centers, but also throughout the remainder of the town.

Iron kettle cast in Salisbury

Historic Landmark Sites

Detailed Key to Sites Identified on Maps 11 and 11A

1-Joyce Iron furnace. Built 1847, ran until 1857. Used cold blast to make iron.
2- Harris Scythe Works. Manufactured edged tools until about 1860. In 1830 produced more than 10,000 scythes at this location. Affiliated with other Harris works in Pine Plains, New York.
3-Twin Lakes Chapel. Still in use by Orthodox Christian Church.
4-Taconic (Chapinville) cemetery, 1789.
5-Twin Lakes boarding houses. Includes several large summer boarding houses. Part of the transition from industry to tourism. Still in use as summer residences.
6-Taconic Union Chapel. Built 1832 to serve Twin Lakes area. Demolished in 1950's. Site marked by monument.
7-Taconic schoolhouse. Built by Scoville family. Used until regional school system was implemented.
8-Herbert Scoville Mansion. Built circa 1912, burned 1925, rebuilt 1927.
9-Old Stone House, age unknown. This house has probably stood at the outlet of Twin Lakes for more than 200 years. One of very few stone houses in the area.
10-Twin Lakes outlet. This location was the site of a pre-revolutionary forge, grist mill, woolen mill, iron furnace and finally a privately owned hydroelectric power plant.
11-Robert Scoville Mansion. Built circa 1895, burned 1917, rebuilt 1930.
12-Scoville ore bed. Provided ore for local furnaces.
13-Miles House. Residence of iron industry inventor and entrepreneur William Miles.
14-Camp-Ball House. May be oldest inhabited house in Salisbury.
15-Frink ore bed. Located on the shore of West Twin Lake. In operation by 1825. Furnished ore for Landon furnace at the outlet of Twin Lakes.
16-Dutcher burying ground.
17-Mt. Riga Furnace and forge. Built circa 1810.
18-Mt. Riga Cemetery. Burying ground for village on top of Mt. Riga.
19-White Hart Inn. Named after an inn in Salisbury England, tap room dates from 1806. Still an Inn.
20-Salisbury School. Founded in 1901 as school for boys. Continues as such today.
21-Catholic cemetery.
22-Salisbury cemetery. Replaced "Old Burying Ground."
23-Civil War memorial.
24-Salisbury Ski jump. Center of winter sports in Salisbury. Still in use.
25-St. Johns Church 1821.
26-Ragamont or Maple Shade Inn. Nineteenth century inn renovated as office complex.
27-Selleck grist mill. One of the many mills on Washinee St.
28-Academy Building. Built 1834, used as school and courthouse. It is now the home of the Salisbury Association.
29-Salisbury Town Hall. Replaced original burned in 1985.
30- Old Burying Ground behind Salisbury Town Hall. Oldest grave 1750.
31-Washinee mill. Originally woolen mill relocated from Twin Lakes (see #10). One of many mills on Washinee St.
32-"Kettle" watering trough. Original iron kettle replaced by marble version in 1908.
33-Salisbury Congregational Church. Built 1799-1800. Often used as town meeting hall.
34-Bushnell Tavern. Parts of building date to 1774, moved back from road to present location.
35-Scoville Library. Built in 1894, gift of the Scoville family.
36-Salisbury railroad depot. Moved and turned 90 degrees from original location.
37-Stiles Meadow. Hessian prisoners of war camped here in 1778 on their way to Virginia.

38-Davis ore bed. One of the first iron mines in the area. Ore used in first forge (see #61).
39-Salisbury Central School. Originally built as High School. Opened 1930. Still in use.
40-Porter ore bed. One of the early ore mines.
41-Methodist church 1816.
42-Joshua Porter house 1778. Overseer of Lakeville furnace during Revolutionary War.
43-Holley-Williams House. Dates to 1808. Home to Holley and Williams families.
44-Site of Gateway Inn, also called "Wononsco House." Largest hotel in town. Offered access to the lake in Lakeville. Survived into second half of the 20th century.
45-Site of Ames works, Housatonic Railroad shops. Ames works built cannon, locomotive tires and steamship cranks. Once held largest steam hammer in the United States. Railroad shop took site over in 1870s after Ames' death
46-Farnham Tavern built about 1795. First post office in Salisbury.
47-"Arsenal of the Revolution" - Holley factory. Site of foundry that made cannon for the Revolution. Holley Co. built on same site made pocket knives and other cutlery into 20th century.
48-Lakeville railroad depot. It is now used as radio station.
49-Holleywood built 1851-53. Home of Connecticut governor Alexander Holley.
50-Robbins house 1859.
51-School for Imbeciles. Pioneering institution treating learning difficulties. Most buildings now gone.
52-St. Mary's church 1875. Classic Victorian age house.
53-Amesville iron bridge. Example of early iron truss bridge. Still in use.
54-Wake Robin Inn. Built in 1899 as Taconic School for Girls. Became an inn 15 years later.
55-Amesville school. Served community that built up around Ames works, #45.
56-Ore Hill Mine. Discovered in 1731. Spurred settlement of Salisbury. Operated until 1923.
57-Ore Hill school. Moved from original site. Served community built up around Ore Hill Mine.
58-Chatfield Mine. Another large iron mine. In operation by 1760. Now called Deep Lake.
59-Town Hill Cemetery 1757. Now surrounded by Hotchkiss School.
60-Hotchkiss School. Private school founded in 1892 by Maria Hotchkiss. Has become world famous for quality of education provided.
61-Lamb's forge. First ironworks in Salisbury. Water privilege granted to Thomas Lamb in 1734, production began 1735, beginning the iron industry. Used ore from Davis ore bed (see #38).
62-Limerock furnace 1830. Blast furnace built just downstream from site of Lamb's Forge, second furnace built 1865.
63-Indian Mountain School 1922. Private school for boarding and day students from pre-K to the ninth grade.
64-Barnum & Richardson foundry. Produced extremely durable cast iron railroad car wheels and other castings. B&R was once largest supplier of cast iron car wheels in the United States.
65-Barnum & Richardson office building. Headquarters of the company until about 1916 when company went into receivership. Still in use as private dwelling.
66-Rocky Dell Hotel. Served Lime Rock area.
67-B&R "Casino." Recreation center built for Barnum & Richardson employees. Employees held majority interest in the building. It is now a private residence.
68-Site of Cedars Country Club. Largest resort facility in Salisbury and an example of Salisbury's transition from industry to tourism. Today it is a park with no remaining structures.
69-Trinity Lime Rock Church 1874. "The church that iron built." Funded by Barnum and Richardson families to serve the spiritual needs of Lime Rock.

Recommendations

1. Establish a plan to identify and interpret historic sites. This can be accomplished via markers and an interpretive brochure, as was done in nearby Dutchess County or, where appropriate, by placement of interpretive signs at the sites themselves. *Note:* The Salisbury Association Historical Society is working on a project to place educational markers at historic sites throughout the town and to produce a heritage brochure as a guide to these sites.
2. Expand educational activities related to local history with exhibits and school programs.
3. Encourage lectures on local history.
4. If resources permit, consider production of documentary films similar to the one on the Holley family, produced by the Salisbury Association Historical Society.
5. Create and maintain a Web site dedicated to Salisbury's history.
6. The Historic District Commission should encourage the addition of important historic properties to those it currently supervises.

Suggested Readings on Salisbury's History

In addition to materials on local history available at the Scoville Memorial Library, the Salisbury Association publishes a number of titles pertaining to Salisbury's past. These publications (see titles listed below) are available at the Academy Building, 24 Main Street, Salisbury.

The Association also maintains a computerized photo archive containing over 3,000 images related to Salisbury's heritage.

A Short History of Salisbury, Connecticut
Salisbury, Historic Impressions
Arsenal of the Revolution
Holley Hand-Forged Knives
Salisbury: Primitive Frontier to Flourishing Town
Highlights in the History of Salisbury
John and Ethan, a Revolutionary Friendship
The Central New England Railroad, 1867-1967

APPENDICES

Connecticut's Endangered, Threatened and Special Concern Species Reported Found in Litchfield County

State of Connecticut, Department of Environmental Protection
Bureau of Natural Resources, Wildlife Division

Amphibians

Scientific Name	Common Name	Protection Status
Ambystoma jeffersonianum	Jefferson Salamander	SC
Ambystoma laterale	Blue-spotted Salamander	T
Gyrinophilus porphyriticus	Northern Spring Salamander	T
Rana pipiens	Northern Leopard Frog	SC

Birds

Scientific Name	Common Name	Protection Status
Accipiter striatus	Sharp-shinned Hawk	E
Aegolius acadicus	Northern Saw-whet Owl	SC
Ammodramus henslowii	Henslow's Sparrow	SC*
Ammodramus savannarum	Grasshopper Sparrow	E
Anas discors	Blue-winged Teal	T
Asio otus	Long-eared Owl	E
Bartramia longicauda	Upland Sandpiper	E
Botaurus lentiginosus	American Bittern	E
Caprimulgus vociferus	Whip-poor-will	SC
Circus cyaneus	Northern Harrier	E
Cistothorus platensis	Sedge Wren	E
Corvus corax	Common Raven	SC
Dolichonyx oryzivorus	Bobolink	SC
Empidonax alnorum	Alder Flycatcher	SC
Eremophila alpestris	Horned Lark	E
Falco sparverius	American Kestrel	T
Gallinula chloropus	Common Moorhen	E
Gavia immer	Common Loon	SC
Haliaeetus leucocephalus	Bald Eagle	E
Ixobrychus exilis	Least Bittern	T
Melanerpes erythrocephalus	Red-headed Woodpecker	E
Parula americana	Northern Parula	SC
Passerculus sandwichensis	Savannah Sparrow	SC
Podilymbus podiceps	Pied-billed Grebe	E
Pooecetes gramineus	Vesper Sparrow	E
Progne subis	Purple Martin	T

E = Endangered, T = Threatened, SC = Special Concern, * Believed Extirpated

Sturnella magna	Eastern Meadowlark	SC
Tyto alba	Barn Owl	E
Vermivora chrysoptera	Golden-winged Warbler	E

Fish

Scientific Name	Common Name	Protection Status
Catostomus catostomus	Longnose Sucker	SC
Lota lota	Burbot	E

Invertebrates

Scientific Name	Common Name	Protection Status
Acronicta albarufa	Barrens Dagger Moth	SC*
Agonum darlingtoni	A Ground Beetle	SC
Agrotis stigmosa	Spotted Dart Moth	SC*
Amblyscirtes vialis	Common Roadside Skipper	T
Anarta luteola	Yellow Anarta	E
Anthopotamus verticis	Tusked Sprawler	SC
Apamea burgessi	A Noctuid Moth	SC
Apodrepanulatrix liberaria	New Jersey Tea Inchworm	SC
Atylotus ohioensis	Tabanid Fly	SC
Bembidion quadratulum	A Ground Beetle	SC
Bembidion simplex	A Ground Beetle	SC
Calephelis borealis	Northern Metalmark	E
Callophrys irus	Frosted Elfin	T
Catocala herodias gerhardi	Herodias Underwing	T
Chaetaglaea cerata	A Noctuid Moth	SC*
Cicindela tranquebarica	Dark Bellied Tiger Beetle	SC
Cinygmula subaequalis	A Mayfly	SC
Citheronia regalis	Regal Moth	SC*
Eacles imperialis imperialis	Imperial Moth	SC*
Erynnis lucilius	Columbine Duskywing	E
Erynnis persius persius	Persius Duskywing	E
Euphyes bimacula	Two-spotted Skipper	T
Euphyes dion	Sedge Skipper	T
Exyra rolandiana	Pitcher Plant Moth	SC
Fossaria galbana	Lymnaeid Snail	SC*
Gomphus adelphus	Mustached Clubtail	T
Gomphus descriptus	Harpoon Clubtail	T
Gomphus ventricosus	Skillet Clubtail	SC
Grammia speciosa	Bog Tiger Moth	E
Hemaris gracilis	Slender Clearwing	T

E = Endangered, T = Threatened, SC = Special Concern, * Believed Extirpated

Hetaerina americana	American Rubyspot	SC
Hybomitra frosti	A Horse Fly	T
Hybomitra longiglossa	A Horse Fly	E
Hybomitra lurida	A Horse Fly	SC
Hybomitra typhus	A Horse Fly	SC
Hydraecia immanis	Hop Vine Borer Moth	SC*
Itame sp. 1 nr. inextricata	Barrens Itame (cf I. inextricata)	T
Leucorrhinia glacialis	Crimson-ringed Whiteface	T
Ligumia nasuta	Eastern Pondmussel	SC
Lycaena epixanthe	Bog Copper	SC
Lycaena hyllus	Bronze Copper	SC
Margaritifera margaritifera	Eastern Pearlshell	SC
Meropleon ambifuscum	Newman's Brocade	SC*
Merycomyia whitneyi	Tabanid Fly	SC
Metarranthis apiciaria	Barrens Metarranthis Moth	SC*
Papaipema appassionata	Pitcher Plant Borer Moth	E
Papaipema circumlucens	Hops Stalk Borer Moth	SC*
Papaipema leucostigma	Columbine Borer	SC
Papaipema sciata	Culvers Root Borer	SC*
Phyllonorycter ledella	Labrador Tea Tentiform Leafminer	E
Psectraglaea carnosa	Pink Sallow	T
Sargus fasciatus	Soldier Fly	SC
Satyrodes eurydice	Eyed Brown	SC
Somatochlora elongata	Ski-tailed Emerald	SC
Speyeria atlantis	Atlantis Fritillary	SC
Tabanus fulvicallus	Horse Fly	SC
Valvata tricarinata	Threeridge Valvata	SC

Mammals

Scientific Name	Common Name	Protection Status
Lasiurus cinereus	Hoary Bat	SC
Synaptomys cooperi	Southern Bog Lemming	SC

Plants

Scientific Name	Common Name	Protection Status
Abies balsamea		Balsam Fir E
Acalypha virginica	Virginia Copperleaf	SC
Acer nigrum	Black Maple	SC
Agastache scrophulariifolia	Purple Giant Hyssop	E
Alopecurus aequalis	Orange Foxtail	T
Amelanchier sanguinea	Roundleaf Shadbush	E

E = Endangered, T = Threatened, SC = Special Concern, * Believed Extirpated

Andromeda glaucophylla	Bog Rosemary	T
Anemone canadensis	Canada Anemone	E
Angelica venenosa	Hairy Angelica	SC*
Antennaria neglecta var. petaloidea	Field Pussytoes	SC*
Aplectrum hyemale	Puttyroot	SC*
Arceuthobium pusillum	Dwarf Mistletoe	E
Arethusa bulbosa	Arethusa	SC*
Aristida longespica	Needlegrass	SC
Aristolochia serpentaria	Virginia Snakeroot	SC
Asclepias viridiflora	Green Milkweed	E
Asplenium montanum	Mountain Spleenwort	T
Asplenium ruta-muraria	Wallrue Spleenwort	T
Betula pumila	Swamp Birch	SC
Blephilia ciliata	Downy Woodmint	SC*
Blephilia hirsuta	Hairy Woodmint	SC*
Bouteloua curtipendula	Side-oats Grama	E
Calamagrostis stricta ssp. inexpansa	Reed Bentgrass	SC
Calystegia spithamaea	Low Bindweed	SC*
Cardamine douglassii	Purple Cress	SC
Carex aestivalis	Summer Sedge	SC
Carex alata	Broadwing Sedge	E
Carex alopecoidea	Foxtail Sedge	T
Carex aquatilis var. altior	Sedge	SC
Carex backii	Sedge	E
Carex bushii	Sedge	SC
Carex buxbaumii	Brown Bog Sedge	E
Carex castanea	Chestnut-colored Sedge	E
Carex crawei	Crawe's Sedge	T
Carex crawfordii	Crawford Sedge	SC*
Carex cumulata	Clustered Sedge	T
Carex davisii	Davis' Sedge	E
Carex foenea	Bronze Sedge	SC*
Carex formosa	Handsome Sedge	SC
Carex hitchcockiana	Hitchcock's Sedge	SC
Carex limosa	Sedge	E
Carex lupuliformis	False Hop Sedge	SC
Carex molesta	Troublesome Sedge	SC
Carex novae-angliae	New England Sedge	SC
Carex oligocarpa	Eastern Few-fruit Sedge	SC
Carex pauciflora	Few-flowered Sedge	SC*
Carex paupercula	Sedge	E

E = Endangered, T = Threatened, SC = Special Concern, * Believed Extirpated

Carex prairea	Prairie Sedge	SC
Carex pseudocyperus	Cyperus-like Sedge	E
Carex schweinitzii	Schweinitz's Sedge	E
Carex squarrosa	Sedge	SC
Carex sterilis	Dioecious Sedge	SC
Carex trichocarpa	Sedge	SC
Carex tuckermanii	Tuckerman Sedge	SC
Carex viridula	Little Green Sedge	E
Castilleja coccinea	Indian Paintbrush	E
Chamaelirium luteum	Devil's-bit	E
Coeloglossum viride var. virescens	Long-bracted Green Orchid	SC
Corallorhiza trifida	Early Coralroot	SC
Cryptogramma stelleri	Slender Cliff-brake	E
Cuphea viscosissima	Blue Waxweed	SC*
Cypripedium parviflorum	Yellow Lady's-slipper	SC
Cypripedium reginae	Showy Lady's-slipper	E
Dalibarda repens	Dew-drop	E
Desmodium glabellum	Dillen Tick-trefoil	SC
Desmodium humifusum	Trailing Tick-trefoil	SC
Dicentra canadensis	Squirrel-corn	T
Diplazium pycnocarpon	Narrow-leaved Glade Fern	E
Draba reptans	Whitlow-grass	SC
Dryopteris campyloptera	Mountain Wood-fern	E
Dryopteris goldiana	Goldie's Fern	SC
Eleocharis equisetoides	Horse-tail Spikerush	E
Elymus trachycaulus ssp. subsecundus	Slender Wheatgrass	SC
Elymus wiegandii	Wiegand's Wild Rice	SC
Equisetum pratense	Meadow Horsetail	E
Equisetum scirpoides	Dwarf Scouring Rush	E
Eriophorum vaginatum var. spissum	Hare's Tail	T
Galium labradoricum	Bog Bedstraw	E
Gaultheria hispidula	Creeping Snowberry	T
Gaylussacia dumosa var. bigeloviana	Dwarf Huckleberry	T
Gentiana quinquefolia	Stiff Gentian	E
Geranium bicknellii	Bicknell Northern Crane's-bill	SC*
Helianthemum propinquum	Low Frostweed	T
Hemicarpha micrantha	Dwarf Bulrush	E
Hepatica acutiloba	Sharp-lobed Hepatica	SC
Houstonia longifolia	Longleaf Bluet	E
Hydrocotyle umbellate	Water Pennywort	E
Hydrophyllum virginianum	Virginia Waterleaf	SC

E = Endangered, T = Threatened, SC = Special Concern, * Believed Extirpated

Hypericum pyramidatum	Great St. John's-wort	SC
Isanthus brachiatus	False Pennyroyal	E
Isotria medeoloides	Small Whorled Pogonia	E
Krigia biflora	Two-flowered Cynthia	SC
Ledum groenlandicum	Labrador Tea	T
Liatris scariosa var. novae-angliae	Blazing-star	SC
Linnaea borealis var. americana	Twinflower	E
Linum sulcatum	Yellow Flax	SC
Lygodium palmatum	Climbing Fern	SC
Lythrum alatum	Winged-loosestrife	E
Malaxis monophyllos	White Adder's-mouth	E
Malaxis unifolia	Green Adder's-mouth	E
Megalodonta beckii	Water-marigold	T
Milium effusum	Tall Millet-grass	SC*
Mimulus alatus	Winged Monkey-flower	SC
Mitella nuda	Naked Miterwort	SC
Moneses uniflora	One-flower Wintergreen	E
Myriophyllum alterniflorum	Slender Water-milfoil	E
Myriophyllum sibiricum	Northern Water-milfoil	T
Nuphar microphylla	Small Yellow Pond Lily	SC
Nymphaea odorata var. tuberosa	Water Lily	SC*
Onosmodium virginianum	Gravel-weed	E
Ophioglossum pusillum	Adder's Tongue	T
Oryzopsis pungens	Slender Mountain-ricegrass	SC
Oxalis violacea	Violet Wood-sorrel	SC
Panax quinquefolius	American Ginseng	SC
Panicum xanthophysum	Panic Grass	SC*
Pellaea glabella	Smooth Cliff-brake	E
Petasites frigidus var. palmatus	Sweet Coltsfoot	T
Pinus resinosa	Red Pine	E
Plantago virginica	Hoary Plantain	SC
Platanthera blephariglottis	White-fringe Orchid	E
Platanthera dilatata	Tall White Bog Orchid	SC*
Platanthera flava	Pale Green Orchid	SC
Platanthera hookeri	Hooker Orchid	SC*
Platanthera orbiculata	Large Roundleaf Orchid	SC*
Podostemum ceratophyllum	Threadfoot	SC
Polanisia dodecandra	Clammy-weed	SC*
Polygala senega	Seneca Snakeroot	E
Populus heterophylla	Swamp Cottonwood	E
Potamogeton confervoides	Pondweed	SC*

E = Endangered, T = Threatened, SC = Special Concern, * Believed Extirpated

Potamogeton friesii	Fries' Pondweed	E
Potamogeton hillii	Hill's Pondweed	E
Potamogeton ogdenii	Ogden's Pondweed	E
Potamogeton strictifolius	Straight-leaf Pondweed	E
Potamogeton vaseyi	Vasey's Pondweed	E
Potentilla arguta	Tall Cinquefoil	SC
Potentilla tridentata	Three-toothed Cinquefoil	E
Pycnanthemum clinopodioides	Basil Mountain-mint	E
Pyrola secunda	One-sided Pyrola	SC*
Quercus macrocarpa	Bur Oak	SC
Ranunculus ambigens	Water-plantain Spearwort	E
Ranunculus pensylvanicus	Bristly Buttercup	SC*
Ranunculus sceleratus	Cursed Crowfoot	SC
Ranunculus subrigidus	White Water-crowfoot	SC
Rhynchospora capillacea	Capillary Beakrush	E
Rhynchospora macrostachya	Beaked Rush	T
Ribes glandulosum	Skunk Currant	T
Ribes rotundifolium	Wild Currant	SC*
Ribes triste	Swamp Red Currant	E
Rubus cuneifolius	Sand Bramble	SC
Salix pedicellaris	Bog Willow	E
Salix serissima	Autumn Willow	SC
Scheuchzeria palustris	Pod Grass	E
Schizachne purpurascens	Purple Oat	SC
Scirpus acutus	Hard-stemmed Bulrush	T
Scirpus hudsonianus	Cotton Bulrush	SC*
Scirpus torreyi	Torrey's Bulrush	T
Scleria verticillata	Low Nutrush	SC*
Scutellaria leonardii	Small Skullcap	E
Senecio pauperculus	Ragwort	E
Senna hebecarpa	Wild Senna	SC
Silene stellata	Starry Champion	SC
Smilacina trifolia	Three-leaved False Solomon's-seal	T
Solidago ptarmicoides	Prairie Goldenrod	E
Solidago rigida	Stiff Goldenrod	E
Solidago rugosa var. sphagnophila	Early Wrinkle-leaved Goldenrod	SC*
Sparganium fluctuans	Floating Bur-reed	E
Sparganium minimum	Small Bur-reed	SC*
Sporobolus cryptandrus	Sand Dropseed	T
Sporobolus neglectus	Small Dropseed	E
Stellaria borealis	Northern Stitchwort	SC

E = Endangered, T = Threatened, SC = Special Concern, * Believed Extirpated

Streptopus amplexifolius var. americanus	White Mandarin	T
Taenidia integerrima	Yellow Pimpernel	E
Thuja occidentalis	Northern White Cedar	T
Trichomanes intricatum	Appalachian Gametophyte	SC
Triphora trianthophora	Nodding Pogonia	SC*
Trisetum spicatum var. molle	Spiked False Oats	SC*
Trollius laxus	Spreading Globeflower	T
Utricularia resupinata	Bladderwort	E
Uvularia grandiflora	Large-flowered Bellwort	E
Vaccinium myrtilloides	Velvetleaf Blueberry	SC*
Viburnum prunifolium*	Black Haw	SC
Viola canadensis	Canada Violet	SC
Viola nephrophylla	Northern Bog Violet	SC
Viola renifolia var. brainerdii	Kidney-leaf White Violet	SC
Viola selkirkii	Great-spurred Violet	SC
Waldsteinia fragarioides	Barren Strawberry	SC
Xyris montana	Northern Yellow-eyed grass	T

* located during field work; in the process of being added to the State's Litchfield County list

Reptiles

Scientific Name	Common Name	Protection Status
Clemmys insculpta	Wood Turtle	SC
Clemmys muhlenbergii	Bog Turtle	E
Crotalus horridus	Timber Rattlesnake	E
Eumeces fasciatus	Five-lined Skink	T
Heterodon platirhinos	Eastern Hognose Snake	SC
Terrapene carolina	Eastern Box Turtle	SC
Thamnophis sauritus	Eastern Ribbon Snake	SC

CT Department of Environmental Protection
Bureau of Natural Resources, Wildlife Division

Note: The DEP is mandated to review Connecticut's Endangered, Threatened and Special Concern Species List every 5 years. It is in the process of revising the list for 2009.

E = Endangered, T = Threatened, SC = Special Concern, * Believed Extirpated

AMPHIBIANS, REPTILES AND MAMMALS
THAT OCCUR OR MAY OCCUR IN SALISBURY

Common Name	Scientific Name	Status in Connecticut
AMPHIBIANS		
Blue-spotted Salamander	*Ambystoma laterale*	Special Concern
Northern Dusky Salamander	*Desmognathus f. fuscus*	
Four-toed Salamander	*Hemidactylium scutatum*	
Red-spotted Newt	*Notophthalmus v. viridescens*	
Jefferson Salamander "complex"	*Ambystoma jeffersonianum*	Special Concern
Marbled Salamander	*Ambystoma opacum*	
Northern Two-lined Salamander	*Eurycea bislineata*	
Northern Spring Salamander	*Gyrinophilus porphyriticus*	Threatened
Red-backed Salamander	*Plethodon cinereus*	
Spotted Salamander	*Ambystoma maculatum*	
American Toad	*Bufo a. americanus*	
Fowler's Toad	*Bufo fowleri*	
Bullfrog	*Rana catesbeiana*	
Gray Tree Frog	*Hyla versicolor*	
Green Frog	*Rana clamitans*	
Northern Leopard frog	*Rana pipiens*	Special Concern
Pickerel Frog	*Rana palustris*	
Northern Spring Peeper	*Pseudacris c. crucifer*	
Wood Frog	*Rana sylvatica*	
REPTILES		
Bog Turtle	*Clemmys muhlenbergii*	Endangered
Common Musk Turtle	*Sternotherus odoratus*	
Common Snapping Turtle	*Chelydra s. serpentina*	
Painted Turtle	*Chrysemys picta*	
Spotted Turtle	*Clemmys guttata*	
Wood Turtle	*Clemmys insculpta*	Special Concern
Eastern Garter Snake	*Thamnophis s. sirtalis*	
Eastern Hognose Snake	*Heterodon platirhinos*	Special Concern
Eastern Ribbon Snake	*Thamnophis s. sauritus*	Special Concern
Northern Black Racer	*Coluber c. constrictor*	
Northern Ringneck Snake	*Diadophis punctatus edwardsii*	
Northern Redbelly Snake	*Storeria o. occipitomaculata*	
Timber Rattlesnake	*Crotalus horridus*	Endangered
Northern Water Snake	*Nerodia s. sipedon*	
Smooth Green Snake	*Opheodrys vermalis*	
Eastern Milk Snake	*Lampropeltis t. triangulum*	
Dekay's (Northern Brown) Snake	*Storeria d. dekayi*	

MAMMALS

Opossum	*Didelphis virginiana*	
Short-tailed Shrew	*Blarina brevicauda*	
Masked Shrew	*Sorex cinereus*	
Smoky Shrew	*Sorex fumeus*	
Water Shrew	*Sorex palustris*	
Star-nosed Mole	*Condylura cristata*	
Eastern Mole	*Scalopus aquaticus*	
Hairy-tailed Mole	*Parascalops breweri*	
Little Brown Bat	*Myotis lucifugus*	
Silver-haired Bat	*Lasionycteris noctivagans*	Species of Special Concern
Eastern Pipistrelle	*Perimyotis subflavus*	
Big Brown Bat	*Eptesicus fuscus*	
Red Bat	*Lasiurus borealis*	Species of Special Concern
Hoary Bat	*Lasiurus cinereus*	Species of Special Concern
Northern-long eared bat	*Myotis septentrionalis*	
Black Bear	*Ursus Americanus*	
Raccoon	*Procyon lotor*	
Fisher	*Martes pennanti*	
Short-tailed Weasel	*Mustela erminea*	
Long-tailed Weasel	*Mustela frenata*	
Mink	*Mustela vison*	
River Otter	*Lontra canadensis*	
Striped Skunk	*Mephitis mephitis*	
Coyote	*Canis latrans*	
Red Fox	*Vulpes vulpes*	
Grey Fox	*Urocyon cinereoargenteus*	
Bobcat	*Felis rufus*	
Woodchuck	*Marmota monax*	
Eastern Chipmunk	*Tamias striatus*	
Grey Squirrel	*Sciurus carolinensis*	
Red Squirrel	*Tamiasciurus hudsonicus*	
Southern Flying Squirrel	*Galucomys volans*	
Beaver	*Castor canadensis*	
Deer Mouse	*Peromyscus maniculatus*	
White-footed Mouse	*Peromyscus leucopus*	
Southern Bog Lemming	*Synaptomys cooperi*	Species of Special Concern
Boreal Red-backed Vole	*Celthrionomys gapperi*	
Meadow Vole	*Microtus pennsylvanicus*	
Woodland Vole	*Microtus pinetorum*	
Muskrat	*Ondatra zibethicus*	
Norway Rat	*Rattus norvegicus*	
House Mouse	*Mus musculus*	
Meadow Jumping Mouse	*Zapus hudsonicus*	
Woodland Jumping Mouse	*Napeozapus insignis*	
Porcupine	*Erethizon dorsatum*	
Snowshoe Hare	*Lepus americanus*	
European Hare	*Lepus capensis*	
Eastern Cottontail	*Sylvilagus floridanus*	
New England Cottontail	*Sylvilagus transitionalis*	
White-tailed Deer	*Odocoileus virginianus*	
Moose	*Alces alces*	

Amphibian and Reptile list contributors: Scott Heth (Sharon Audubon), Robert Moeller, Twan Leenders (CT Audubon Society)

Mammal list contributors: Scott Heth, Robert Moeller, Paul Rego (CT DEP), Christina Kocer (CT DEP), James Fischer (White Memorial Conservation Center), Joseph Markow

BREEDING BIRDS OF SALISBURY

The following list of Breeding Birds of Salisbury, CT was compiled utilizing a report of The Avian Records Committee of Connecticut (ARCC, September 2002) and *The Atlas of Breeding Birds of Connecticut* (1994), with the addition of field observations by Tom and Ingrid Schaefer.

(B) regular breeder (rB) rare, local, irregular or very recent breeder (I) introduced breeder

Bitterns and Herons

Great Blue Heron (B)

Green Heron (B)

Swans, Geese, and Ducks

Canada Goose (B)

Wood Duck (B)

American Black Duck (B)

Mallard (B)

Hooded Merganser (B)

Common Merganser (B)

American Vultures

Black Vulture (B)

Turkey Vulture (B)

Kites, Eagles, and Hawks

Cooper's Hawk (B)

Northern Goshawk (B)

Broad-winged Hawk (B)

Red-tailed Hawk (B)

Falcons

American Kestrel (B)

Partridges, Grouse, Turkeys, and Quail

Ruffed Grouse (B)

Wild Turkey (B)

Rails, Gallinues, and Coots

Virginia Rail (B)

Plovers / Sandpipers

Killdeer (B)

Spotted Sandpiper (rB)

American Woodcock (B)

Pigeons and Doves

Rock Dove (I)

Mourning Dove (B)

Cuckoos

Black-billed Cuckoo (B)

Typical Owls

Eastern Screech-Owl (B)

Great Horned Owl (B)

Barred Owl (B)

Northern Saw-whet Owl (rB)

Goatsuckers

Whip-poor-will (rB)

Swifts

Chimney Swift (B)

Hummingbirds

Ruby-throated Hummingbird (B)

Kingfishers

Belted Kingfisher (B)

Woodpeckers

Red-bellied Woodpecker B)

Yellow-bellied Sapsucker (B)

Downy Woodpecker (B)

Hairy Woodpecker (B)

Northern Flicker (B)

Pileated Woodpecker (B)

Tyrant Flycatchers

Eastern Wood-Pewee (B)

Alder Flycatcher (rB)

Willow Flycatcher (rB)

Least Flycatcher (B)

Eastern Phoebe (B)

Great Crested Flycatcher (B)

Eastern Kingbird (B)

Swallows

Tree Swallow (B)

N. Rough-winged Swallow (B)

Bank Swallow (B)

Cliff Swallow (B)

Barn Swallow (B)

Jays and Crows

Blue Jay (B)

American Crow (B)

Common Raven (B)

BREEDING BIRDS OF SALISBURY

Chickadees and Titmice

Black-capped Chickadee (B)

Tufted Titmouse (B)

Nuthatches

Red-breasted Nuthatch (rB)

White-breasted Nuthatch (B)

Creepers

Brown Creeper (B)

Wrens

Carolina Wren (B)

House Wren (B)

Winter Wren (B)

Kinglets and Thrushes

Blue-gray Gnatcatcher (B)

Eastern Bluebird (B)

Veery (B)

Hermit Thrush (B)

Wood Thrush (B)

American Robin (B)

Thrashers

Gray Catbird (B)

Northern Mockingbird (B)

Brown Thrasher (B)

Waxwings

Cedar Waxwing (B)

Starlings

European Starling (I)

Vireos

Blue-headed Vireo (B)

Yellow-throated Vireo (B)

Warbling Vireo (B)

Red-eyed Vireo (B)

Wood-Warblers

Blue-winged Warbler (B)

Golden-winged Warbler (rB)

Nashville Warbler (rB)

Yellow Warbler (B)

Chestnut-sided Warbler (B)

Magnolia Warbler (rB)

Black-throated Blue Warbler (B)

Yellow-rumped Warbler (B)

Black-throated Green Warbler (B)

Blackburnian Warbler (B)

Prairie Warbler (B)

Black-and-white Warbler (B)

American Redstart (B)

Ovenbird (B)

Northern Waterthrush (B)

Louisiana Waterthrush (B)

Canada Warbler (B)

Common Yelllowthroat (B)

Tanagers

Scarlet Tanager (B)

Cardinals, Grosbeaks, and Buntings

Northern Cardinal (B)

Rose-breasted Grosbeak (B)

Indigo Bunting (B)

Towhees, Sparrows, Juncos, and Longspurs

Eastern Towhee (B)

Chipping Sparrow (B)

Field Sparrow (B)

Savannah Sparrow (B)

Song Sparrow (B)

Swamp Sparrow (B)

White-throated Sparrow (B)

Dark-eyed Junco (B)

Blackbirds

Bobolink (B)

Red-winged Blackbird (B)

Eastern Meadowlark (B)

Common Grackle (B)

Brown-headed Cowbird (B)

Baltimore Oriole (B)

Finches

Purple Finch (B)

House Finch (B)

Pine Siskin (rB)

American Goldfinch (B)

Old World Sparrows

House Sparrow (I)

Salisbury Bird Habitats

Salisbury has several significant and important bird habitats that are responsible for the relative diversity of species found here during the course of an average year. In addition to the widespread forest typical of Southern New England, the lake systems play an important role in the avian diversity. These lakes draw large numbers of migrating waterfowl in late winter/spring and late fall/early winter. Bald Eagles[1] are common during the winter months provided there is open water. The Housatonic River is another critical habitat being a migratory pathway during fall and spring migrations. An abundance of warblers follow the river and can be seen in early May.

The areas of grassland habitat found in all corners of the town host Bobolinks[2] and, on occasion, Eastern Meadowlarks[2] and Brown Thrashers.[2] The loss of such habitat is a root cause of the decline of these species. Salisbury's Schlesinger Bird Preserve, a Land Trust property, is maintained as a valuable reverting field habitat that has nesting Prairie Warbler, Field Sparrow and Indigo Bunting.

Another critical and unique habitat (for Connecticut) is the Taconic Plateau. Here we have the highest elevations in the state, which provides nesting territory for Common Raven[2], Winter Wren, Blue-winged Warbler, Ruffed Grouse and other species found in more northern locales. This mountain range also serves as a migratory pathway for hawks in the fall, channeling the southward flight along its spine.

From forest to lake to river to mountain, Salisbury is blessed with both variety and abundance of bird life. Attention to our fragile environment is essential to save the diversity for future generations.

Tom Schaefer, Salisbury Land Trust

[1] Federally Threatened Species

[2] Species of Special Concern


Brown Thrasher


Indigo Bunting

Vernal Pools in Salisbury and their Obligate Species Identified by the Salisbury School, 1993 to 2009

Early in the 1990s the Science Department faculty at the Salisbury School began using the study of vernal pools, including the identification of their obligate and facultative species, as part of the Third Form Field Studies course. A secondary objective was to begin the process of compiling an inventory of vernal pools in the Town of Salisbury. The following are the vernal pools identified and the obligate species known to be breeding in these pools. While the faculty never intended that the list be exhaustive, either as the sum of all vernal pools in the town of Salisbury or exhaustive as to obligate species in each pool, it represents a beginning. Only one breeding species is necessary for the temporary body of water to be classified as a vernal pool.

Additional field work is needed to identify other vernal pools in Salisbury.

1. Vernal Pool on Taconic Road

Obligate species identified

Wood frog egg mass, tadpoles, adult

Spotted salamander egg mass, larvae, and adults

2. Vernal Pool on Salmon Kill Road (Bike Trail)

Obligate species identified

Wood frog eggs, tadpoles, adults

3. Vernal Pool on Salmon Kill Road

Obligate species identified

Fairy Shrimp

Wood frog eggs, tadpoles, adults

Spotted salamander, eggs larvae, adults

Jefferson salamander, eggs, larvae

4. Vernal Pool on Salisbury School property (behind new athletic complex)

Obligate species identified

Wood frog eggs, tadpoles, adults

Spotted salamander, eggs larvae, adults

5. Vernal Pool on Salisbury School property (lake road)

Obligate species identified

Wood frog eggs, tadpoles, adults

Spotted salamander, eggs larvae,

6. Vernal Pool on River Road

Obligate species identified

Fairy Shrimp

Wood frog eggs, tadpoles, adults

Spotted salamander, eggs larvae, adults

Jefferson salamander, eggs, larvae

7. Second Vernal Pool on River Road

Obligate species identified

Fairy Shrimp

Wood frog eggs, tadpoles, adults

Spotted salamander, eggs larvae, adults

8. Vernal Pool on Hammertown Road

Obligate species identified

Wood frog eggs, tadpoles, adults

9. Vernal Pool on Brinton Hill Road

Obligate species identified

Spotted salamander, eggs larvae

10. Vernal Pool on Route 44 between Lakeville and Millerton

Obligate species identified

Wood frog eggs, tadpoles, adults

Spotted salamander, eggs larvae, adults

Jefferson salamander, eggs, larvae

Salisbury Area Butterfly Species

Species	*Found during SBC 2005-2008	**Found during CT Atlas study	Found prior to Atlas study		Conservation Status	
Black Swallowtail	X	X				
Eastern Tiger Swallowtail	X	X	X			
Canadian Tiger Swallowtail			X			
Spicebush Swallowtail	X	X	X			
West Virginia White			X			
Cabbage White	X	X	X			
Clouded Sulphur	X	X	X			
Orange Sulphur	X	X	X			
American Copper	X	X				
Bronze Copper	X	X	X		species of special concern	
Bog Copper	X	X	X		species of special concern	
Harvester	X	X	X			
Coral Hairstreak	X		X			
Acadian Hairstreak	X					
Edwards' Hairstreak	X					
Banded Hairstreak	X	X	X			
Hickory Hairstreak	X	X				
Striped Hairstreak	X	X				
Brown Elfin			X			
Eastern Pine Elfin			X			
Gray Hairstreak	X					
Eastern Tailed-Blue	X	X				
Summer Azure	X	X	X			
Spring Azure		X	X			
Cherry Gall Azure		X	X			
Northern Metalmark	X	X			endangered species	
Variegated Fritillary	X					
Great Spangled Fritillary	X	X				
Aphrodite Fritillary	X	X	X			
Regal Fritillary			X		extirpated species	
Atlantis Fritillary	X				endangered species	
Silver-bordered Fritillary	X	X	X			
Meadow Fritillary	X	X	X			
Pearl Crescent	X	X	X			
Baltimore	X	X				
Question Mark	X	X	X			
Eastern Comma	X	X				
Gray Comma			X		extirpated species	
Mourning Cloak	X	X				
Compton's Tortoiseshell	X	X				
Milbert's Tortoiseshell	X	X				
American Lady	X	X	X			
Painted Lady	X		X			
Red Admiral	X	X				
Common Buckeye	X					
Red-spotted Purple	X	X	X			
Viceroy	X	X	X			
Hackberry Emperor	X				species of special concern	
Tawny Emperor	X				species of special concern	
Northern Pearly-Eye	X	X	X			

Salisbury Area Butterfly Species

Species	*Found during SBC 2005-2008	**Found during CT Atlas study	Found prior to Atlas study		Conservation Status
Appalachian Eyed Brown	X	X	X		
Little Wood-Satyr	X	X			
Common Ringlet	X	X	X		
Common Wood-Nymph	X	X	X		
Monarch	X	X	X		
Silver-Spotted Skipper	X	X			
Hoary Edge Skipper	X	X	X		
Northern Cloudywing	X				
Dreamy Duskywing		X			
Juvenal's Duskywing		X			
Columbine Duskywing	X	X			endangered species
Common Sootywing	X	X			
Least Skipper	X	X	X		
European Skipper	X	X			
Leonard's Skipper			X		
Cobweb Skipper			X		
Indian Skipper			X		
Peck's Skipper	X	X	X		
Tawny-edged Skipper	X	X	X		
Crossline Skipper	X	X	X		
Long Dash	X	X	X		
Northern Broken-Dash	X	X			
Little Glassywing	X	X	X		
Delaware Skipper	X	X	X		
Mulberry Wing	X	X	X		
Hobomok Skipper	X	X	X		
Broadwing Skipper	X		X		
Dion Skipper	X	X	X		species of special concern
Two-spotted Skipper	X		X		endangered species
Black Dash	X	X	X		
Dun Skipper	X	X	X		
Indian Skipper		X			
Pepper & Salt Skipper		X			


Dion Skipper


Eyed Brown

**Salisbury Butterfly Count (SBC) data compiled by Dr. David L. Wagner, Prof. of Ecology and Evolutionary Biology, University of Connecticut

**CT Butterfly Atlas data, including pre-Atlas data, from *The CT Butterfly Atlas* edited by Jane E. O'Donnell, Lawrence F. Gall and David L. Wagner, 2007

Chart prepared by Tom Schaefer, Salisbury Land Trust

Fish Species Documented in Salisbury

from 1992-2007

Common Name	Genus	Species
Rock Bass	Ambloplites	rupestris
Brown Bullhead	Ameiurus	nebulosus
White Sucker	Catostomus	commersoni
Slimy Sculpin	Cottus	cognatus
Chain Pickerel	Esox	niger
Tessellated Darter	Etheostoma	olmstedi
Banded Killifish	Fundulus	diaphanus
Redbreast Sunfish	Lepomis	auritus
Pumpkinseed	Lepomis	gibbosus
Bluegill	Lepomis	macrochirus
Common Shiner	Luxilus	cornutus
Smallmouth Bass	Micropterus	dolomieu
Largemouth Bass	Micropterus	salmoides
Golden Shiner	Notemigonus	crysoleucas
Bridled Shiner	Notropis	bifrenatus
Spottail Shiner	Notropis	hudsonius
Smallmouth Bass	Micropterus	dolomieu
Largemouth Bass	Micropterus	salmoides
Golden Shiner	Notemigonus	crysoleucas
Bridled Shiner	Notropis	bifrenatus
Spottail Shiner	Notropis	hudsonius
Rainbow Trout	Oncorhynchus	mykiss
Yellow Perch	Perca	flavescens
Bluntnose Minnow	Pimephales	notatus
Blacknose Dace	Rhinichthys	atratulus
Longnose Dace	Rhinichthys	cataractae
Brown Trout	Salmo	trutta
Brook Trout	Salvelinus	fontinalis
Tiger Trout	Salvelinus fontinalis	X Salmo trutta
Creek Chub	Semotilus	atromaculatus
Fallfish	Semotilus	corporalis

KNOWN INVASIVE AND POTENTIALLY INVASIVE PLANTS OF CONNECTICUT [1]

Scientific Name	Common Name	Found in Salisbury [2]	Date Banned	Classified Potentially Invasive
AQUATIC SPECIES				
Cabomba caroliana	Fanwort		2003	
Callitriche stagnalis	Pond water-starwort		2005	P
Egeria densa	Giant Waterweed (Brazialian Elodea)		2003	P
Eichhornia crassipes	Common Water-hyacinth			P
Hydrilla verticillata	Hydrilla		2003	
Marsilea quadrifolia	Water Shamrock		2005	P
Myriophyllum heterophyllum	Variable-leaved Watermilfoil	X	2003	
Myriophyllum spicatum	Eurasian Watermilfoil	X	2003	
Myriophyllumaquaticum	Parrotfeather		2005	P
Najas minor	Eutrophic Water-nymph		2005	P
Nelumbo lutes	American Water Lotus		2005	P
Nymphoides peltata	Yellow Floating Heart		2005	P
Pistia stratiotes	Water Lettuce		2005	P
Potamogeton crispu	Crispy-leaved Pondweed	X	2003	
Salvinia molesta	Giant Salvinia		2005	P
Traps natans	Water Chestnut		2003	
COASTAL SPECIES				
Datura stramonium	Jimson-weed	X	2004	P
Kochia scoparia	Summer Cypress		2004	P
Rosa rugosa	Japanese Rose			P
UPLAND SPECIES				
Acer ginnala	Amur Maple			P
Acer platanoides	Norway Maple	X		
Acer pseudoplatanus	Sycamore Maple		2004	P
Ailanthus altissima	Tree of Heaven	X	2004	
Alliaria petiolata	Garlic Mustard	X	2004	
Ampelopsis brevipedunculata	Porcelain Berry, China Berry			P
Berberis thunbergiiI	Japanese Barberry	X		
Berberis vulgaris	Barberry	X	2004	
Bromus tectorum	Drooping Brome-grass	X	2004	P
Cardamine impatiens	Narrowleaf bittercress	X	2004	
Carex kobomugi	Japanese Sedge		2004	P

[1] The above lists were adapted from data published by the Connecticut Invasive Plant Council in January 2004.
[2] From known herbarium records listed in the Invasive Plant Atlas of New England (IPANE).
[3] Not in IPANE database but commonly known to occur in Salisbury.

Celastrus orbiculatus	Oriental or Asiatic Bittersweet	X	2004	
Centaurea maculosa	Spotted Knapweed	X	2004	
Cirsium arvense	Canada Thistle	X	2004	P
Cynanchum louiseae	Black Swallow-wort	X	2004	
Cynanchum rossicurre	Swallow-wort		2004	
Elaeagnus angustifolia	Russian Olive		2004	P
Elaeagnus umbellata	Autumn Olive	X	2004	
Elsholtzia ciliata	Creasted Late-summer mint, Elsholtzia		2004	P
Euonymous alatus	Winged Euonymous	X[3]		
Euphorbia cyparissias	Cypress Spurge	X	2004	P
Euphorbia esula	Leafy Spurge		2004	
Frangula alnus	Euro. Buckthorn , Glossy Buckthorn	X[3]		
Froelichia gracilus	Cottonweed		2004	P
Glyceria maxima	Reed Mammagrass		2004	P
Heracleum mantegazzianum	Giant Hogweed		2004	P
Hesperis matronalis	Dame's Rocket	X	2004	
Impatiens glandulifera	Ornamental jewelweed		2004	P
Lepidium latifolium	Tall Pepperwort		2004	
Ligustrum obtusifolium	Border Privet		2005	P
Ligustrum ovalifolium	California Privet			P
Ligustrum vulgare	European Privet			P
Lonicera maackii	Amur Honeysuckle	X[3]	2004	
Lonicera tatarica	Tatarian Honeysuckle	X[3]	2005	P
Lonicera xylosteum	European Fly-honeysuckle		2005	P
Lychnis flos-cuculi	Ragged Robin		2004	P
Microstegium vimineum	Japanese Stilt Grass	X	2004	
Miscanthus sinensis	Eulalia			P
Onopordum acanthium	Scotch Thistle		2004	P
Ornithogalum umbellatum	Star of Bethlehem	X		P
Poa compressa	Canada Blue-grass		2004	P
Polygonum cespitosum	Bristled Knotweed		2004	P
Polygonum perfoliatum	Mile-a-minute Vine		2004	
Polygonum sachalinese	Giant Knotweed		2004	P
Populus albs	White Poplar		2004	P
Pueraria lobata	Kudzu		2004	P
Rhamnus cathartica	Common Buckthorn	X	2004	
Robinia pseudoacacia	Black Locust	X		
Rosa multiflora	Multiflora Rose	X[3]	2004	
Rubus phoenicolasias	Wineberry	X	2004	P
Rumex acetosella	Sheep Sorrel	X	2004	P
Senecio jacobaea	Tansy Ragwort		2004	P
Silphium perfoliatum	Cup Plant		2004	P
Valerians officinalis	Garden Heliotrope		2004	P

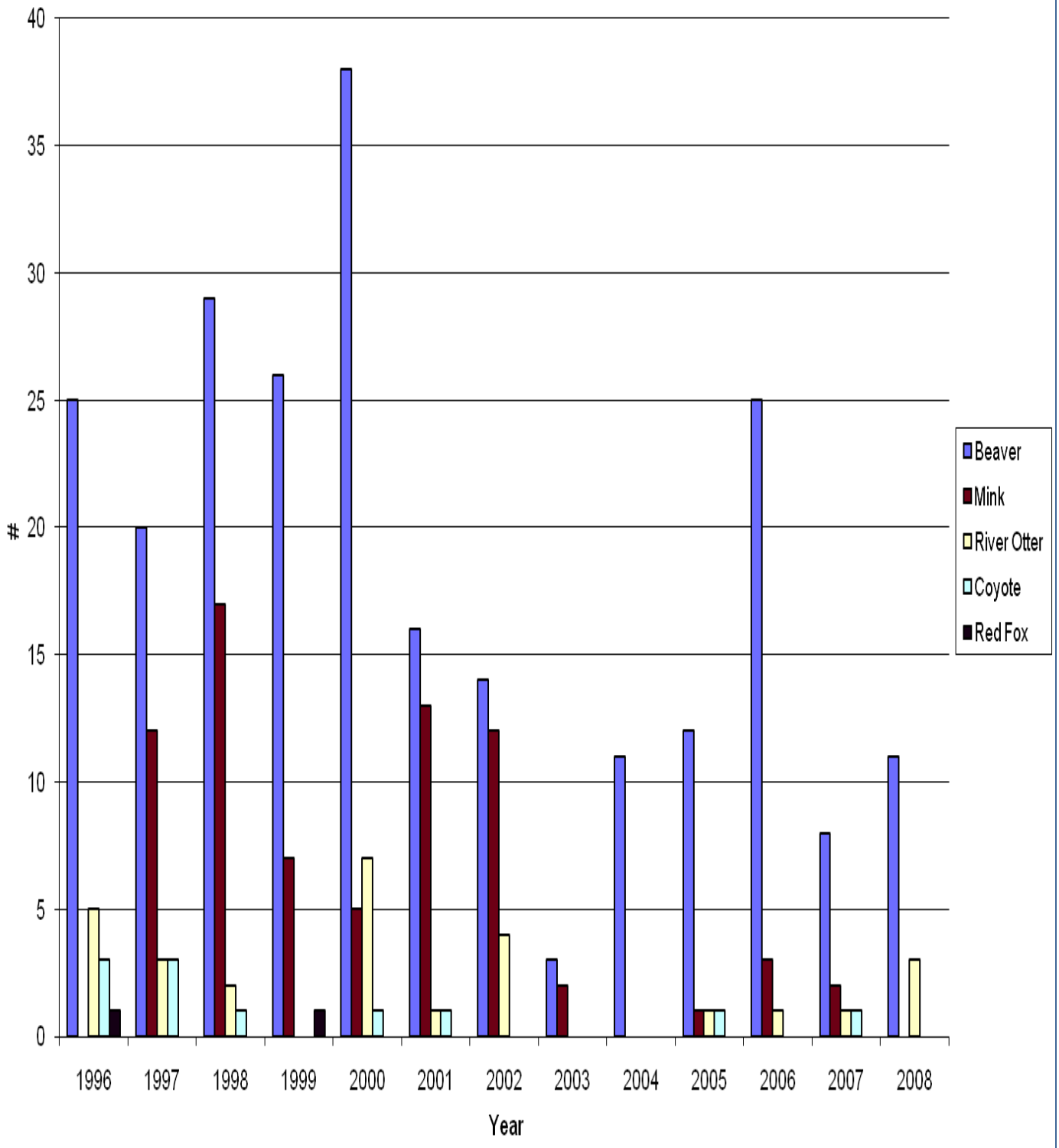
KNOWN INVASIVE AND POTENTIALLY INVASIVE PLANTS OF CONNECTICUT

UPLAND/WETLAND SPECIES				
Arthraxon hispidus	Hairy Jointgrass		2004	P
Humulus japonicus	Japanese Hops		2004	P
Lonicera japonica	Japanese Honeysuckle	X[3]	2005	
Lonicera morrowii	Morrow's Honeysuckle	X	2004	
Lonicera x bella	Bella Honeysuckle		2004	
Paulownia tomentosa	Empress Tree		2004	P
Phragmites australis	Common Reed	X	2004	
Polygonum cuspidatum	Japanese Knotweed	X[3]	2004	
Ranunculus ficaria	Lesser Celandine, Fig buttercup		2004	
Solanum dulcamara	Climbing or Bittersweet Nightshade		2004	P
Tussalago farfara	Coltsfoot	X	2004	
WETLAND SPECIES				
Aegopodium podagraria	Goutweed	X	2005	
Amorpha fructicosa	False Indigo		2004	P
Butomus umbellatus	Flowering-rush		2005	P
Glechoma hederacea	Ground ivy, Gill-over-the-ground		2004	P
Iris pseudocorus	Yellow Iris	X	2005	
Lysimachia nummularia	Moneywort	X		P
Lysimachia vulgaris	Garden Loosestrife		2005	P
Lythrum salicaria	Purple Loosestrife	X	2005	
Myosotis scorpioides	Forget-me-not	X	2005	
Phalaris arundinacea	Reed Canary-grass	X		
Rorippa microphylla	Onerow yellowcress	X	2005	P
Rorippa nasturtium-aquaticum	Watercress	X	2005	P

[1] The above lists were adapted from data published by the Connecticut Invasive Plant Council in January 2004.

[2] From known herbarium records listed in the Invasive Plant Atlas of New England (IPANE). Other invasives are known to occur in Salisbury but have not been officially collected and recorded.

[3] Not in IPANE database but commonly known to occur in Salisbury.



Source: Connecticut Department of Environmental Protection

For more information about this draft ordinance, refer to the Scenic Roads chapter.

Suggested Scenic Rural Road Ordinance

(a working draft)

PREAMBLE

The scenic and rural roads of the Town of Salisbury are irreplaceable resources. The scenic values of some rural roads in Salisbury are in danger of destruction because of potential alterations to their rights-of-way. Such alterations will have an adverse impact on the quality of Salisbury's aesthetic and historical environment, an environment that is of great benefit to residents and visitors alike.

Connecticut General Statutes Section 7-149a found that the preservation and protection of the scenic or historic values of rural roads is essential to the welfare of the people of Connecticut. It is the purpose of this ordinance to balance the need to provide for convenient and safe public transportation routes with the need to preserve these scenic and rural values.

Therefore be it ordained by the Town of Salisbury that, pursuant to the authority granted by Connecticut General Statutes Section 7-149a, the Town of Salisbury shall provide for the designation of certain Town roads or portions thereof within its borders as Scenic Roads.

I. AUTHORITY

The authority to designate a road or any portion of any road as a Scenic Road is hereby delegated to the Board of Selectmen of the Town of Salisbury hereinafter known as the "Selectmen."

II. DESIGNATION CRITERIA

A. No road or portion thereof shall be designated as a Scenic Road if the abutting property contains intensive commercial development or if the road itself has intensive vehicular traffic. Prior to designating a road or portion thereof as a Scenic Road, the Selectmen must first specifically find that at least one of the following criteria is met:

(1) the road is unpaved;

(2) the road is bordered by mature trees or stone walls;

(3) the traveled portion of the road is not more than 20 feet in width;

(4) the road offers scenic views;

(5) the road blends naturally into the surrounding terrain; or

(6) the road parallels or crosses over brooks, streams, lakes, or ponds.

No road or portion thereof may be designated as a Scenic Road by the Selectmen pursuant to this ordinance unless the owners of a majority of lot frontage abutting the road or portion thereof agree to the designation of the road as a Scenic Road by filing a written statement of approval with the Board of Selectmen and the Salisbury Town Clerk as provided in paragraph III A.

III. PROCEDURE FOR DESIGNATION

The Selectmen on their own initiative or upon request or application may consider a road or portion thereof for Scenic Road designation.

A. Application. Property owners shall submit an application to the Board of Selectmen and the Town Clerk calling for Scenic Road designation. The application form, available at the Selectmen's office, shall contain the following information:

The name of the road to be designated as a Scenic Road, or a description of a portion of a road to be designated, together with a statement of the total length of said road or portion thereof.

A description of those characteristics of the road which qualify it for Scenic Road status, including, but not limited to, the criteria the road satisfies as set forth in Section II of this Ordinance.

A written statement of approval signed by the owners of a majority of lot frontage abutting the road or portion thereof stating that they approve of designating the road or portion of road as a Scenic Road.

The name and address of all owners of lot frontage abutting the road or portion thereof and the length of their frontage along the road.

B. Filing. The application shall be filed with the Town Clerk and the Board of Selectmen, who shall retain one copy and forward copies to the Board of Assessors, the Conservation Commission and the Planning and Zoning Commission. The Assessors shall verify the ownership and the total frontage of those signing the application; verify that said total frontage constitutes a majority of lot frontage abutting the road or portion thereof to be designated a Scenic Road; and shall submit such verification to the Selectmen within 10 business days from the date the Assessors received the application from the Selectmen.

Upon receipt of the application by the Board of Selectmen there shall be no alteration, change or improvement made to the road in question until the final decision on the designation is made.

C. Review. The Conservation Commission and the Planning and Zoning Commission shall review the application at their next regular meetings and send recommendations to the Selectmen no more than 35 days after this review. The Selectmen shall then schedule a public hearing within 30 days after their next regularly scheduled meeting.

D. Hearing. The Selectmen shall hold a public hearing regarding the designation of the road or portion thereof as a Scenic Road. Notice of the public hearing shall be published in a newspaper having substantial circulation in Salisbury at least 5 days, but not more than 10 days, prior to the hearing, and by sending a copy of the hearing notice by registered or certified Mail to the owners of lots fronting the road or portion of the road in question.

E. Decision. The Selectmen shall act upon the designation within period of 50 days from the close of the hearing. The Selectmen shall consider the advice of the Conservation Commission, the Planning and Zoning Commission and the evidence presented at the public hearing in reaching their decision. Notice of the decision of the Selectmen shall be sent by first class mail to the owners of lots fronting on the road in question within 15 days after such decision *is* rendered. Such notice shall be *a simple statement* that the road or portion thereof was or was not designated as a Scenic Road by the Selectmen together with the date and time of such action. The grounds for designation or non-designation shall be stated in the records of the Selectmen and include in as much detail as possible the special features which make the road so designated& scenic, or the reasons for denying designation.

F. Signs. Each designated Scenic Road may be identified by the posting of signs.

IV. RESCISSION

The designation of a road or portion thereof as a Scenic Road may be rescinded by the Selectmen, using the above procedures and provided that the owners of the majority of the lot frontage abutting the road or portion thereof concur with such rescission as set forth in this Ordinance. No designation of a road or portion thereof as a Scenic Road may be rescinded, and no application or request for such rescission may be filed for at least five (5) years after the effective date of the action so designating such road or portion thereof as a Scenic Road.

V. ALTERATIONS

A. Preservation Objective. Routine maintenance and the regulation of future alterations and improvements of designated roads or portions thereof shall be carried out so as to preserve to the highest degree possible, the aesthetic, historic, and/or rural characteristics of the roads or portions thereof which are indicated in the records of the Selectmen as the basis for the designation.

B. Routine Road Maintenance. Such maintenance shall include trimming of the tree branches that encroach on the traveled portion of the road below the height needed to allow school buses and emergency vehicles to pass; trimming or removal of brush and removal of boulders or other obstacles that encroach on the traveled portion of the road; necessary trimming for utility lines; trimming of brush to enhance and protect scenic views, stone walls, mature trees and other characteristics of the Scenic Road; correction of drainage problems; and graveling, re-treatment and repair of existing roadway surfaces. Such maintenance shall not include widening of the traveled portion of the road; paving of dirt or gravel roads or portions of roads except for safety reasons at intersections with paved roadways; changes of grade; straightening; removal of stone walls or removal of mature trees. On existing dirt or gravel roads, such maintenance to the traveled portion of the road shall be done in a manner to minimize root damage to bordering trees.

C. Natural Disasters. In the case of a natural disaster in which a road or portion thereof becomes impassable or unsafe for public travel and access must be provided, emergency repairs may be made as needed to restore the road or portion of road to its pre-emergency condition.

D. Alterations and Improvements--Procedure. When contemplating alterations to a Scenic Road for safety or emergency response considerations, the following procedures shall be followed:

1. An application for alteration or improvement of a designated Scenic Road, whether by public or private applicant, shall be submitted to the Selectmen, along with a suitable map showing in detail the proposed alteration or improvement. The Selectmen shall forward copies to the Conservation Commission and the Planning and Zoning Commission.
2. The Planning and Zoning and Conservation Commissions shall review the application at their next regular meetings and send recommendations to the Selectmen no more than 35 days after such review.
3. At their next regularly scheduled meeting the Selectmen shall review the proposal and the recommendations from the Conservation and Planning and Zoning Commissions. If they deem necessary, the Selectmen may require engineering or other technical reports documenting the need for the alteration and offering potential alternative solutions.
4. The Selectmen shall hold a public hearing once the application is complete. The final decision shall be made within 60 days from the close of the hearing.

Standards for Alteration. No alterations or improvements to a Scenic Road or portion thereof (other than routine maintenance) shall be made unless the Selectmen determine that such alterations are necessary to maintain the road in

good and sufficient repair and in reasonable safe condition for public travel. The Selectmen shall not grant an application to improve or alter a Scenic Road or portion thereof to accommodate a proposed subdivision or other development of land to which the Scenic Road would provide access unless the Selectmen determine that such alteration will not have a material adverse effect on the scenic characteristics of the road which formed the basis for its designation as a Scenic Road, or unless the Selectmen, on advice from the town attorney, determines that a refusal to permit such alteration or improvement would result in a violation of Article I, Section 11 of the Connecticut Constitution. In determining whether to allow proposed improvements or alterations, the Selectmen shall take into account the specific safety features of the proposed change, the overall impact of the proposed change on the Scenic Road, and the public response to the proposed change. Any decision by the Selectmen to allow alterations or improvements to a Scenic Road shall reflect the least possible damage to the scenic character. If alterations or improvements to a Scenic Road are required, then they shall conform to the following:

Speed Limits. Scenic values are correlated with lower speeds. The speed limit established by the Town for each Scenic Road shall be clearly posted.

Curves. Scenic values are correlated with the existence of curves, which allow a constant unfolding of new and changing views. Curves shall not be eliminated until they are found to be a definite hazard within the concept of the specific road.

Grades. Hills and valleys are correlated with scenic values. They shall not be destroyed by cuts and fills unless absolutely essential for road safety.

Widths. A narrow road is correlated with high scenic beauty. Designated Scenic Roads should never be widened unless the amount of traffic, as determined by a factual study, demands it. For some rural roads, the amount of traffic that can be handled can be greatly increased by wide by-passes and turn-outs, constructed at intervals where they do least damage to scenic values; such by-passes and turn-outs shall be implemented wherever possible.

Side slopes. Existing steepness of side slopes is preferable to reduction of gradient by extensive removal of soil and rock. This is especially true where the slope is fully stabilized and where it is rich with existing ground cover, shrubs and trees.

Vistas. Vistas of distant landscapes shall be preserved by suitable vegetation management techniques.

Utility lines. Wherever possible, utility lines shall be put underground. Where such line is overhead, the utility corporations shall cooperate by suitable vegetation management techniques which preserve the wild flowers and shrubs.

Vegetation. Vegetation on the side of the road shall be managed in such a way as to preserve wild flowers, shrubs of ornamental and wildlife values, and trees. Over-arching isolated trees, and the canopy of a closed forest, can have extremely high scenic value.

Stone walls. If stone walls or portions thereof must be removed, they shall be rebuilt along the untraveled portion of the Scenic Road.

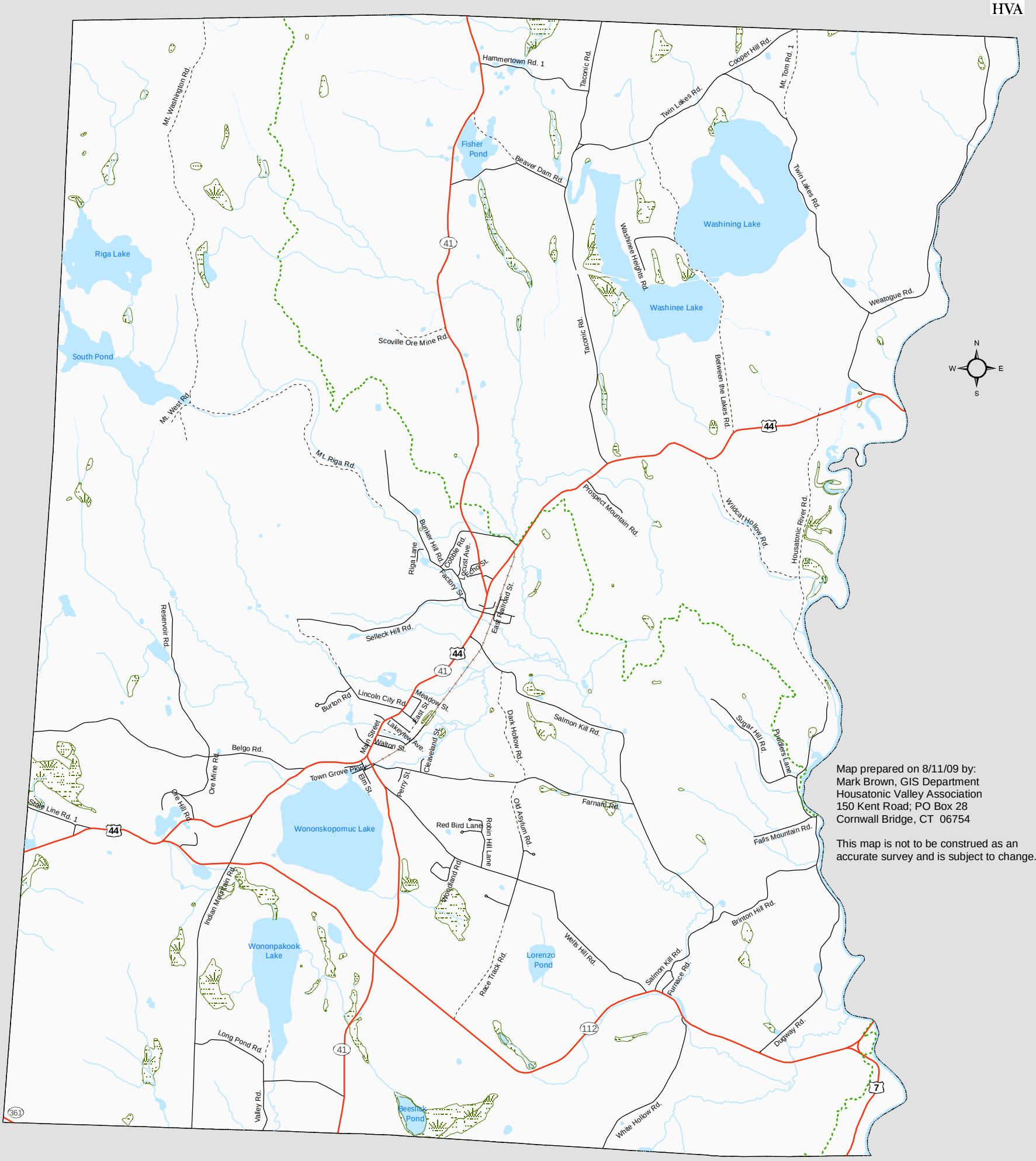
Non-scenic activities and structures shall be forbidden, such as billboards, sand, gravel and salt piles, refuse disposal, and other unsightly situations. Where possible, preservation easements should be acquired from owners along scenic roads to protect the scenic views.

F. **Paving Criteria.** Paving of the unpaved travelled portion of a Scenic Road shall be permitted only if the owners of a majority of lot frontage along the unpaved portion of the road indicate their approval of the paving by signing a written statement agreeing to the paving and filing it with the Board of Selectmen.

* * * * * *

1. Salisbury Base Map

HVA



Map prepared on 8/11/09 by:
Mark Brown, GIS Department
Housatonic Valley Association
150 Kent Road; PO Box 28
Cornwall Bridge, CT 06754

This map is not to be construed as an accurate survey and is subject to change.

SEPTEMBER 2009

Miles
0 1 2

Legend

Appalachian Trail

Rail Trail

Waterbodies

Water

Wetland

Roads

TYPE

State

Local

Unpaved

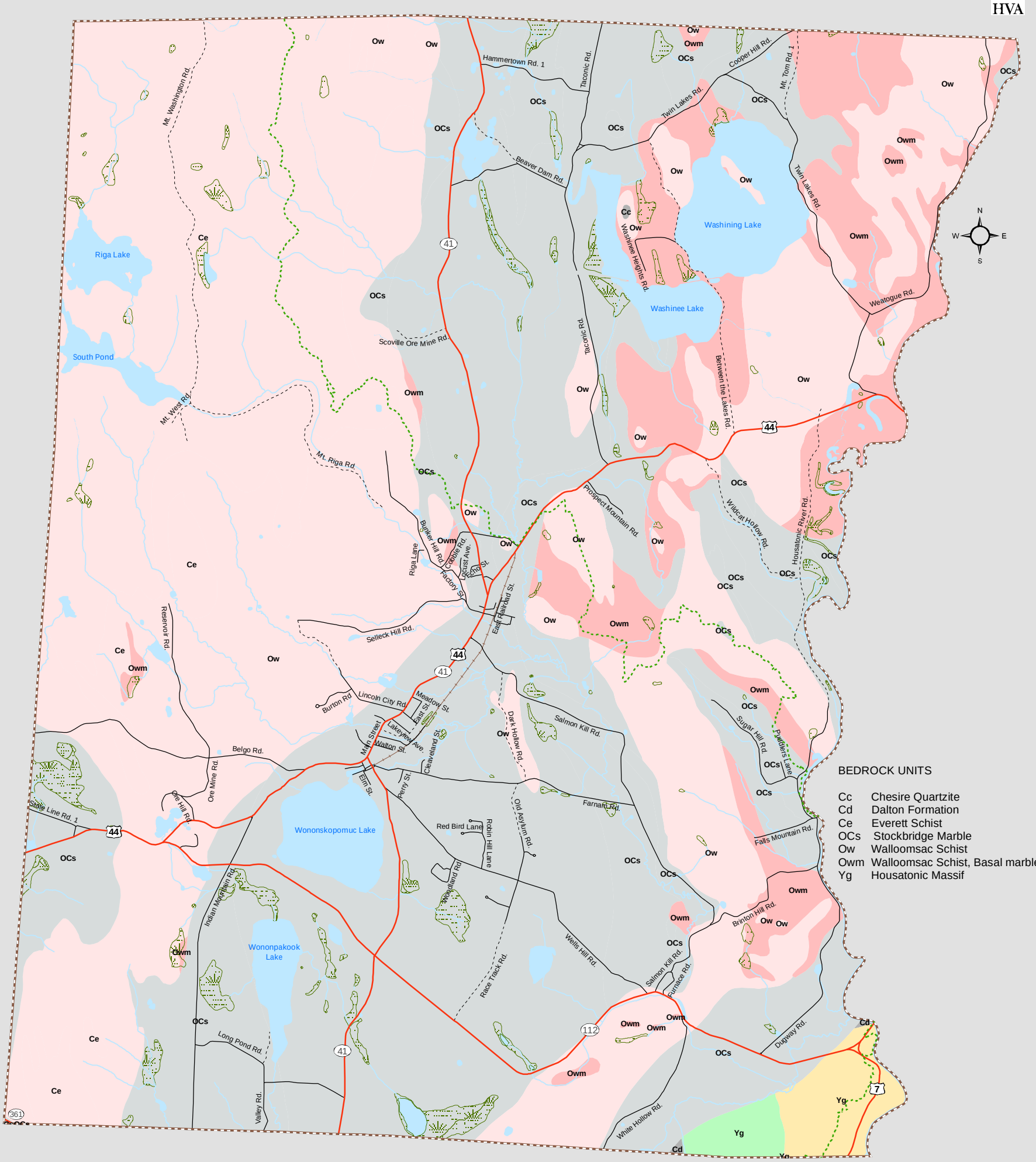
This map is one of a series of maps created by HVA to accompany the Natural Resource Inventory for the Town of Salisbury. The NRI was developed by the Salisbury Conservation Commission and the Salisbury Association. This map is a reduced version, edited for clarity, of the larger NRI map located at Town Hall.

The Appalachian Trail was located with a GeoExplorer III unit. All other datalayers were obtained from Connecticut's Department of Environmental Protection.

This map is only a guide for land use information and is not the final determinant of regulated areas in the Town of Salisbury. It is the responsibility of applicants to obtain precise locations of regulated areas from licensed soils scientists, surveyors, biologists and other land use professionals.

2. Salisbury Bedrock Resources

HVA



BEDROCK UNITS

Cc	Chesire Quartzite
Cd	Dalton Formation
Ce	Everett Schist
OCs	Stockbridge Marble
Ow	Walloomsac Schist
Owm	Walloomsac Schist, Basal marble
Yg	Housatonic Massif

SEPTEMBER 2009

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Miles
0 1 2

Legend

Waterbodies
- Water
- Wetland

Roads
- State
- Local
- Unpaved
- Rail Trail
- Appalachian Trail

Bedrock Type
- marble
- schistose marble
- schist
- gneiss
- granitic gneiss
- quartzite

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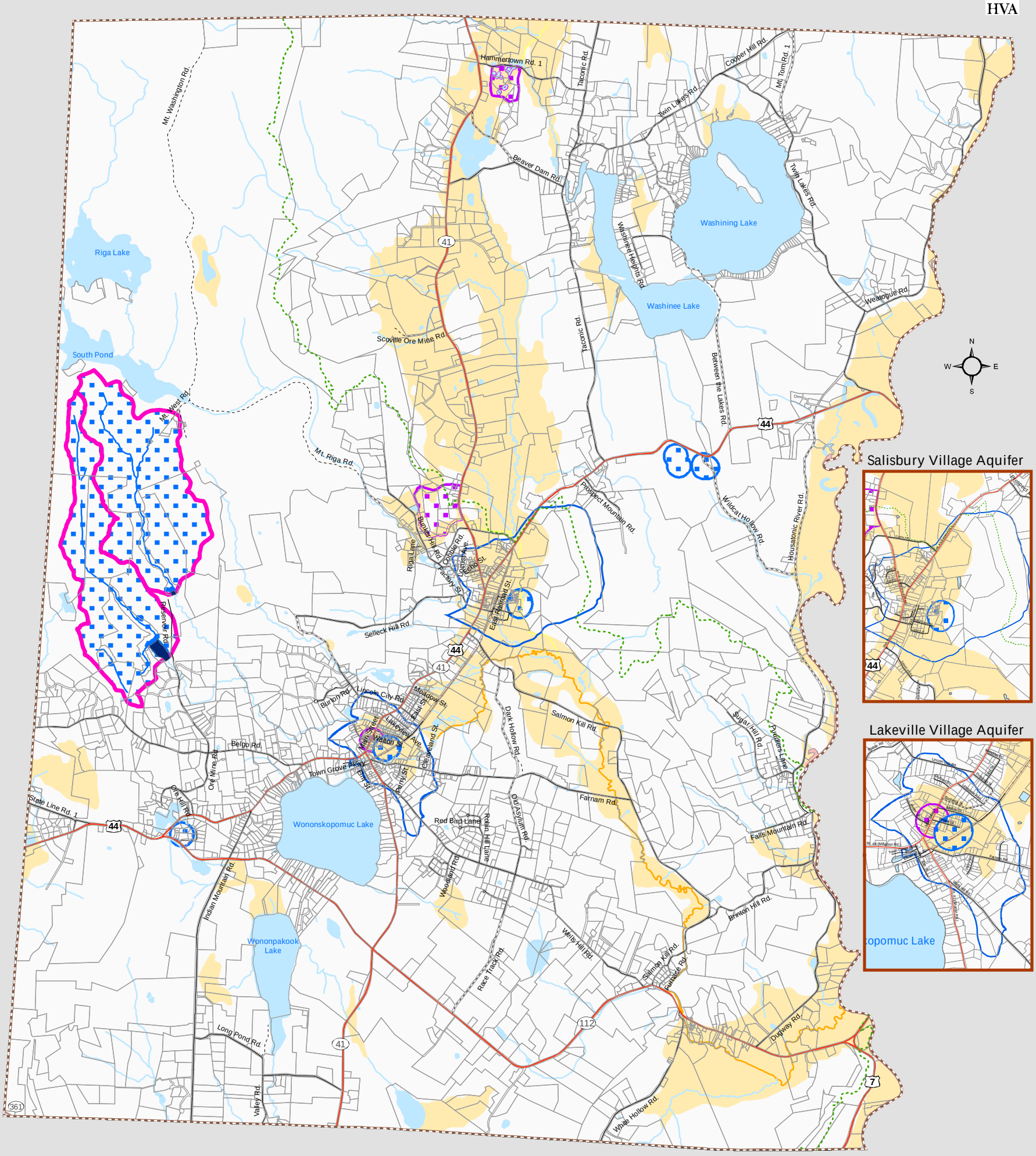
3. Salisbury Drinking Water Resources

HVA



SEPTEMBER 2009

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Miles
0 1 2

Legend

- Aquifer Protection Zone
- Public Water Supply Watershed
- Public Water Supply Reservoir
- Coarse Stratified Drift

Ground Water Quality Classes

- GA Impaired*
- GAA, GAAs** — The Ground Water Quality Class for all areas not otherwise indicated is GA.

Surface Water Quality Classes (High → Low)

- AA
- A
- B
- B,C,D to A
- C,D to B

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Lot lines and protected parcels were digitized from Salisbury's tax assessor maps, updated to March 2009. The Appalachian Trail was located with a GeoExplorer III unit. All other datalayers were obtained from Connecticut's Department of Environmental Protection. The Coarse Stratified Drift data was selected from the Surficial Materials layer based on its drinking water aquifer potential. The Groundwater and Surface Water classes are from the CT DEP Water Quality data with the GA impaired class based on the CT DEP Leachate and Seepage Dataset created in the 1970's.

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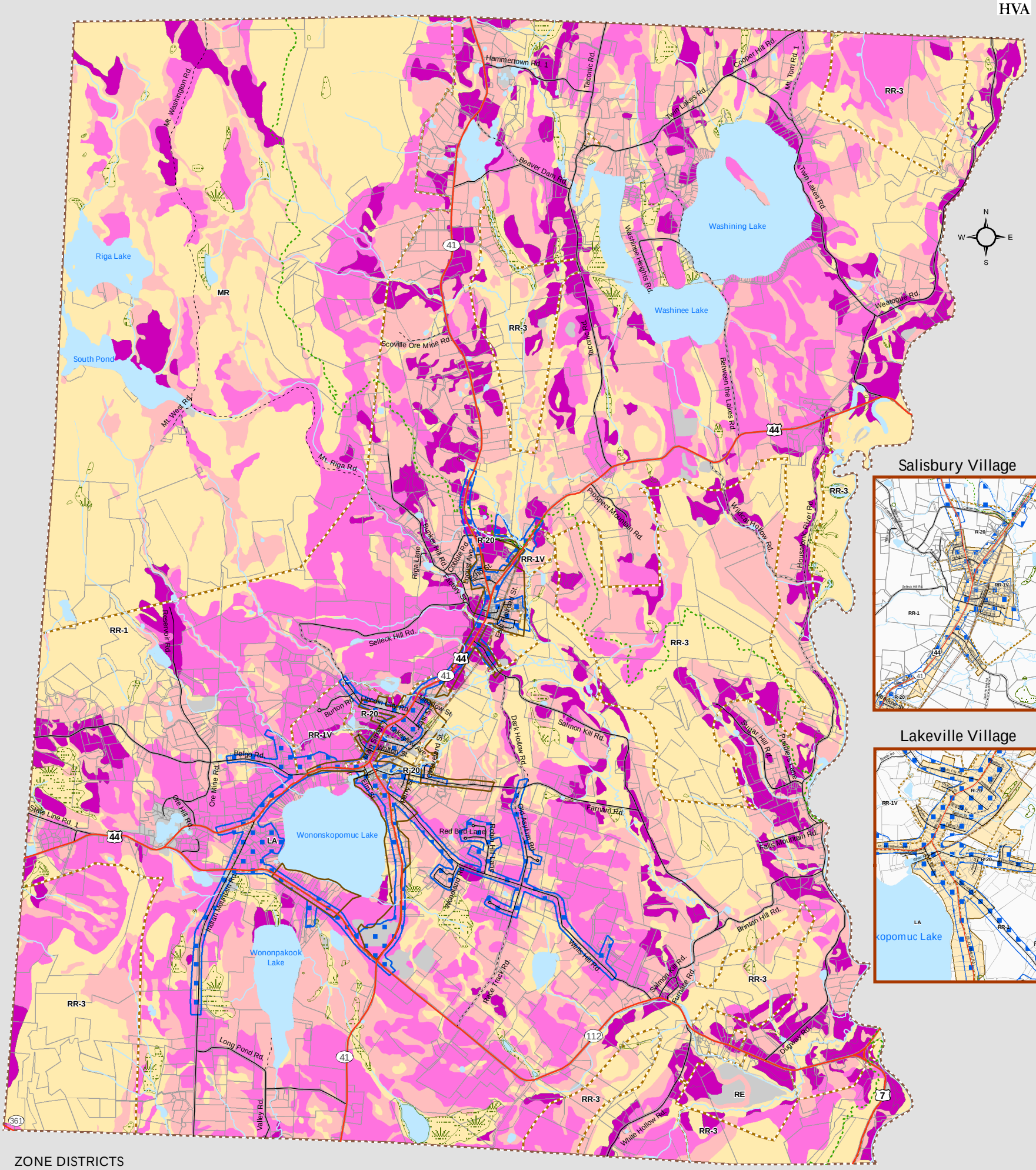
* The CT DEP long-term goal is to restore to GA (Drinking Water) quality.

** GAA buffers a public drinking water wellhead; GAAs is a public drinking water watershed.

4.Salisbury Soil Potential for Septic

HVA



Salisbury Village

Lakeville Village

ZONE DISTRICTS

C-20 Commerical Zone
CG-20 General Commerical Zone
LA Lakeside Zone
LI-1 Industrial 1 Zone
LI-20 Industrial 20 Zone
MR Mount Riga Zone
R-10 Residence 10 Zone
R-20 Residence 20 Zone
RE Rural Enterprise Zone
RR-1 Rural Residence 1 Zone
RR-3 Rural Residence 3 Zone
RR-1V Rural Residence 1 Village Zone

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SEPTEMBER 2009

Miles
0 1 2

Legend

Potential for Septic
- very low potential
- low potential
- medium potential
- high potential
- not rated

- Water Service Areas
- Sewer District
- Appalachian Trail
- Lot Lines
- Zone Districts

Waterbodies
- Water
- Wetland

Roads
- State
- Local
- Unpaved
- Rail Trail

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5.Salisbury Forest Resources

HVA

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Cornwall Bridge, CT 06754

This map is not to be construed as an accurate survey and is subject to change.

Forest Cover Types

- Contiguous Forest Habitat
- Mountain Laurel Understory
- Deciduous Forest
- Evergreen Forest
- Mixed Forest
- Forested Wetland

SEPTEMBER 2009

Miles
0 1 2

Legend

Appalachian Trail

Waterbodies

Water
Wetland

Roads

State
Local
Unpaved
Rail Trail

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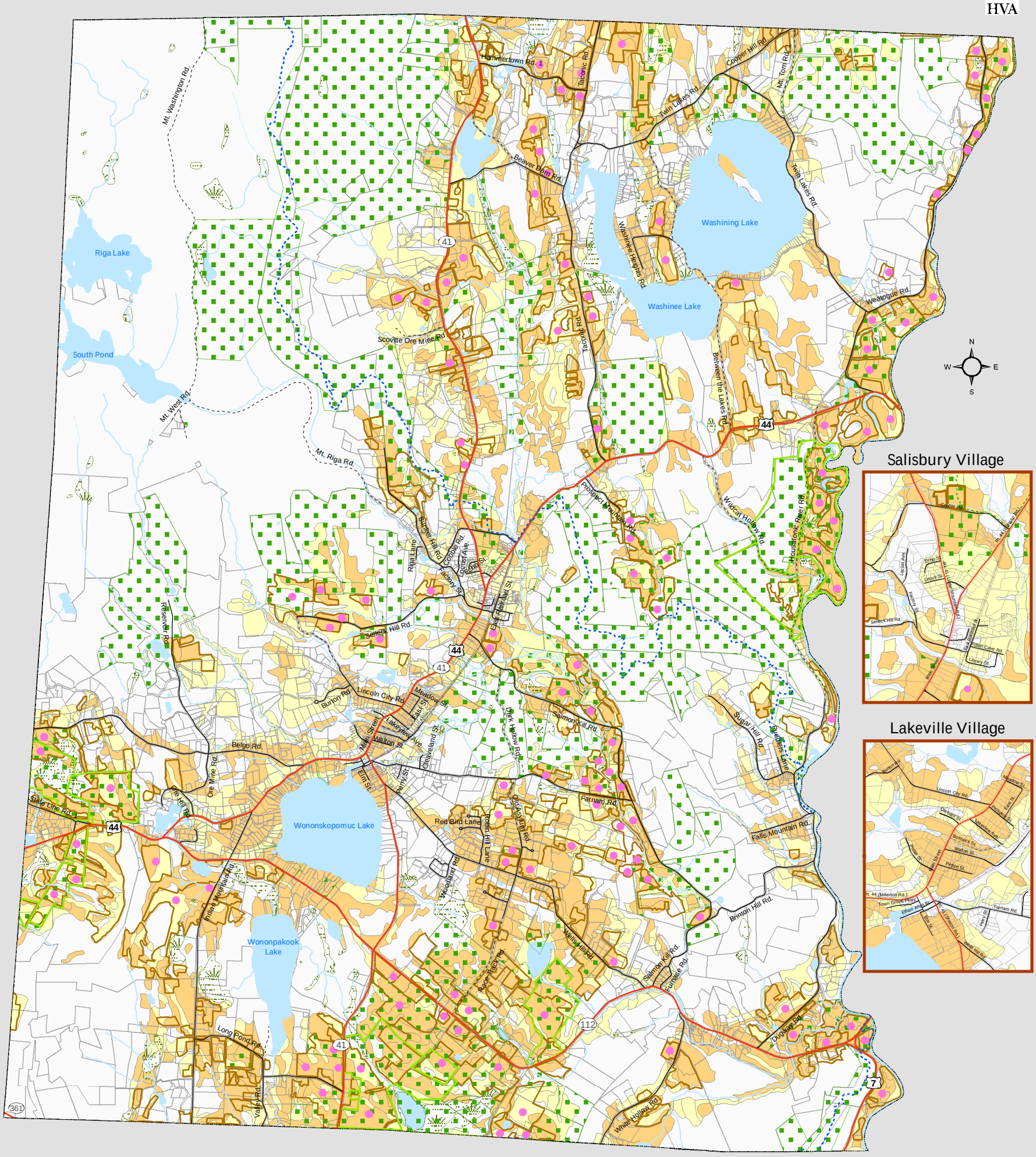
6. Salisbury Agricultural Resources

HVA



SEPTEMBER 2009

Map prepared on 8/11/09 by:
Mark Brown, GIS Department
Housatonic Valley Association
150 Kent Road; PO Box 28
Cornwall Bridge, CT 06754

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Miles
0 1 2

Legend

- Farm/Field Land Cover
- Connecticut Farmland Preservation
- Protected Lands

Farmland Soils

- Subprime Farmland Soils
- Prime Farmland Soils
- Active Agricultural Use
- Lot Lines

Waterbodies

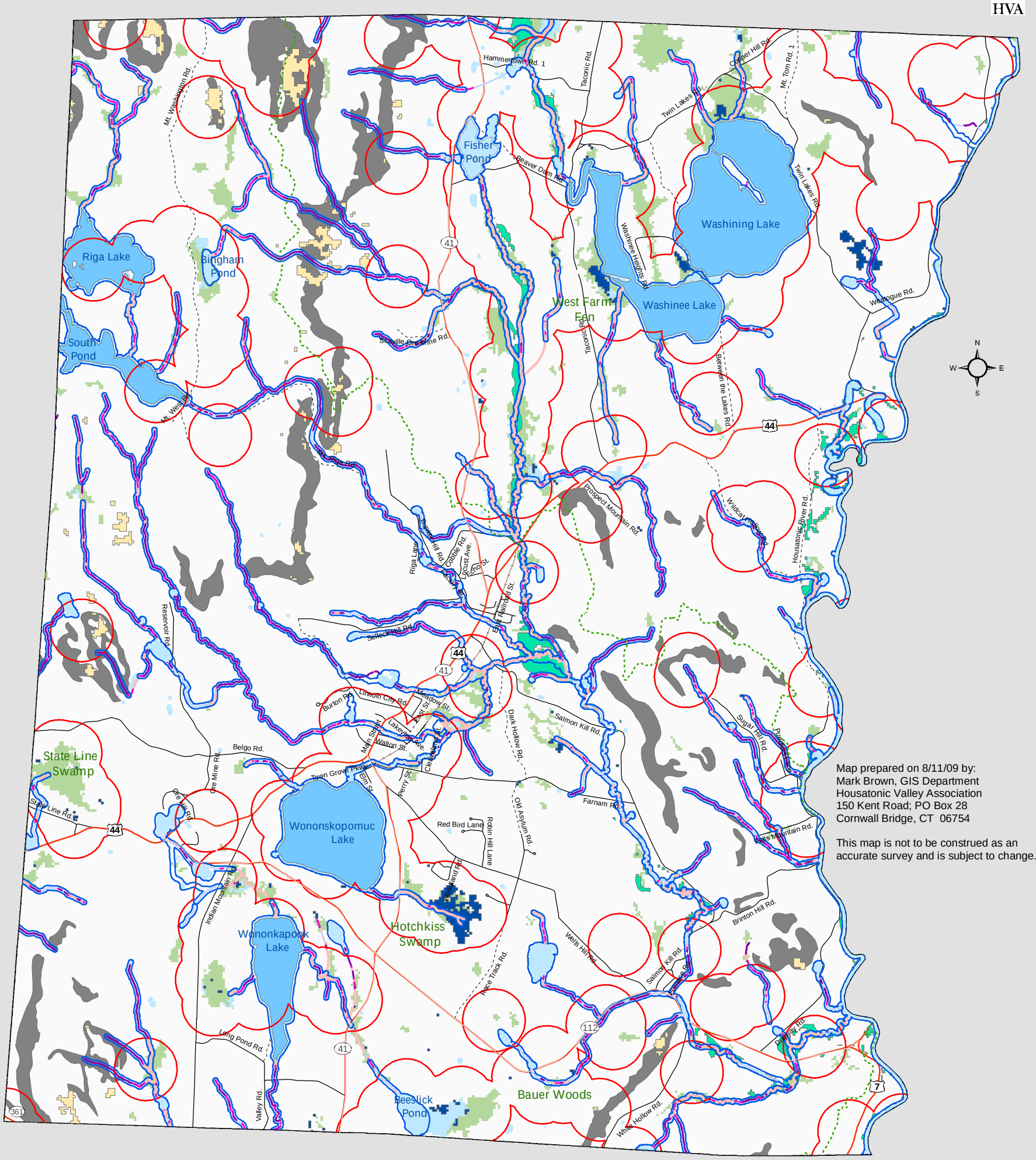
- Water
- Wetland

Roads

- State
- Local
- Unpaved
- Appalachian Trail
- Rail Trail

7. Salisbury Critical Habitats

HVA



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Legend

- 100' Riparian Corridor
- CT Natural Diversity Database Areas
- Lake Habitat
- Calcareous Deciduous Wetlands
- Scrub Shrub Habitat
- Alluvial Forests
- Steep Rock Outcrops

Wetland Types

- Forested Wetland
- Emergent Wetland/Pond

Riparian Fish Habitat

- Meadow Gradients
- Upland Gradients
- Plunge Pool Gradients
- Exposed Cover Within 100' Riparian Corridor

SEPTEMBER 2009

Miles
0 1 2

Base Features

- Appalachian Trail

Roads

- State
- Local
- Unpaved
- Rail Trail

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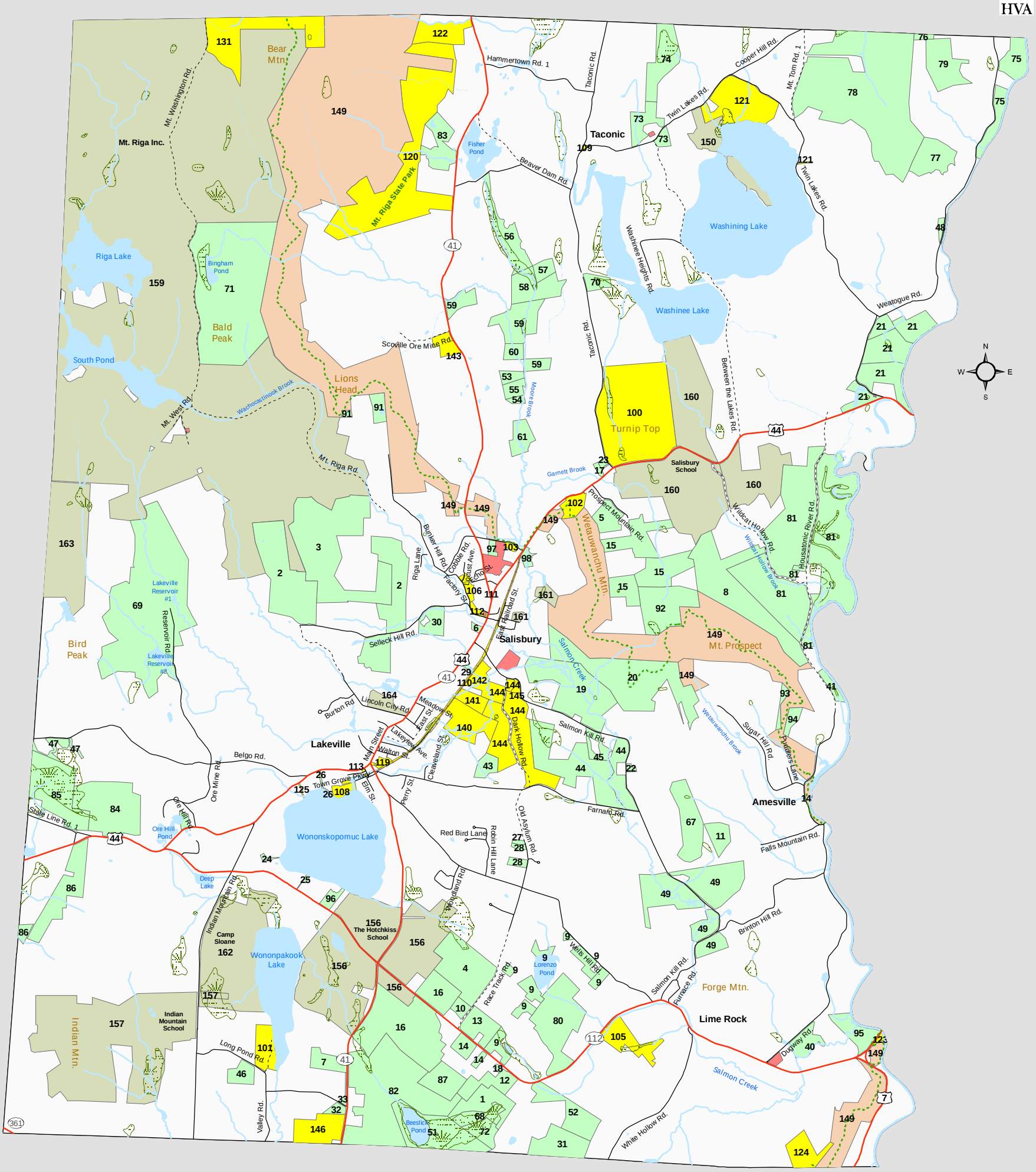
8. Salisbury Open Space

HVA



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Map prepared on 8/18/09 by:
Mark Brown, GIS Department
Housatonic Valley Association
150 Kent Road; PO Box 28
Cornwall Bridge, CT 06754

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Please refer to the key accompanying this map.

Miles
0 1 2

Legend

Conservation Status

- Conserved Lands
- Open to Public
- Appalachian Trail

No Legal Conservation Protection

- Cemetery
- Various Institutions

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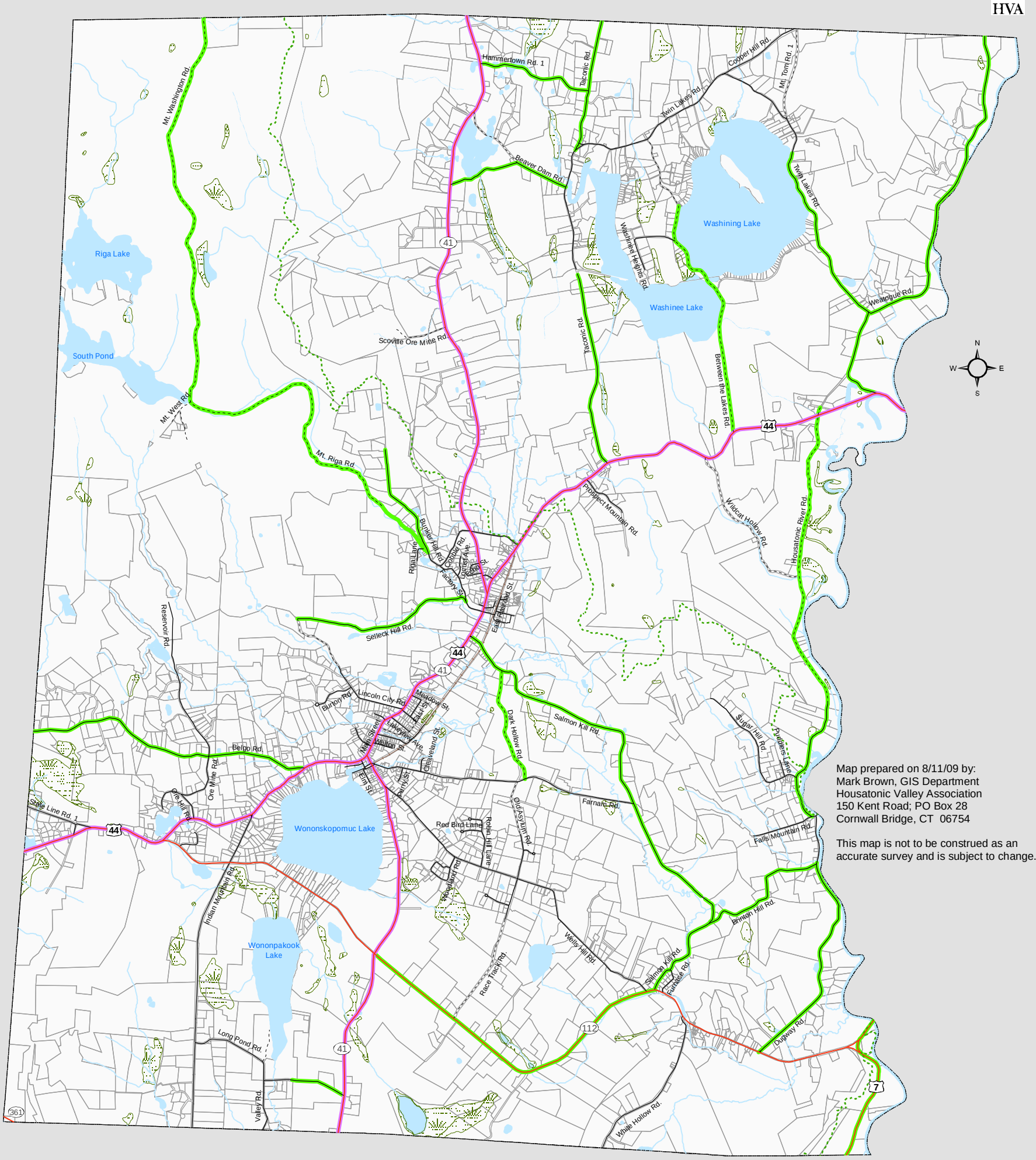
9. Salisbury Scenic Roads

HVA



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Miles
0 1 2

Legend

Scenic Roads
- NRI Designated
- State Designated

Waterbodies
- Water
- Wetland

- Appalachian Trail

Roads
- State
- Local
- Unpaved

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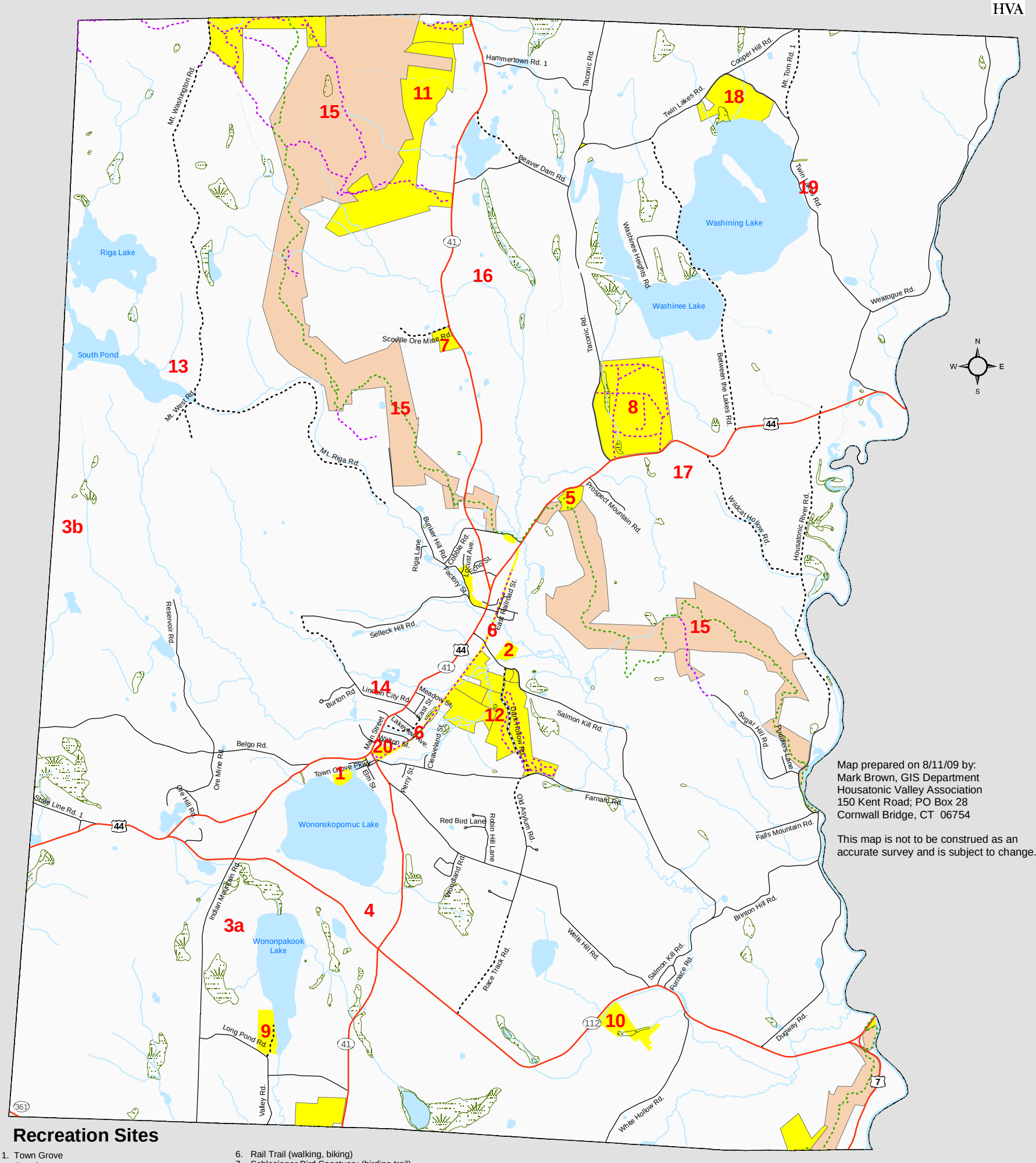
10. Salisbury Recreational Resource Sites

HVA



Recreation Sites

1. Town Grove
   - beach
   - boat launch*
   - swimming
   - picnicking
   - paddle tennis*
   - playground
   - fishing
   - sailing
2. Trotta Field
   - basketball
   - tennis
   - baseball/softball
   - soccer

3a. Camp Sloane (summer camp, camping)*

3b. Camp Sloane (camping)*

4. The Hotchkiss School*
   - golf
   - tennis
   - swimming
   - ice skating
   - ice hockey

5. Barrack Matiff (hiking)
6. Rail Trail (walking, biking)
7. Schlesinger Bird Sanctuary (birding trail)
8. Scoville Memorial Sanctuary (hiking, cross-country skiing)
9. Mary Peters Memorial Park (beach, boating)
10. Wack Forest (Scouting)
11. Mt. Riga State Park (hiking)
12. Dark Hollow (hiking)
13. Mt. Riga Corp. (beach)*
14. Salisbury Central School (playground)*
15. Appalachian Trail (hiking)
16. Riga Meadows (Pony Club)*
17. The Salisbury School (ice skating, ice hockey)*
18. East Twin Lake (boat launch)*
19. O'Hara's (boat launch)*
20. Community Ballfield

* Permit, fee, or permission required

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Miles
0 1 2

Legend

Recreation Lands
- Appalachian Trail
- Open to Public

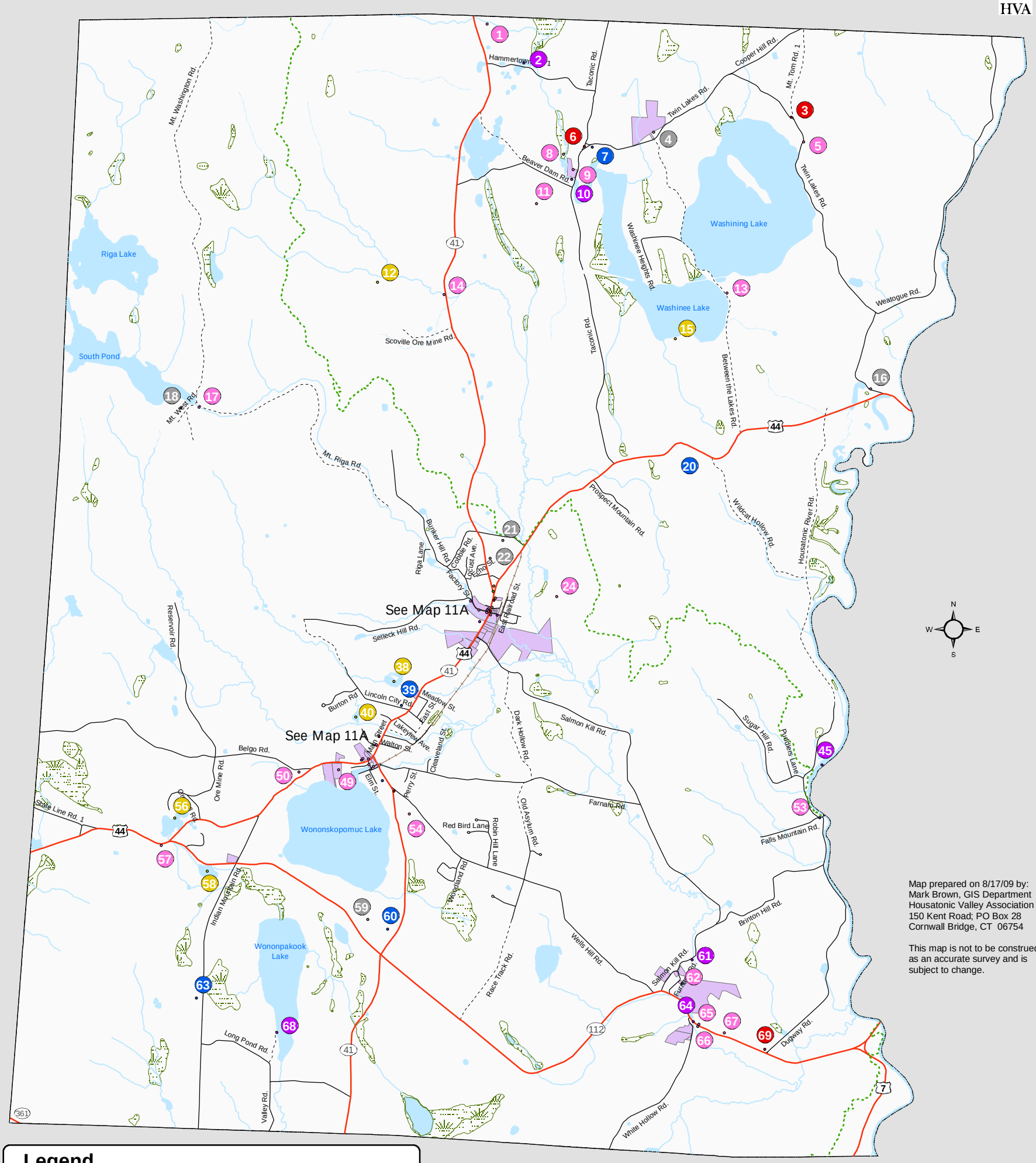
Waterbodies
- Water
- Wetland

- Appalachian Trail
- Other Trails

Roads
- State
- Local
- Unpaved

11. Salisbury Selected Historic Landmarks

HVA



Legend

- Cemetery
- Church
- Inn
- Mine
- Monument
- School
- Structure
- Site
- Appalachian Trail
- Historic District Parcels
- Waterbodies
- Water
- Wetland
- Roads
- TYPE
- State
- Local
- Unpaved

Miles 0 1 2

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SEPTEMBER 2009

ID	MAP KEY	ID	MAP KEY	ID	MAP KEY
1	Joyce Furnace	24	Ski Jump	47	Holley Factory
2	Harris Scythe Works	25	St John's Church	48	Lakeville Depot
3	Twin Lakes Chapel	26	Ragamont	49	Holleywood
4	Taconic Cemetery	27	Selleck Mill	50	Robbins House
5	Twin Lakes Boarding Houses	28	Academy	51	School for Imbeciles
6	Taconic Union Chapel	29	Salisbury Town Hall	52	St. Mary's Church
7	Taconic Schoolhouse	30	Old Burying Ground	53	Amesville Iron Bridge
8	H. Scoville Mansion	31	Washinee Mill	54	Wake Robin Inn
9	Old Stone House	32	Kettle Watering Trough	55	Amesville School
10	Twin Lakes Outlet	33	Congregational Church	56	Ore Hill Mine
11	R. Scoville Mansion	34	Bushnell Tavern	57	Ore Hill School
12	Scoville Ore Bed	35	Scoville Library	58	Chatfield Mine
13	Miles House	36	Salisbury Depot	59	Town Hill Cemetery
14	Camp-Ball House	37	Stiles Meadow	60	Hotchkiss School
15	Frink Ore Bed	38	Davis Ore Bed	61	Lamb's Forge
16	Dutcher Burying Ground	39	Salisbury Central School	62	Limerock Furnace
17	Riga Furnace & Forge	40	Porter ore bed	63	Indian Mountain School
18	Mt. Riga Cemetery	41	Methodist Church	64	B&R Foundry
19	White Hart	42	Joshua Porter House	65	B&R Headquarters
20	Salisbury School	43	Holley-Williams	66	Rocky Dell Hotel
21	Catholic Cemetery	44	Gateway (Wononsco)	67	B&R Casino
22	Salisbury Cemetery	45	Ames Works	68	The Cedars Country Club
23	Civil War Memorial	46	Farnam Tavern	69	Trinity Lime Rock Church

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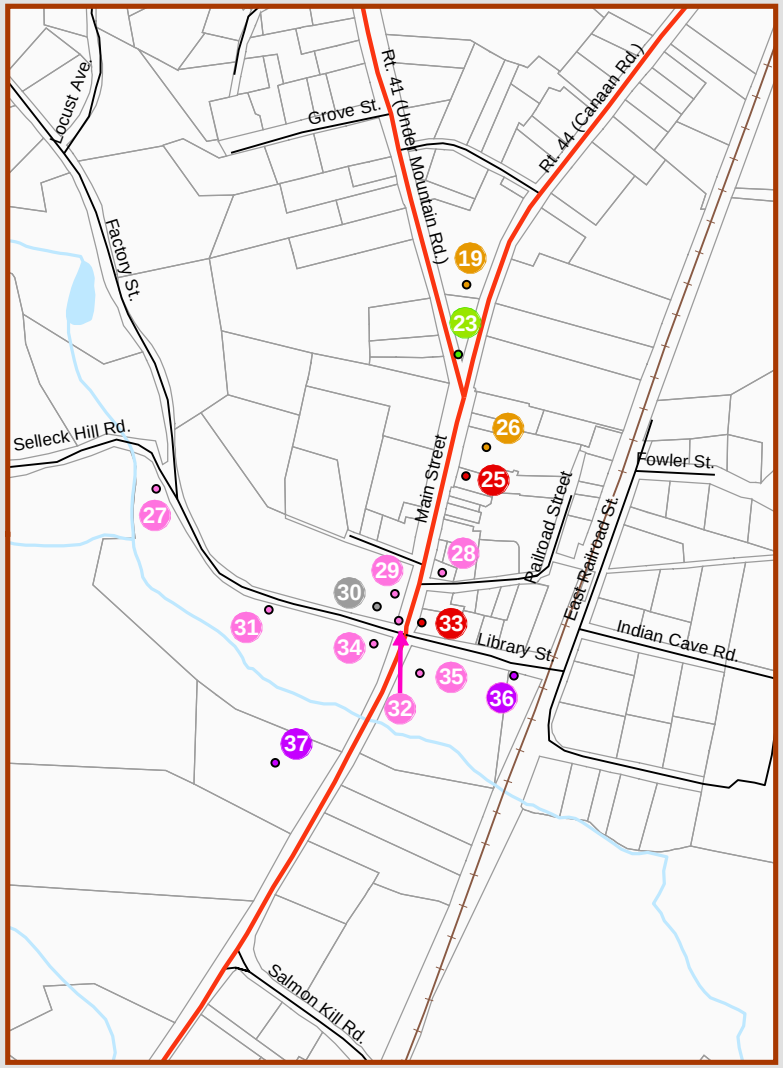
11A. Salisbury Selected Historic Landmarks

HVA

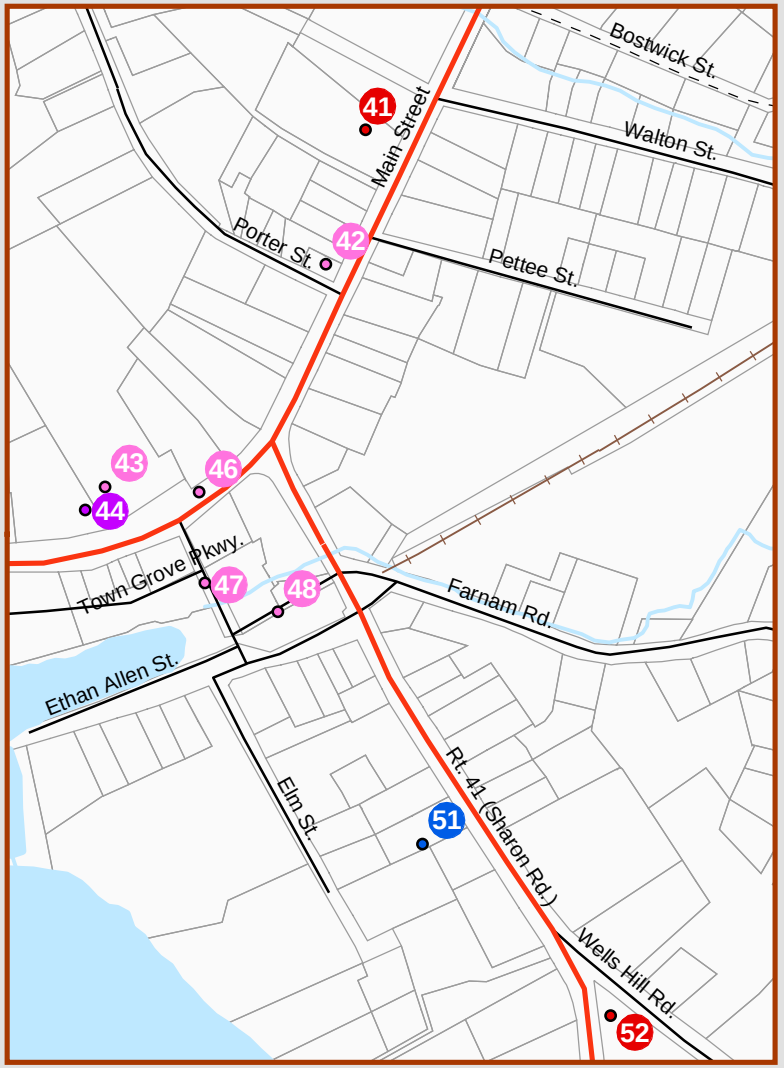
Salisbury Village



Feet

0 500 1,000

Lakeville Village



KEY AND LEGEND ON MAP 11