

Appendix 5

Outstanding Resource Value Report: The Cultural Landscape

Eightmile River Watershed Management Plan

Eightmile River Watershed Outstanding Resource Value: **Cultural Landscape**

November 2004

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The following report is also available in its original color format from
www.eightmileriver.org.



The Eightmile River Watershed

A Cultural Landscape Study

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University of Massachusetts Amherst
National Park Service
November 2004



Cover: Eightmile River Watershed, October 2004. Courtesy: National Park Service.

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PREFACE

The National Park Service (NPS) is currently conducting a Wild and Scenic River designation study for the Eightmile River watershed in southern Connecticut, which includes parts of the three towns of Salem, East Haddam, and Lyme. The University of Massachusetts, Department of Landscape Architecture and Regional Planning, has produced this cultural landscape study in order to document, analyze, and assess the significance of the watershed as a cultural landscape. The assessment of the cultural values and resources in the region will complement and enhance the natural resource studies and reports that are currently in progress. This cultural landscape study has employed a synthesized methodology, based on NPS guidelines for documenting and analyzing cultural landscape features and characteristics.

The NPS is currently reviewing natural resource values of the Eightmile River watershed in terms of their statewide significance as unique, rare, or exemplary. This report assesses the significance of the cultural landscape of the Eightmile River watershed in a statewide context. The documentation and analysis presented here is also intended to be a source of information and analysis for residents and town officials making future land management decisions.

This project was made possible by the National Park Service, the Eightmile River Wild and Scenic Study Committee, and many concerned citizens of the Eightmile River watershed, who contributed their time and advice.

Special thanks to Carolyn Bacdayan of Lyme and David Bingham of Salem, both of whom generously shared their knowledge and history of the watershed.

Assistance and advice was also provided by: Anita Ballek, Ballek Garden Center; Mary Donohue, Architectural Historian, State Historic Preservation Office, Connecticut; Charles Farrow, Rose Farm Gallery; Elizabeth Farrow, Florence Griswold Museum; and David Wordell, First President of Salem Historical Society; the East Haddam Historical Society; the Lyme Historical Society; the Salem Historical Society; the Salem Library; and the Rathbun Library.

This report was researched and written by Lauren Todd, a Master of Landscape Architecture student at the University of Massachusetts Amherst, who also drew many of the maps and diagrams. Her work was supervised by Professor Ethan Carr, Department of Landscape Architecture and Regional Planning, University of Massachusetts Amherst, and Kevin Case, National Park Service.

INTRODUCTION



FIG 1. A Landscape Mosaic

The cultural landscape of the Eightmile River watershed is a mosaic of buildings, roads, agricultural fields, water features, and forest, all shaped and influenced by human history and interaction with the land and natural processes.

The landscape of the Eightmile River watershed is far from an untouched wilderness. The scenery that we see today, which is overwhelmingly a mosaic of successional forest and human settlement, is a product of thousands of years of human interaction with the land. The watershed is full of diverse ecological patterns and is rich in cultural history. This document offers an overview of the human relationship with the Eightmile River landscape and the patterns that have evolved as a result of the enduring connection between people and the land. For the purpose of this project, a “cultural landscape” is defined as a geographic area, including both cultural and natural resources, associated with a historical event, activity, or person or exhibiting other cultural and aesthetic values.¹

PART ONE

CONTEXTUAL HISTORY



FIG 2. Aerial View of Forest Succession, Eightmile River Watershed, 2004

The Eightmile River watershed has gone through dramatic landscape transitions over the past 400 years. The forested landscape familiar to Native Americans was transformed into agricultural fields, pastureland, and woodlots with the arrival of the European settlers. By the end of the 19th century, a second major transition was caused by the widespread abandonment of agriculture, resulting in the successional hardwood forest seen today.

The name of the Eightmile River refers to the location of the river's mouth, which flows into the Connecticut River eight miles above Long Island Sound. The watershed is located approximately 30 miles south of Hartford, Connecticut and occupies 62 square miles (approximately 40,000 acres) in the eastern coastal slope and eastern upland regions of southern Connecticut. The watershed encompasses large portions of the towns of East Haddam, Lyme, and Salem.

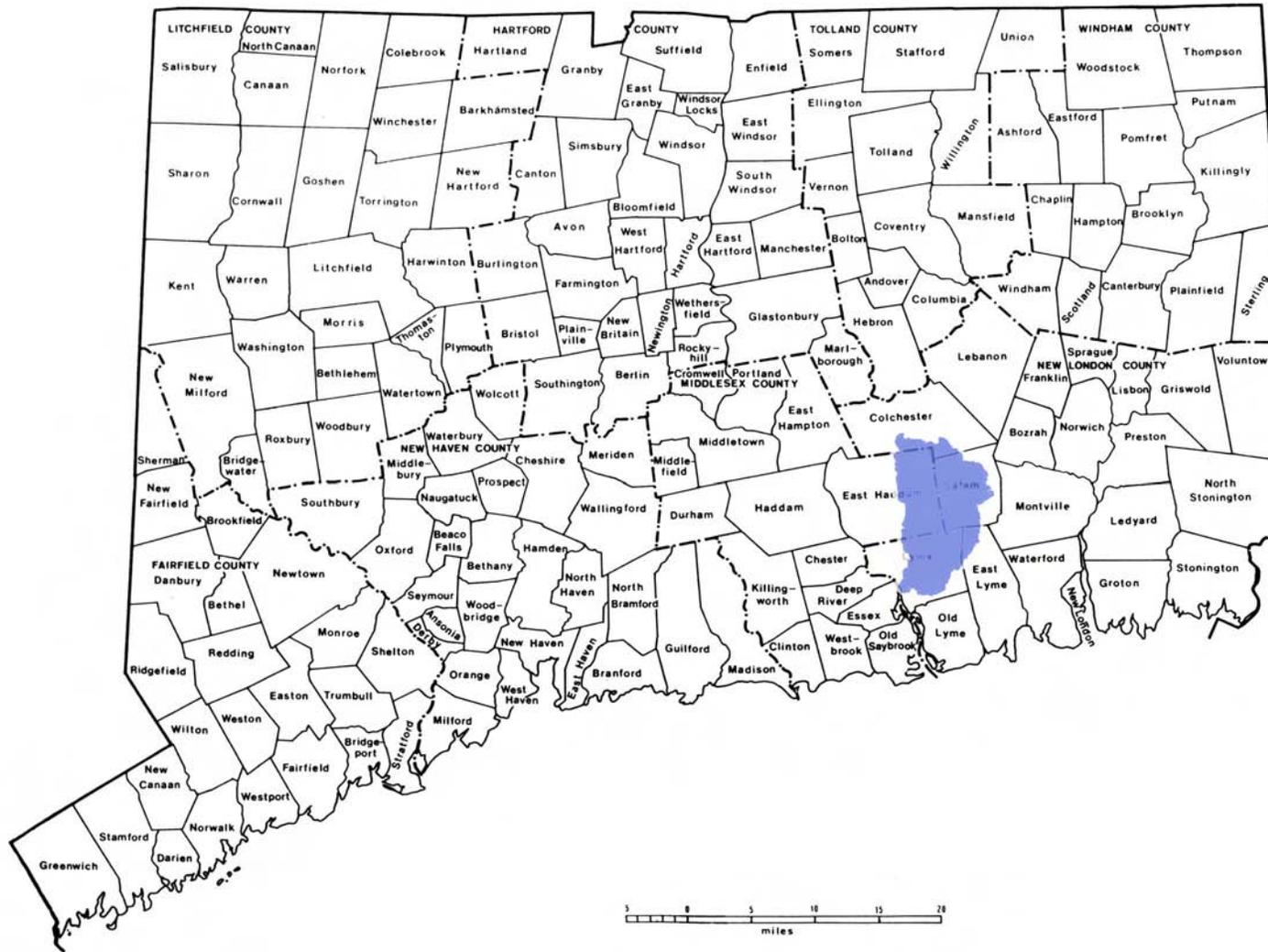


FIG 3. Statewide Context

The Eightmile River watershed is approximately 62 square miles and includes the towns of East Haddam, Lyme, Salem and a small portion of Colchester and East Lyme.



FIG 4. The Eightmile River Watershed

Ninety percent of the watershed is comprised of the towns of East Haddam, Lyme, and Salem.

Native American Settlement

This report addresses the impact of human settlement within the Eightmile River watershed that has affected the visual character of the physical features of the watershed landscape. Native American settlement within the watershed left minimal footprints on the present-day landscape, but began at least as early as the Middle Archaic Period (c. 6,000-4,000 BC).² Archaeological evidence of Native American settlement in the watershed is typically found close to fresh water, and on well-drained, sandy terraces and knolls. Native American settlements within the watershed are believed to have relied on geographic mobility, with settlement sites and movement dependent generally on the seasons. European land-use practices, such as clearing and lumbering, and new ownership boundaries inhibited Native American settlement patterns and disrupted tribal structure. European presence in the watershed caused Native Americans to become less nomadic and depleted many staple resources such as game and forest products.

Archaeological Integrity

This study does not include a survey of existing or potential archaeological resources. More information about the Eightmile River watershed's archaeological resources can be found in the 2004 report by Dr. Marc L. Banks and Dr. Lucianne S. Lavin, "Assessment of the Eight Mile River's Archaeological Resources." However, it is important to note that archaeologists have identified the mouth of the Connecticut River as an area with particular potential for intact archaeological sites. According to Banks and Lavin, "The land bordering the river has a high potential for intact archaeological resources, as the landscape has been less impacted by historic activities and development."³ The topography, past land use, and delayed modern development contribute to a unique watershed landscape. The potential for intact archaeological sites within the watershed distinguishes the Eightmile River.

Early Settlement and Agriculture

Early settlement in the watershed was primarily influenced by English tradition, and the Puritan vision of communities in which individuals would settle close together, for protection and social control. Groups of settlers were granted permission from the General Court of the Connecticut Colony to settle and occupy certain parcels of land.⁴ Configurations of the towns within the watershed varied, but often resulted in settlement patterns of colonial village-centered development, which soon evolved into dispersed farmsteads.

Town settlement in the watershed revolved primarily around agriculture. A village or town center was laid out around the town common, with an adjacent meetinghouse and house lots. Agricultural fields for cultivation, haying, and grazing were then organized, usually radiating around the town center. As the populations of the town centers grew, new holdings or farmsteads farther from the town centers were settled. The widespread, dispersed settlement pattern of farmsteads separated by agricultural lands made weekly attendance at religious services difficult for those living far away from the town centers. As a result, many farmsteads and settlements diverged from the original town centers or colonies, forming new towns with their own established meetinghouses. This is how the town center of Lyme, for example, was founded in 1665, as a new parish of the original Saybrook Colony. Similarly, the First Ecclesiastical Society was granted in East Haddam in 1700, and New Salem Parish was established in 1725. Transportation networks, mainly dirt roads or farm tracks, connected these dispersed farmsteads to one another, to town centers, and to coastal trading ports.

Along with agriculture, shipbuilding was established in the coastal area of Hamburg. Gristmills and sawmills were constructed in order to harness energy from local streams and rivers. Some hamlets grew around the industry of the mills, such as Millington in East Haddam, or Sterling

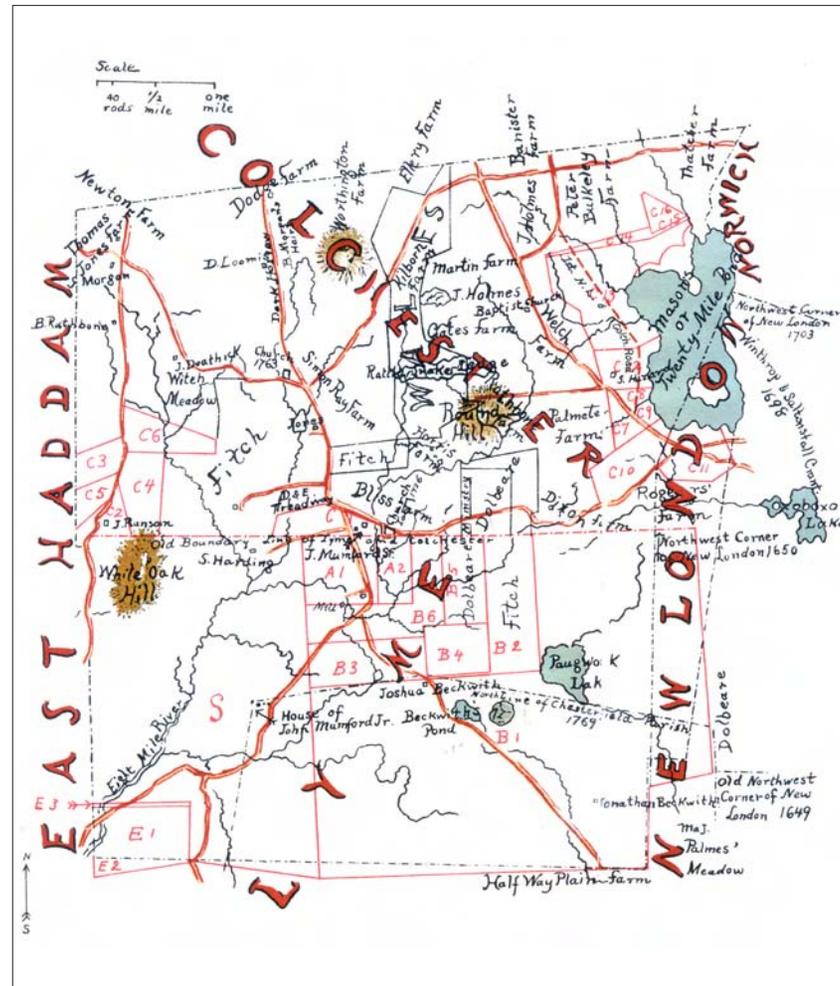


FIG 5. Early Map of Agricultural Land Salem, CT, 1769

This map, taken from *Chronicles of a Connecticut Farm 1769-1905*, demonstrates how patterns of early settlement were based on town-centered development, radiating agricultural land, and scattered farmsteads.



FIG 6. Huckleberry Hill From Candlewood Ledge Hillside, c. 1920s
 During the 1920s, there was still open farmland above Hamburg Bridge.

City in Lyme, which developed around the Sterling Mill, established in 1709.⁵

During the colonial period, farmsteads were primarily self-sufficient, providing their own meat, produce, and fiber. However, there was a great amount of dependency between neighboring farms to share their tools and resources, creating a need for roads between farmsteads. Early colonists also readily adopted Native American agricultural practices. Eventually the colonists recognized that many of the Indian crops, such as corn, depleted the soil, and they began to adopt methods of crop rotation in order to replenish fields. Over time, grains such as wheat, rye, and oats were discovered to be better at maintaining the soil's fertility.

Agricultural land was cleared for three different purposes: as either cultivated land for growing crops, pasture land for grazing animals, or "mow-

ings" to produce hay.⁶ The early colonial land-use practices of farming, land clearing, and lumbering greatly affected the habitat of native animal and plant species. Colonists depended on trees, such as chestnut, hickory, oak, hemlock, cedar, and white pine for house frames, shingles, clapboards, fence posts, flooring and other uses. White pine was used extensively for the timbers and planking of ships, with the largest pines reserved for the masts of the Royal Navy. The colonists also shipped timber back to England.⁷ These extensive lumbering and land clearing processes soon exhausted the native forests. Lumbering and agriculture, combined with fur trapping, had adverse effects on native animal species as well. By the beginning of the 19th century, the entire beaver population in southern New England had been eradicated. This in turn influenced the entire wetland ecosystem by inhibiting wetlands and associated species.



FIG 7. Historical Agriculture in East Haddam
 Pasture land and hay field side by side, a typical agricultural landscape during the 19th and early 20th century.



FIG 8. The Beginning of Agricultural Succession
Typical red cedar growth on a former hay field in East Haddam, 1958.

Throughout the late 17th and 18th centuries, the average acreage available for a typical farmstead declined steadily. Farmers could no longer afford to clear new land for fields because land had become scarce due to soil infertility and growing human populations. Much of the rocky and hilly slopes of the Eightmile River watershed were more suitable for grazing, rather than cultivation, and there was an eventual shift to livestock and dairy production from grain crops during the mid 19th century.

Agricultural Abandonment and Forest Succession

By the mid 19th century, agricultural abandonment began throughout the watershed, triggering the processes of vegetative succession. Many farmers were moving to the west in search of more fertile land. Hill farms, which worked the thinnest and poorest soils of the watershed's ridges,

were the first to be abandoned. With the rise of industry and manufacturing, agricultural practices were traded for machinery and factory work. Moreover, the machinery being developed at this time for plowing, cultivating, and harvesting was not suitable for the steep, rocky fields of southern Connecticut.

Mowings and hay fields were formerly harvested by hand with scythes, a practice that became less economical as new machinery was adopted. The need for mowings and pasture declined further as agricultural practices switched from animal power to engine power. Reforestation occurred at a steady rate as mowing and grazing declined. As agricultural land was abandoned, species that were growing along field edges and fence rows reseeded in the abandoned fields. By the early 1900s, vast areas of pine and successional forest growth on former agricultural land had established themselves throughout the watershed.



FIG 9. Agricultural Succession in Salem
View of the fields behind the Mumford House in Salem. Today, these fields are being managed to allow for a succession of native species.

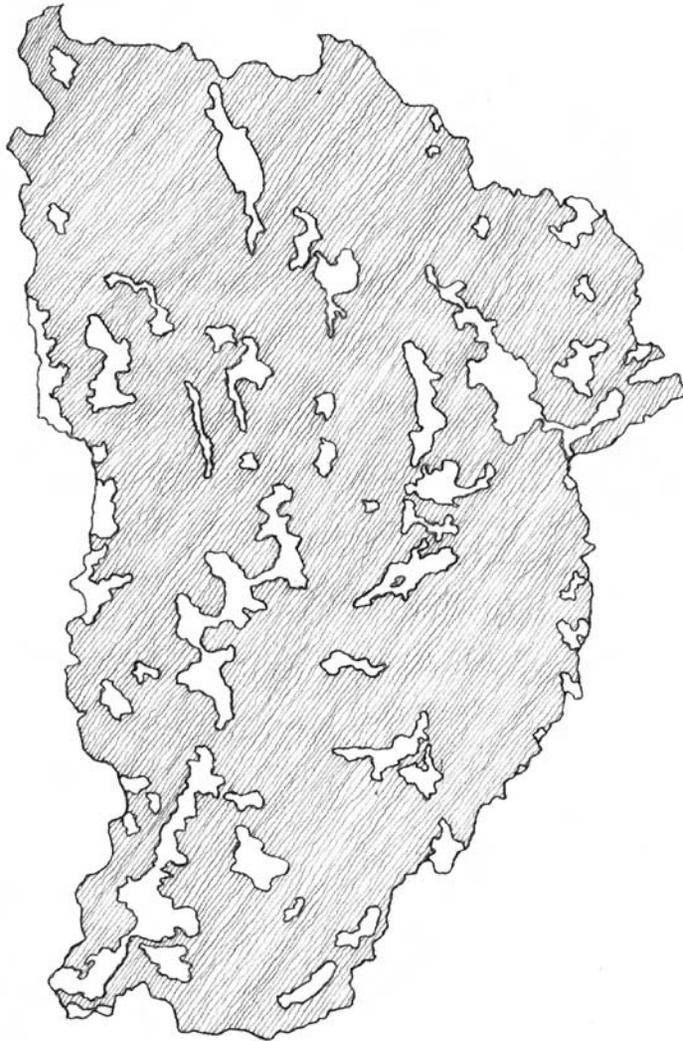


FIG 10. Diagram of Forest Cover by 1934

In the mid 19th century, it is estimated that 50% of the watershed landscape was covered by forest. This diagram of forest cover vs. non-forested land shows that approximately 75% of the watershed was forested by 1934.

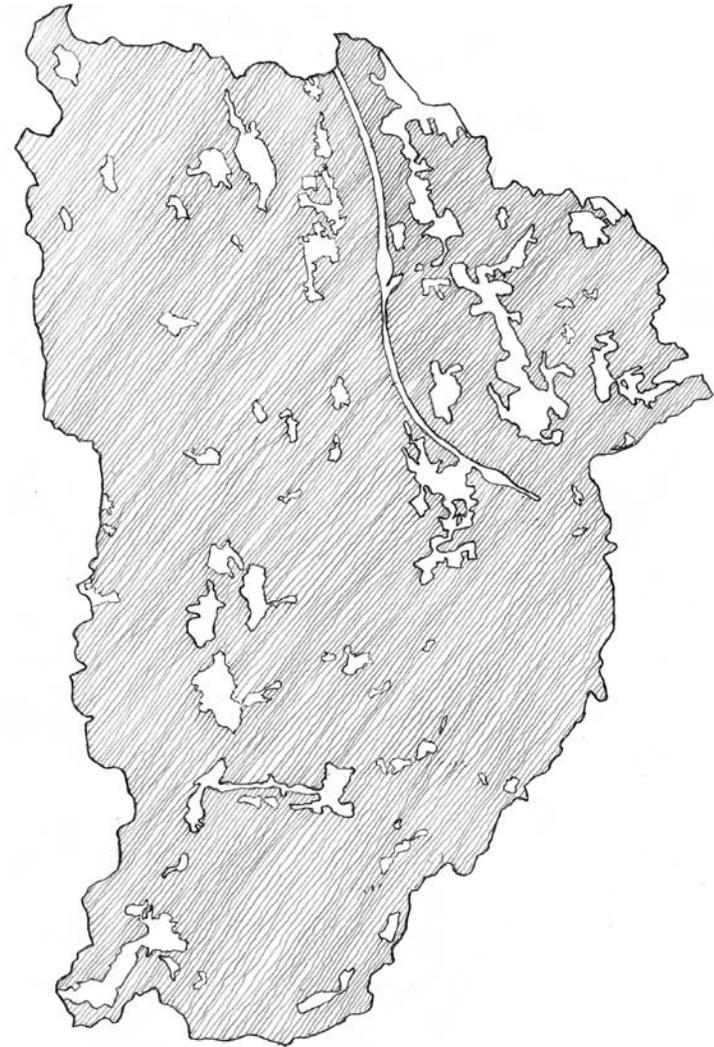


FIG 11. Diagram of Forest Cover by 1995

The patterns of forest cover vs. non-forested land by 1995 show that approximately 90% of the watershed is forested today.

Successional animal species are also linked to the abandonment of agriculture and forest succession. Deer and beaver populations increased in population as a result of the successional woodland habitat that soon covered the majority of the watershed landscape. The beaver was reintroduced to southern Vermont in 1921, and populations spread to all central New England states by 1940.⁸ With the absence of trapping and large predators, beavers thrived in broad, flat valley ponds throughout the watershed. Beaver activity fostered biodiversity through the cyclic nature of wetland habitats and ecosystems that they created, and they became an important element of the Eightmile River watershed landscape.

An Artistic Landscape

An increased aesthetic appreciation of the landscape was juxtaposed with the declining agricultural landscape of the Eightmile River watershed. By the early 20th century, artists came from New York, Hartford, and Chicago,



FIG 13. Etching of Hamburg Cove

Note the young successional vegetation on the far hillside and in the foreground.



FIG 12. Music Vale Barn, 2004

A remnant of the 19th century agriculture that occurred at the Music Vale Seminary.



FIG 14. Sailing at Hamburg Cove

The picturesque and romantic qualities of the Cove are emphasized with the exaggerated slopes of the surrounding landscape and the reflections in the water.

and an artist's "colony" at Old Lyme was established. Over time, the artists at the Lyme Art Colony developed a relationship with the surrounding rural landscape as the subject of their paintings and drawings. By painting such scenes as Hamburg Cove, Tiffany Farm, and Czikowsky Barn, painters during this period created a sense of permanence in a rapidly changing landscape. Their work celebrated all aspects of New England rural life and helped preserve and create a sense of place out of the rock outcrops, grazing animals, agricultural fields, and scenic waterways within and around the Eightmile River watershed. Today, many of these paintings and artworks can be seen at the Florence Griswold Museum in Old Lyme, CT. Visitors to the Museum can explore where the artists lived and worked and experience the Connecticut landscape that inspired many of the works.

A precursor to the artistic influx of the early 20th century was the presence of a music school within the watershed. During the mid 19th century, the town of Salem became nationally recognized as a cultural center for music under Oramel Whittlesey, who founded the Music Vale Seminary and Normal Academy of Music in 1835. The Seminary was the first of its kind in the United States to confer degrees. The students of the Seminary provided their own sustenance through agricultural practices located on the property. The Whittlesey family manufactured pianofortes out of their factory in Salem, on the present-day site of the Salem Firehouse. This unique cultural arts center combined performance and craftsmanship with the agrarian lifestyle that is characteristic of the watershed's history.

Conclusion

Today, the Eightmile River watershed landscape contains features from many layers of cultural history. The most recent layers of history often contain the most visible features to residents today, since many historic footprints and features remain hidden behind trees or within dense successional forest. The process of agricultural succession is still occurring

across the watershed landscape. However, there are many characteristic features and elements of the cultural landscape throughout the watershed, especially buildings, road corridors, and overall patterns of development that are remarkably intact and retain integrity to their 17th, 18th, and 19th century origins.

THE CULTURAL LANDSCAPE TODAY



FIG 15. A Cultural Landscape

Hedgerows and field patterns are well-defined by successional forest growth.

The Eightmile River watershed has not developed in the same manner as areas near the mouths of great rivers such as the Hudson or the Delaware. The shifting mouth of Connecticut River, tidal currents, and sand accumulation prevented a major harbor from ever developing. Without a major harbor and associated industry, the towns upstream and around the river never had the population or industrial growth seen in areas such as New York City or Philadelphia. The steep slopes and rocky terrain limited access to the watershed towns, preventing railroad development, which in turn again limited industrial growth and population. Moreover, rocky terrain and unique geology also inhibited the extent of cultivation of farmland within the watershed, and heavy machinery could not be used on the saturated, low-lying fields adjacent to the Eightmile River and its branches. As a result, today the watershed has had a different land-use history than other areas similarly situated near the mouth of a great river. The area has also been less affected by 20th century suburban sprawl. The entire region around the mouth of the Connecticut River gives unique insight into a landscape that has had a very different history than most of southern New England, particularly on the coast and near the mouths of large rivers. The Eightmile River watershed constitutes an important and intact component of the regional landscape.

Landscape Features and Characteristics

The cultural landscape of the Eightmile River watershed can be described in terms of landscape features and characteristics, which give the watershed its historic character. This portion of the report will look more closely at the landscape characteristics of settlement patterns, circulation, vegetation, buildings, structures, sites, and spatial organization in order to ana-



FIG 16. Old Patterns of Circulation
Views of the abandoned farm road running between the Mumford House and Route 82.

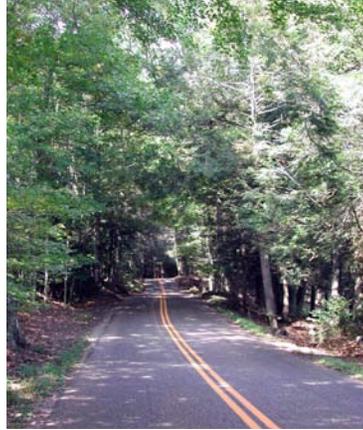


FIG 17. Typical Road in Watershed
Smaller roads within the watershed are typically hilly, narrow, and windy, due to the rocky topography.



FIG 18. Open View of Field From Road
A typical view of a “gap” in the vegetation seen from the road. The watershed landscape is dominated by trees, but there are glimpses and sudden views of large expanses of open fields, as seen from the road.

lyze the historic integrity of the watershed landscape as a whole.

Settlement Patterns

There are many patterns of settlement that have occurred throughout the watershed. Most town or village centers were settled on the basis of either agriculture or an associated mill industry. The most characteristic patterns of settlement are those of farmsteads, hamlets, town-centered settlement, and marine-related settlement.

Farmsteads consist of a farmhouse, associated outbuildings, and are surrounded by vast acres of agricultural land. For example, Woodbridge Farm in Salem still manages approximately 150 acres of associated agricultural land and woodlots. These farmsteads are still spread out from one another, and a limited number are still engaged in some form of small-scale agriculture. Most farmsteads throughout the entire watershed however, are occupied as single-family residences.

Hamlets are typically small clusters of (now residential) development, such as Millington Green in East Haddam or Sterling City in Lyme. They operated as centers of commerce, and were settled around the timber and gristmill industry. Located adjacent to streams for water-power, many of the existing mill buildings still retain their 18th and 19th century architecture, yet function as single-family residences.

Salem is a good example of colonial settlement around a town common. The town was built around Salem Green, with the most important social buildings located along the Green. Houses and associated buildings were located around this town common, with agricultural land radiating around the town center. This pattern is still visible today and remains relatively unaltered by 20th century development. Modern use of the automobile has altered the landscape of the Green, requiring most public buildings to accommodate parking. On the whole, the town has made a concerted effort to maintain the historic character of the town center by placing most



FIG 19. Route 11 Overpass, Salem
This portion of the highway, although already built, is not in use.



FIG 20. Route 156, Lyme
Route 156 was recently repaved and widened.

public parking behind buildings.

Colonial settlement along the Eightmile River itself was a result of the maritime commercial activity of the 18th and 19th century. In the area of Hamburg Bridge and Cove, the pattern of settlement, and orientation towards the riverfront was a direct result of the dependence on commerce. In particular, land at the water's edge was not developed, and kept clear for business activity along the wharfs.

All 17th, 18th, and 19th century settlement within the watershed was relatively small scale and clustered, with the exception of the dispersed farmsteads. All town and village-centered development remained close together and was built in similar architectural form. Many buildings, structures, and sites still exhibit these historic settlement patterns and contribute to the historic integrity of the watershed landscape.

Circulation

Winding roads, with patches of open fields interspersed, is the most characteristic description of a watershed road. Stonewalls often line the roads and houses, and 20th century development is often set back from the roads and hidden behind a winding driveway, nestled deep into the woods. The winding roads of the watershed follow the footprints of the web of narrow 17th, 18th, and 19th century roads that connected the dispersed farmsteads to one another, town centers, and coastal trading ports.

Some 20th century circulation patterns, such as Route 11, a multilane highway, are uncharacteristic of the watershed. Route 11 cuts through the northern boundary of watershed, extends through the central region, and stops abruptly at Route 82 in Salem. Plans to finish the highway are still controversial, and the overpass already built above Route 82 remains unused. Main transportation routes, such as Route 156 and Route 82, have been widened since the 19th century. The widening of roads can have many effects on the surrounding community. Route 156 was recently



FIG 21. Wolf Tree in Forest

A lone wolf tree towers over a young successional forest in Millington.



FIG 22. Looking down to Hamburg Cove Towards Czikowsky Farm Barn
Open farmland along Hamburg Cove, c. 1920s.



FIG 23. Looking down to Hamburg Cove Towards Czikowsky Farm Barn, 2004
Successional growth has completely blocked the view towards the barn, which is in use as a garage for the new residence built beside it.



FIG 24. Reynolds General Store, Lyme

widened and repaved, and residents have observed faster driving, a lack of pedestrian access, and a more dangerous route for bicyclists.

Overall, the pattern of circulation and settlement can be traced to the 18th and 19th century. Although major transportation corridors exist within the watershed, most of the region's roads remain rural in nature. Dirt or unpaved roads, usually remnant farm roads, still exist in numerous places throughout the watershed. Many abandoned roads, such as old

Wall Street in Millington, are used as trails for recreation.

Vegetation

There are many remnants of the agricultural past of the watershed that are indicated by the current vegetation. Wolf trees, or wide, low-branching trees, surrounded by a forest of younger trees, recall the agricultural past of the watershed. Wolf trees were left to stand alone as shade trees, when all other surrounding trees were cleared for agriculture. Juniper and red cedar indicate a recently abandoned agricultural field and early succession. Similarly, apple trees and other remnants of farmstead plantings can still be found throughout the woodlands of the watershed.

Because of the widespread abandonment of agriculture and the successional forest growth, much of the landscape that was recorded by artists in the 19th and early 20th century has changed. Today the watershed is approximately 90% successional forest cover. As a result, there has been a significant loss of characteristic views throughout the watershed and the landscape is more enclosed. The land above Hamburg Bridge and Cove was used for agricultural purposes and many views from Candlewood Ledge and Huckleberry Hill were painted by 19th and 20th century artists. A typical picturesque view was the one of Czikowsky Farm barn, looking down to Hamburg Cove. This vista was painted often, but because of forest growth and succession, this famous view has disappeared. The ways in which people today identify with the surrounding landscape has evolved with its progression into a largely forested landscape.

Buildings, Structures, and Sites

Many of the buildings, structures, and sites within the watershed exhibit 18th and 19th century settlement patterns. Many have been adapted to modern functions, but retain historical integrity.

Some buildings sit emphatically on the landscape, recalling the historical character of the place. For example, the First Congregational Church of

Lyme, (Hamburg Church, 1814) is the dominant architectural feature of Hamburg village, sitting on a hill overlooking Hamburg Cove. Similar Greek revival buildings sit on Salem Green, with clapboards painted bright white, located on the east side of the main road.

Stonewalls are a typical New England remnant of a post-agricultural landscape which are common throughout the watershed. Stonewalls are evidence of past agricultural use of the land and are indicators of patterns of past settlement and field layout. Barbed wire was first used during the early 1870s, and its presence throughout the watershed indicates more recent grazing pastures that were still in use into the 20th century.

Cemeteries are significant sites in the Eightmile River watershed. Carolyn Bacdayan, Lyme Public Hall archivist, observes that “cemeteries hold a special importance to the cultural landscape because of their obvious link to the community’s past and because of the uniqueness of the siting, layout, size and individual gravestones of each cemetery.”⁹ There are numerous cemeteries throughout the watershed, the earliest dating to the 17th century. Many of the old cemeteries still have strong connections to the surrounding community. Ancestors of families that still reside in the watershed today are buried in the Woodbridge Cemetery in Salem and the North Lyme Cemetery, for example.

There is little commercial activity, and no major supermarket, within the watershed. The largest shopping complex is the strip mall development at Salem Four Corners. This type of suburban development has yet to become a common sight within the watershed. More common are the older businesses of Reynold’s General Store in Lyme, or Salem Valley Farms Ice Cream, which display the more historic, rural character of the area.



FIG 25. Salem Town Green, 2004

The white clapboard buildings are typical of town center buildings within the watershed.



FIG 26. Salem Historical Society, 2004

Spatial Organization

The experience of driving through the landscape of the watershed can be characterized by an overwhelming sense of enclosure, as most of the watershed is forested. Periodically the landscape opens up with views of pastoral, agricultural landscapes. The agricultural division of land is no longer apparent in the majority of areas because most stonewalls have been obscured by vegetation, with the exception of the stonewalls that line the winding roads.

Narrow, winding, rural roads that can be traced to 17th, 18th, and 19th century origins remain a primary means of experiencing the spatial organization of the watershed landscape. The web of roads that still connects colonial farmsteads, hamlets, and town centers remains the dominant form of circulation, as opposed to more major, wider roads such as Route 11. Numerous colonial farmsteads are dispersed throughout the watershed landscape, and are often visually disconnected from major transportation routes, because of successional growth. Many farmsteads still retain agricultural land which also separates the homesteads spatially and visually from other surrounding development.

In addition to dispersed farmsteads, clustered development in villages and hamlets also remains a distinctive spatial organizational feature of the watershed landscape. Millington Green, for example, exhibits tightly-settled residences radiating around common green space. Town commons at Salem and Lyme still have their social buildings located adjacent to the Green, with most buildings and structures dating to the same period. Most modern conveniences such as parking and automobile access have been accommodated to the rear of historic buildings in order to preserve their character.

Modern zoning regulations within the watershed are another contributing factor to contemporary spatial organization. Unlike earlier settlement patterns, most 20th century single-family development requires a larger lot

size. Within the watershed, the average single-family lot size is two acres, as opposed to colonial footprints, which were usually clustered around a town common or along the water's edge. Modern development also requires a larger set back from the road, and is usually obscured by woodland, while more historic, 18th and 19th century houses are located closer to the road or riverfront.

Conclusion

As agricultural uses of the land declined and many farms moved west, agricultural practices within the watershed have had to adapt. In particular, a significant decline in dairy and other farms has made way for equestrian farms and riding centers. There has been a dramatic decline in dairy farms in the state of Connecticut since the 1940s, with less than 200 left in the state by 2003. Tiffany Farm, in Lyme, has been operated since 1841 and still operates as a dairy farm today, one of the few large agricultural



FIG 27. Tiffany Farm, 2004
One of the last dairy farms in operation in the Eightmile River watershed.

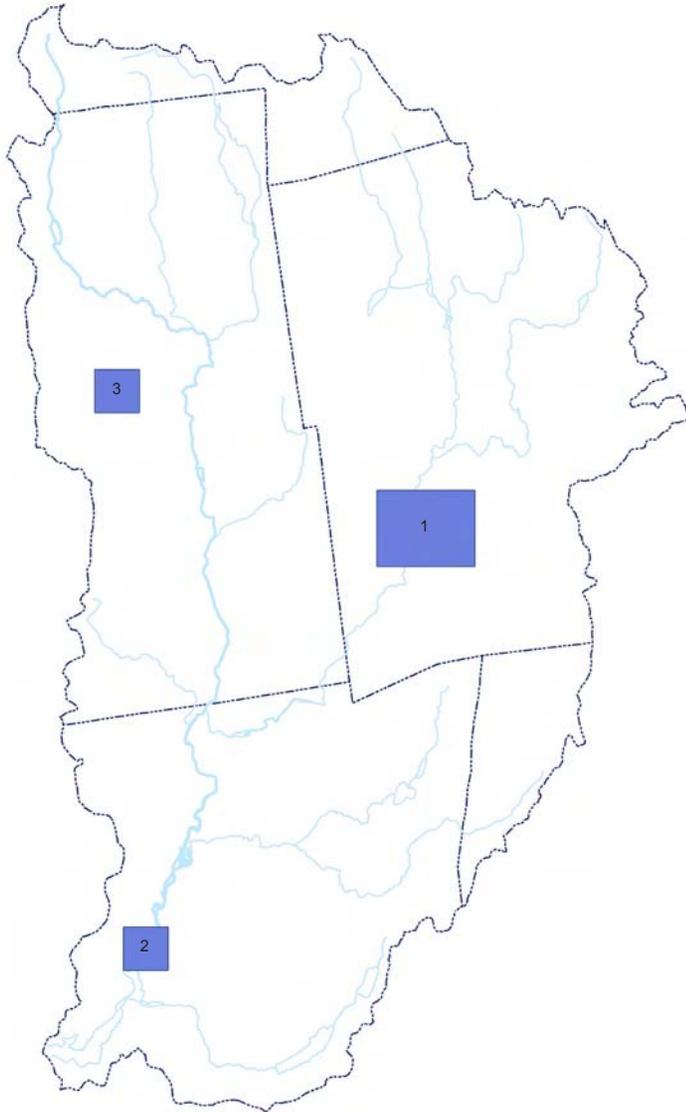
establishments left in the watershed. The farm consists of 140 acres and has to lease other agricultural fields in Lyme in order to raise enough silage for their cattle. Many farmsteads have become primarily residential, and similarly, many saw and gristmills have been converted into single-family houses.

There are a great number of buildings, structures, and sites within the watershed that have integrity to their 18th and 19th century origins. Nine properties within the Eightmile River watershed have already been recognized as having outstanding historical integrity and are listed in the National Register of Historic Places. Three of the properties (Millington Green Historic District, Hamburg Bridge Historic District, and Salem Historic District) are National Register Historic districts, and two (Woodbridge Farm and the Simon Tiffany House, Salem) are historic buildings. Three structures (bridges in Devil's Hopyard State Park, East Haddam) and one site (Hamburg Cove, Lyme) are listed in the *Lower Connecticut Valley Woodland Period Archaeological Thematic Resource*.

It is difficult to make generalizations about the historical integrity of the Eightmile River watershed as a whole without making it the subject of a much larger, in-depth study. Therefore, it is important to analyze characteristics of specific areas of the watershed in more detail. The next chapter focuses on three cultural landscape study areas that were selected for analysis and assessment. These cultural landscape study areas exhibit landscape features and characteristics that are illustrative and typical of the entire watershed, and will therefore give a better sense of the overall historical integrity of the Eightmile River watershed.

PART TWO

CULTURAL LANDSCAPE STUDY AREAS



In order to develop a better sense of the significance of the cultural landscape of the Eightmile River watershed, three study areas were selected for more detailed research. The Bingham family properties in Salem, Hamburg Bridge in Lyme, and Millington Green in East Haddam were chosen through consultation with local residents, historical societies, NPS staff, and State Historic Preservation Office staff. A range of landscape types were represented by the selections. The Bingham family properties are an excellent example of an agricultural landscape. The Hamburg Bridge area is an outstanding example of a historic waterfront settlement. Millington Green is a well-preserved example of an early center of commerce. These three cultural landscapes represent landscape types found throughout the watershed, and illustrate the general character and integrity of the regional landscape.

These three study areas were also chosen because National Register Districts and properties have already been designated within the boundaries of each study area. These three areas have already been recognized as having outstanding cultural resource value to the surrounding watershed.

A series of maps, diagrams and images document how human occupation within the watershed has affected each of the study areas. Patterns of settlement, circulation, and forest cover are analyzed in each study area to understand how these features and characteristics have changed over time. An assessment of the historical integrity of the existing conditions concludes the analysis for each study area.

FIG 28. Cultural Landscape Study Areas

The Bingham family properties in Salem (1), Hamburg Bridge in Lyme (2) and Millington Green in East Haddam (3)

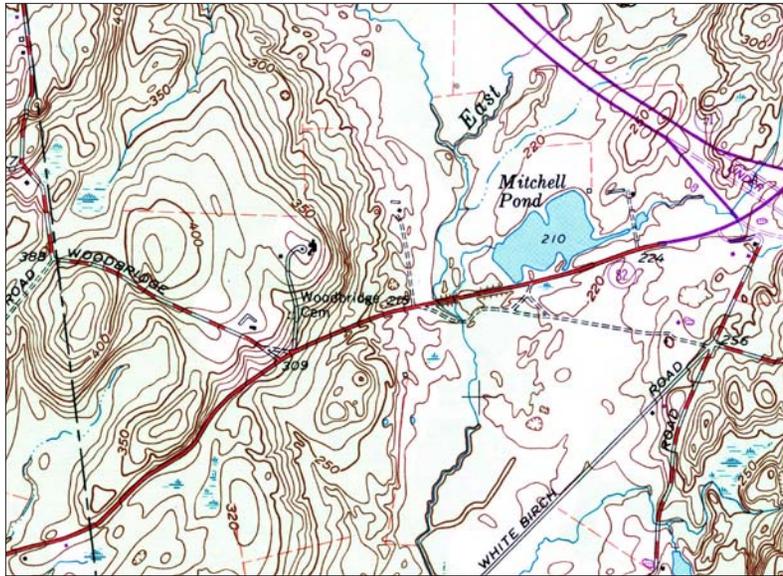


FIG 29. Bingham Family Properties Study Area

An Agricultural Landscape: The Bingham Family Properties, Salem

The Mumford, Mitchell, Marvel and Woodbridge farms were brought under one ownership by Annie and Alfred Mitchell during the late 1800s. Today, there are six homesteads that include farmhouse and adjacent sites and structures. Mitchell Pond and the Brook Bridge are also part of the Bingham family properties. One property, the Woodbridge Farm, is listed in the National Register of Historic Places. The Bingham family occupies a portion of the buildings, including the Tiffany House and Woodbridge Farm, and leases some of the other properties, such as Marvel and Mitchell Farms. Tenants on these farms maintain the homesteads through agricultural practices such as horse and dairy farming.

Settlement

The Bingham family properties study area is a prime example of the dispersed farmstead pattern, separated by agricultural holdings, that is characteristic of 18th century agricultural settlement in New England. New Salem Parish was established in 1725, and by the mid 1700s the study area was already being used for agriculture. The first farmhouse was constructed by 1769, with an associated barn dating to the 1770s. Both of these buildings are in existence today.

The history of the Bingham farms and homesteads have been richly documented in the book *Chronicles of a Connecticut Farm 1769-1905*, by Mary E. Perkins, first privately printed in 1905. Descriptive maps were drawn to document the evolution of land ownership between the Woodbridge, Shaw, and Browne Estates, which were the former names of the Bingham family properties. These maps, when compared with property boundary maps today, depict changes in property tenure, from multi-family ownership to the present-day single family ownership.

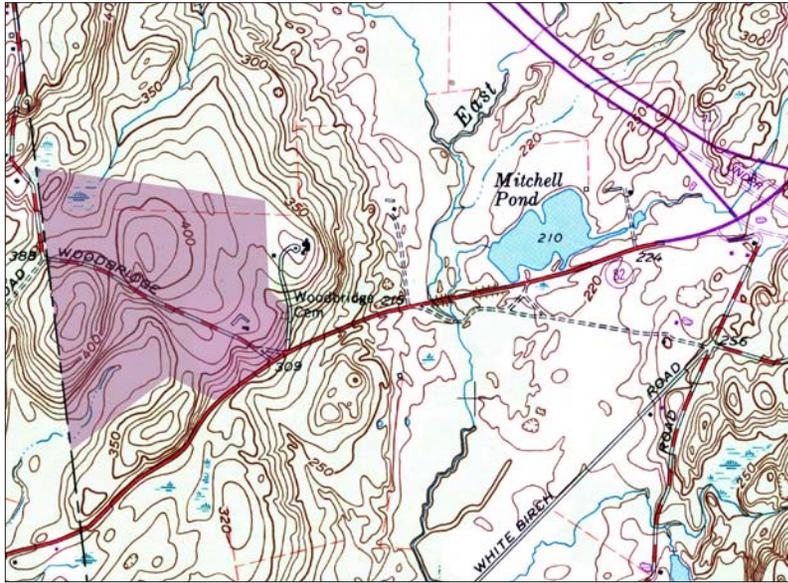


FIG 30. Woodbridge Farm Property, National Register of Historic Places
The Woodbridge Farm district, shown in pink, is currently listed in the National Register of Historic places.

Although property boundaries have changed from individual farmstead ownership to a single-family ownership, the pattern of development within the approximate 1,500 acres of the collective properties can be traced to the late 19th century. The pattern of settlement within this study area was initially dispersed farmsteads, surrounded by working agricultural fields, rather than a town center. The closest town center is Salem Green, approximately 2.5 miles north of the study area. Almost all buildings, including outbuildings such as barns and sheds, date to the 19th century, and some from the 18th century are still in existence.

Circulation

The 19th century pattern of circulation was established in response to the

dispersed pattern of early farmsteads. This same road pattern, which still connects the farmsteads to each other, remains virtually unchanged in the 21st century landscape. This webbed pattern of circulation is characteristic of 18th and 19th century farmsteads throughout the watershed. The abandonment of the Mumford Farm road, the paving of roads, and the widening of Route 82 are the most significant circulation changes within the Bingham family properties study area. The basic pattern of circulation remains, although certain road widths and paving have been changed and modernized.

The construction of Route 11 remains the most prominent circulation change in the northern portion of the study area. The multilane highway is uncharacteristic as its footprint is larger than any other transportation corridor in the watershed. Unlike the colonial patterns of circulation, Route 11 does not connect farmsteads or town centers. Instead, it connects areas on a larger, regional scale. Successional growth has provided a visual buffer between the study area and the highway. If Route 11 is completed, it will become a new visual landmark that divides the study area from the center of town.

Vegetation

Vegetation and forest cover can be documented as early as the 1880s from a map of the Woodbridge estate drawn by Donald Mitchell. The most dramatic change in the study area's landscape was the succession to woodland as a result of the abandonment of agricultural activities during the early and mid 20th century. Because the East Branch of the Eightmile River runs through the study area, the land around the Mumford House has always had heavy, wet soil, which combined with the rocky terrain, could not be farmed with heavy machinery. Once agricultural practices became primarily machine operated in the early 20th century, much of the farming of the Mumford land ceased.

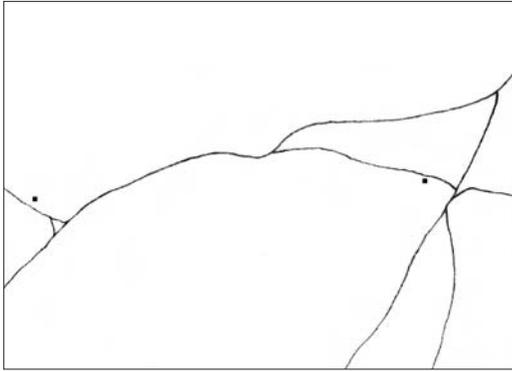


FIG 31. Diagram of Circulation c. 1880
Dirt roads appeared as a "web" of roads of roughly equal width and condition connecting various farmsteads.

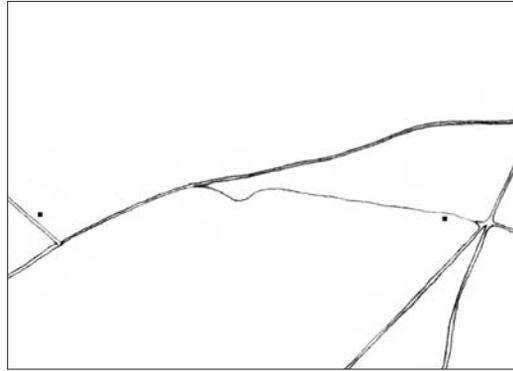


FIG 33. Diagram of Circulation c. 1934
By this time, Route 82 had been widened, but the road patterns of the 19th century remain intact.

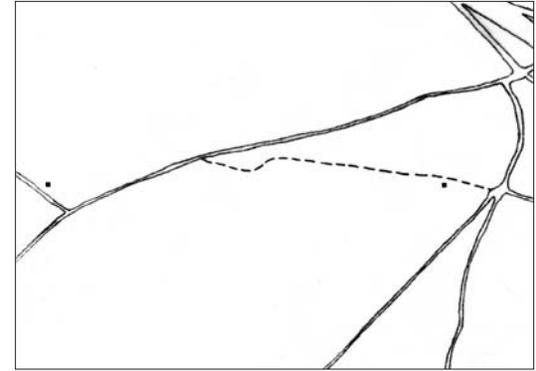


FIG 35. Diagram of Circulation c. 1995
This diagram shows circulation circa 1995. Note the addition of Route 11 in the upper right hand corner of the study area, and the abandonment of the Mumford Farm road, which was the Colonial era crossing of the East Branch of the Eightmile River.



FIG 32. Diagram of Forest Cover c. 1880
Approximately 85% of the study area was non-forested and primarily used for agriculture.



FIG 34. Diagram of Forest Cover c. 1934
Agricultural abandonment lead to reforestation. Approximately 50% of the study area remained non-forested. Note that Mitchell Pond was made during the turn of the 20th century for agricultural purposes.



FIG 36. Diagram of Forest Cover c. 1995
Approximately 25% of the study area remains non-forested, with successional species increasing and maturing.



FIG 37. View of the Brook Bridge, 1919

The Brook Bridge was the colonial era crossing of the East Branch of the Eightmile River. The surrounding landscape was still used for agriculture during this period.



FIG 39. View From the Camp, 1950

In the 1950s, there was still a significant visual connection from the Bingham family Camp looking across to Mitchell Pond, Marvel, Mitchell, and Mumford Farms.



FIG 38. View of the Brook Bridge, 2004

Today, the road has been abandoned and the bridge is used mainly by the Bingham family. Note the loss in views beyond the bridge due to the successional growth.



FIG 40. View From the Camp, 2004

The present-day vista from the Bingham family Camp looking across to Mitchell Pond, Marvel, Mitchell, and Mumford Farms.



FIG 41. The Mumford House, 1945
View looking down the driveway of the Mumford house and farm, 1948.



FIG 43. View of the Red Hay Barn and Surrounding Fields
The land was originally used for various types of agriculture, but is now managed as a wetland and is rich in biodiversity and native species.



FIG 42. The Mumford House, 2003
View of the Mumford house present-day. The house dates to 1769 and was built on the site of a former homestead.



FIG 44. Stonewall and Stile
A finely crafted stonewall and stile found on the Bingham family properties. Stone-walls run extensively throughout the forested landscape of the watershed.

In the late 19th century, almost all of the study area was still an open, non-forested landscape, much of it cultivated for agriculture. Today, the majority of the study area is forested, with select areas around the Woodbridge, Mitchell, and Marvel farms still used for agriculture. Many of the signature views of the study area, such as the Brook Bridge view to the Mumford House, no longer exist. The meadows behind the house that ran adjacent to the agricultural road are managed to allow for the succession of native species. The area surrounding the Red Hay Barn is also being managed as a wetland, and has become an area rich in biodiversity and native species. Overall, the increase in woodland and forest cover has dramatically changed the landscape of the study area, even over the past 50 years. In 1950, the Mumford, Mitchell, and Marvel Farms could be seen clearly from the Camp to the north. Today the vista over the surrounding farmsteads

has been completely obscured by successional vegetation growth and forest cover.

Buildings, Structures, and Sites

The following is a list and description of existing conditions of the contributing buildings, structures, and sites within the present day Bingham family properties. The list was compiled after visiting and touring the Bingham family properties, with supplemental descriptions from David Bingham.

1: The Brook Bridge, 1903

The bridge was the colonial era crossing of the East Branch of the Eightmile River on the Hadlyme Ferry Road. Alfred Mitchell rebuilt the bridge in 1903 as a roman arch stone bridge. The abandoned agricultural road is still used by the Bingham family, primarily to connect the Camp to the Mumford House during the summer months.

2: The Tiffany House, 1840

A wheelwright originally owned the house, and historic maps show the area being used as an orchard. Today, a portion of the property is still managed as an orchard.

3: The Mumford House, 1769

The house was built on the previous site of an earlier homestead. Today the house remains uninhabited permanently, and is shared by the family collectively.

4: The Mitchell Farm and Dairy Barn, c. 1800

5: Mitchell Pond, c. 1900

The present-day site of the pond was at one time a swamp. At the turn of the 20th century, the trees were cut to make an agricultural drainage pond as well as provide water for the farm animals.

6: Marvel Farm, 1790

The farm dates to 1790 and had an ice pond and ice storage during the 19th century that served the entire valley. Today the pond is overgrown and the property is leased to tenants who use the outbuildings and surrounding farmland as an equestrian farm and school.

7: The Camp, 1906

The Japanese-inspired pre-fabricated summerhouse was erected by Hiram Bingham.

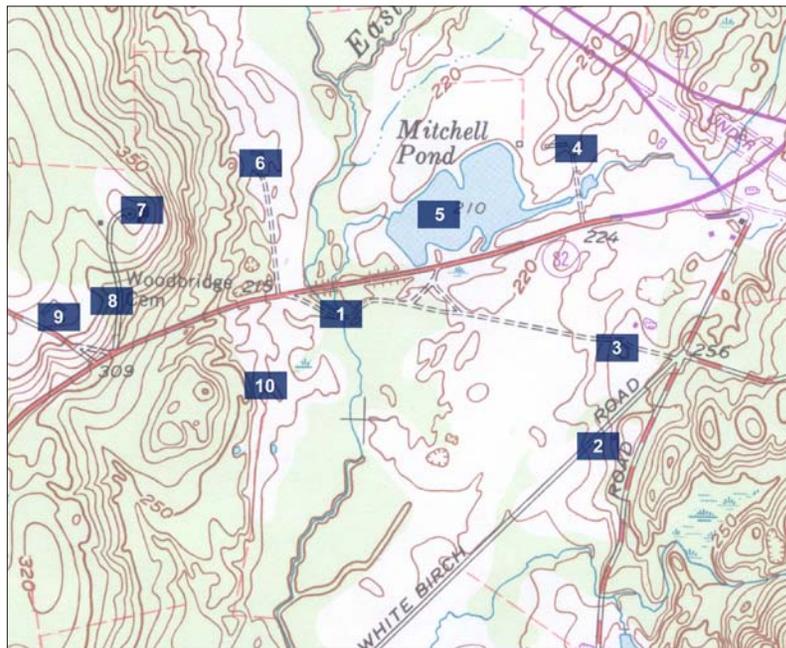


FIG 45. Bingham Family Properties: Buildings, Structures, and Sites



FIG 46. View of the Tiffany House, 2004

The house dates to 1840 and historical records of the area depict the house site as an orchard. Some of the property is still in orchards.



FIG 48. The Bingham Family Camp

Built in 1906 by Hiram Bingham, the Camp sits on a hill overlooking the other farm properties. Note the rocky outcrops, typical of the watershed landscape.



FIG 47. Woodbridge Cemetery, 2004

The cemetery is on the Woodbridge Farm property and sits below the Woodbridge House. It dates to 1790 and is still used by the Bingham family.



FIG 49. View of Marvel Farm

The farm dates to 1790 and once had an ice pond that served the entire valley.



FIG 50. The Red Hay Barn, Mumford Farm, 1947



FIG 51. The Red Hay Barn, Mumford Farm, 2004

8: Woodbridge Cemetery, c. 1790s

The site is listed in the National Register of Historic Places. It is still in use today.

9: The Woodbridge House, 1790

The house is listed in the National Register and operates as a biodynamic free-range stock farm.

10: The Red Hay Barn, c. 1890s

The original barn dates to the 1770s, and was enlarged in the 1890s. The land around the barn has been used for various types of productive agriculture, as well as for farm drainage and ditches. Today, the adjacent land is managed as a wetland and is rich in biodiversity and native species.

One of the Bingham family properties, a house dating to the 1790s and approximately 150 acres off Darling Road, was sold during the 1930s.¹⁰ The Darling Road house, barn, and land was subdivided in the 1970s and is now the site of the Hilltop Trail development which consists of seventeen single-family residential houses.

Spatial Organization

The spatial organization of homesteads within the study area represents a typical pattern of colonial farmstead settlement. The Woodbridge Farm, for example, is comprised of an 18th century farmhouse, surrounded by a group of interconnected barns, stables and sheds, which define an interior farmyard adjacent to the residence. Approximately 150 acres of agricultural fields and woodland surround the house and outbuildings. Stonewalls define the property boundary, and border Woodbridge Road, which bisects the agricultural fields and woodlots of the farm. Stonewalls were also used to define the different agricultural uses such as pasture land, crop fields, and woodlots. The Woodbridge Cemetery is located in a wooded area below the farmhouse, and is also bordered by a stonewall.

This layout, of farmhouse, surrounded by associated outbuildings which shape a courtyard or interior farmyard around the house, is representative of the Mumford, Marvel, Mitchell, and Tiffany farmhouses within the study

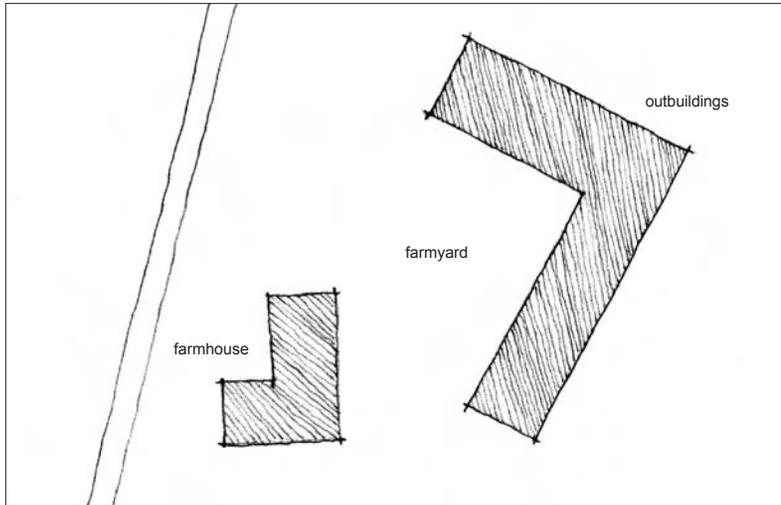


FIG 52. Typical Spatial Organization

Typical spatial organization of a farmstead in the study area. The farmhouse is set back from the road, and a farmyard or interior courtyard is defined by the farmhouse and associated outbuildings.

area. All of these farmsteads are located within a three-mile radius of one another, separated by agricultural land, and connected by a pattern of roads that can be traced to Colonial era circulation. The farmsteads were originally built according to the land division and field acreage that was worked by each farm. Stonewalls are found throughout the study area, many still defining the property ownership of each original farmstead. During the 19th century, most of the farmsteads had a visual connection to one another, but this relationship has disappeared with the reforestation of the watershed landscape.

Conclusion

Overall the use of the land within the study area has not changed dramatically over the last two centuries. The majority of the Bingham family

properties are still used for agricultural-related practices. Although the farmsteads have been encroached upon by Route 11, the historic roads are still used to connect to the individual farmsteads, and the historical pattern of circulation still exists. The buildings, structures, circulation, and surrounding agricultural lands of the Bingham family properties exhibit a high degree of historical integrity. The dispersed pattern of farms and homesteads remains intact, with the major change in the surrounding landscape being the succession of woodland due to the abandonment of agriculture. Much of the abandoned farmland adjacent to buildings is being managed as either a wet meadow or to propagate native species for habitat. The family properties make up approximately 1,500 acres, and nearly 600 acres are already in conservation easement, as a result of efforts to protect this sensitive cultural and natural landscape.

There also exists extensive written and graphic documentation of this cultural landscape. The Bingham family properties in their entirety should be further considered for their potential to be listed as a district in the National Register of Historic Places. The study area has architectural integrity, as well as integrity of patterns of historic use, such as the dairy farming at Mitchell Farm or the use of the Woodbridge Cemetery.

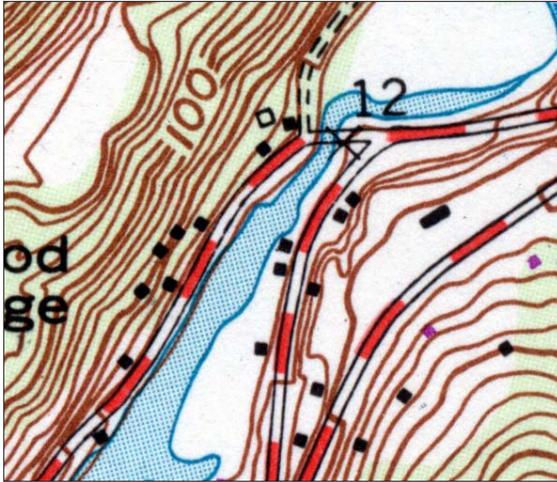


FIG 53. Hamburg Bridge Study Area

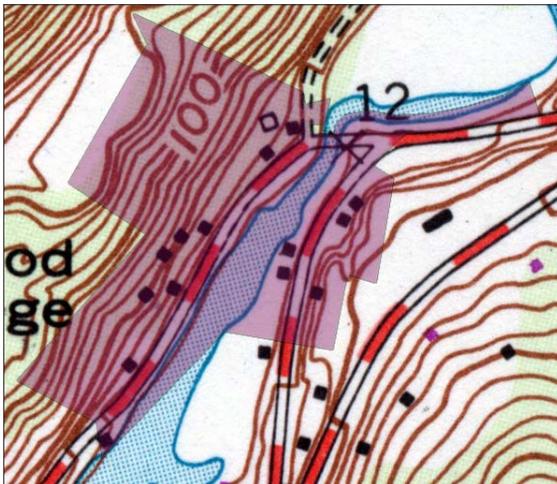


FIG 54. Hamburg Bridge Historic District
The area shown in pink is the district listed in the National Register of Historic Places.

By the Water's Edge: Hamburg Bridge, Lyme

This study area includes another National Register Historic District, the Hamburg Bridge Historic District, which was listed in 1983. The Historic District is a collection of eighteen land parcels on which there are ten houses and associated outbuildings and structures, all located near Hamburg Bridge, along the east and west sides of the Eightmile River on Old Hamburg and Joshuatown Roads. The District also consists of the bridge itself, as well as the banks of the Eightmile River below the bridge, once lined by wharfs.

Settlement

The pattern of life and community focus of the residents of the Hamburg Bridge area revolved around the wharfs and associated industries of fishing and commercial shipping. Although not the true town center of Lyme, the Hamburg Bridge area remained a busy port until the mid-19th century. The village of Hamburg had its center, with Congregational church and general store, approximately two-thirds of a mile downstream, below the bridge.

The parcels of land around Hamburg Bridge were always, and remain today, small in size, with homes close together, unlike the dispersed pattern of the neighboring agricultural communities. The pattern of settlement reflects the associated commercial activity. All the houses built in the study area deliberately face towards the water's edge, on both sides of the river. Land was left open by the river's edge, and houses were built on the far side of the roads in order to give priority to wharfs and marine commerce on the riverbanks. Today, land is still left open along the water's edge, appears as green space, and is used primarily for recreation.

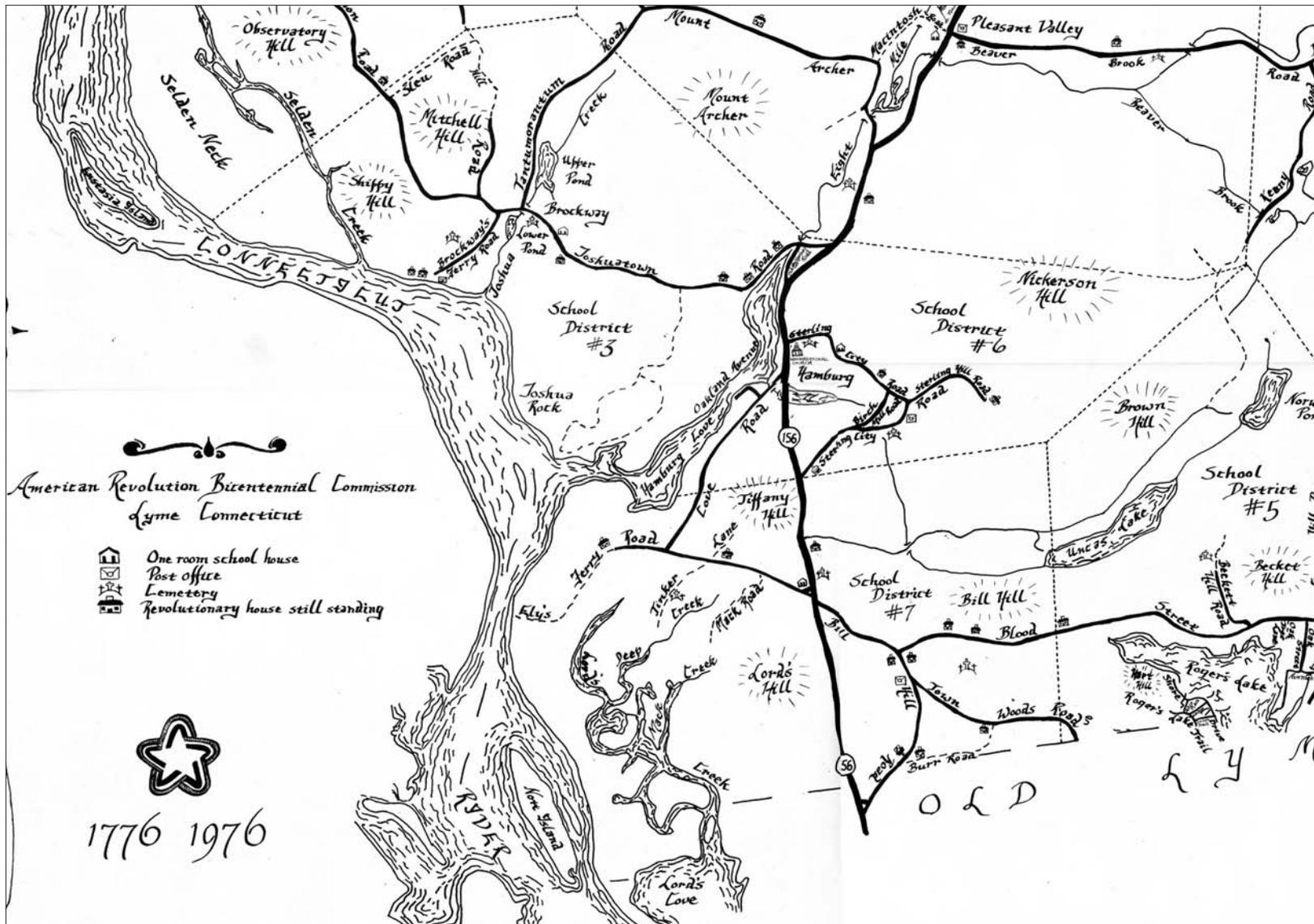


FIG 55. The Eightmile River at Hamburg Cove, 1776



FIG 56. Aerial View of Hamburg Cove, Lord's Dock, c. 1936
Note the openness of the landscape beyond the town green.



FIG 57. Candlewood Ledge c. 1900
Note the openness of the agricultural landscape, juxtaposed with an abandoned field above Hamburg Cove.

Circulation

Hamburg Bridge crosses the Eightmile River approximately two miles above the point where it flows into the Connecticut River. The bridge joins Joshuatown Road and Old Hamburg Road together, and is sometimes locally referred to as the Joshuatown Road Bridge. The bridge carries Joshuatown Road traffic from Hamburg to Hadlyme. The location of the bridge was chosen in 1759 because of the narrow width of the river at this point. This particular site was also the northernmost point navigable by boat. After the bridge was built, wharfs were built, the junction of Joshuatown and Old Hamburg Roads emerged, and the Hamburg Bridge community evolved around the rising marine activity. A majority of the transportation between the Hamburg Bridge community and the larger Connecticut River community existed through ship and boat traffic.

Route 156, formerly known as the Salem Turnpike, connects Hamburg Center to the rest of the watershed, but bypasses Hamburg Bridge to



FIG 58. Hamburg Cove, Lord's Dock and Schooners c. 1906

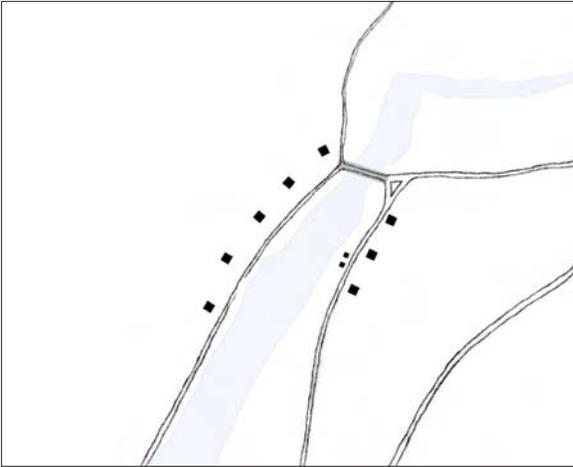


FIG 59. Diagram of Circulation c. 1934
Principal roads and selected buildings shown.

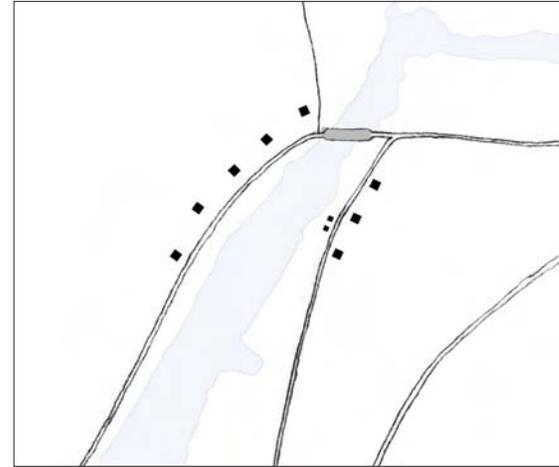


FIG 61. Diagram of Circulation c. 1995
The road pattern has remained virtually the same.



FIG 60. Diagram of Forest Cover c. 1934
Agricultural abandonment lead to reforestation. At this time, approximately 60% of the study area remained non-forested.



FIG 62. Diagram of Forest Cover c. 1995
Approximately 20% of the study area remains non-forested.

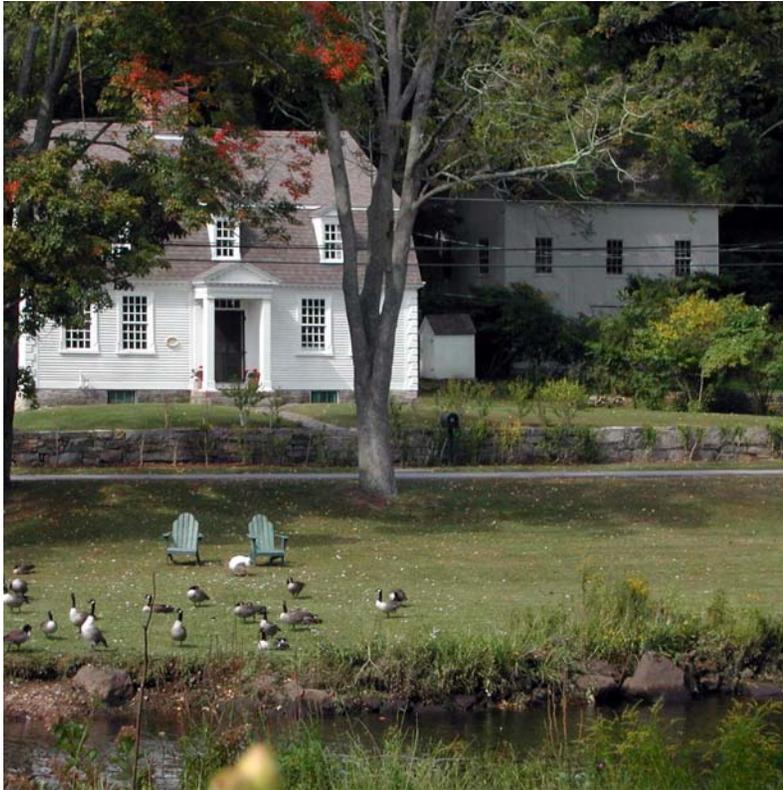


FIG 63. Grassy Riverbanks Along the Water's Edge

Grassy riverbanks belong to individual residents and provide visual continuity along each side of the river, and enhance the feeling of openness found along the water's edge.

the east. This route was always the main transportation corridor between Hamburg and inland towns. If Route 156 had followed Old Hamburg Road and connected directly to Hamburg Bridge, most certainly the character of the community would be different today. The lack of a major thoroughway has helped to preserve the quiet and picturesque character of the Hamburg Bridge community. The Eightmile River channel was also dredged in

1824 to the center of Hamburg, where commercial shipping continued well into the 20th century.¹¹ The dredging of the river to the docks at Hamburg center had a negative impact on the wharf activity at Hamburg Bridge, and the use of the wharfs declined thereafter. As a result, the community has experienced little development since 1824.

Vegetation

Historically, the area surrounding Hamburg Bridge has been valued for its scenic landscape, having often been the subject of etchings and paintings during the American Impressionist movement and earlier. One of the most famous renderings of Hamburg Bridge is a 19th century painting by G.F. Bottume, depicting the working wharfs of the bridge area as a picturesque landscape. At this time, Lombardy poplars lined Old Hamburg Road, demonstrating that the area had been beautified and improved by these ornamental plantings. At this time, Candlewood Ledge, above Joshuatown Road was an open agricultural landscape. The painting, when compared to a present-day photo of the same view, shows how little the buildings and structures of Hamburg Bridge have changed over the past century. The open landscape above Hamburg Bridge, however, began to revert to forest as soon as agriculture was abandoned. Today, Candlewood Ledge is completely forested, and most views down to Hamburg Bridge from the Ledge are obscured by vegetation.

Because of successional growth, it is impossible to achieve the same view as G.F. Bottume's painting. The Lombardy poplars of the 19th century have also long disappeared. Overall, the sense of an open landscape above Hamburg Bridge has been greatly altered by the growth of trees and increase in forest cover. Today, the landscape around the study area feels enclosed, especially around the buildings and structures. The marine activity within the community has become largely recreational, with only kayaks, canoes and rowboats navigating this part of the river.

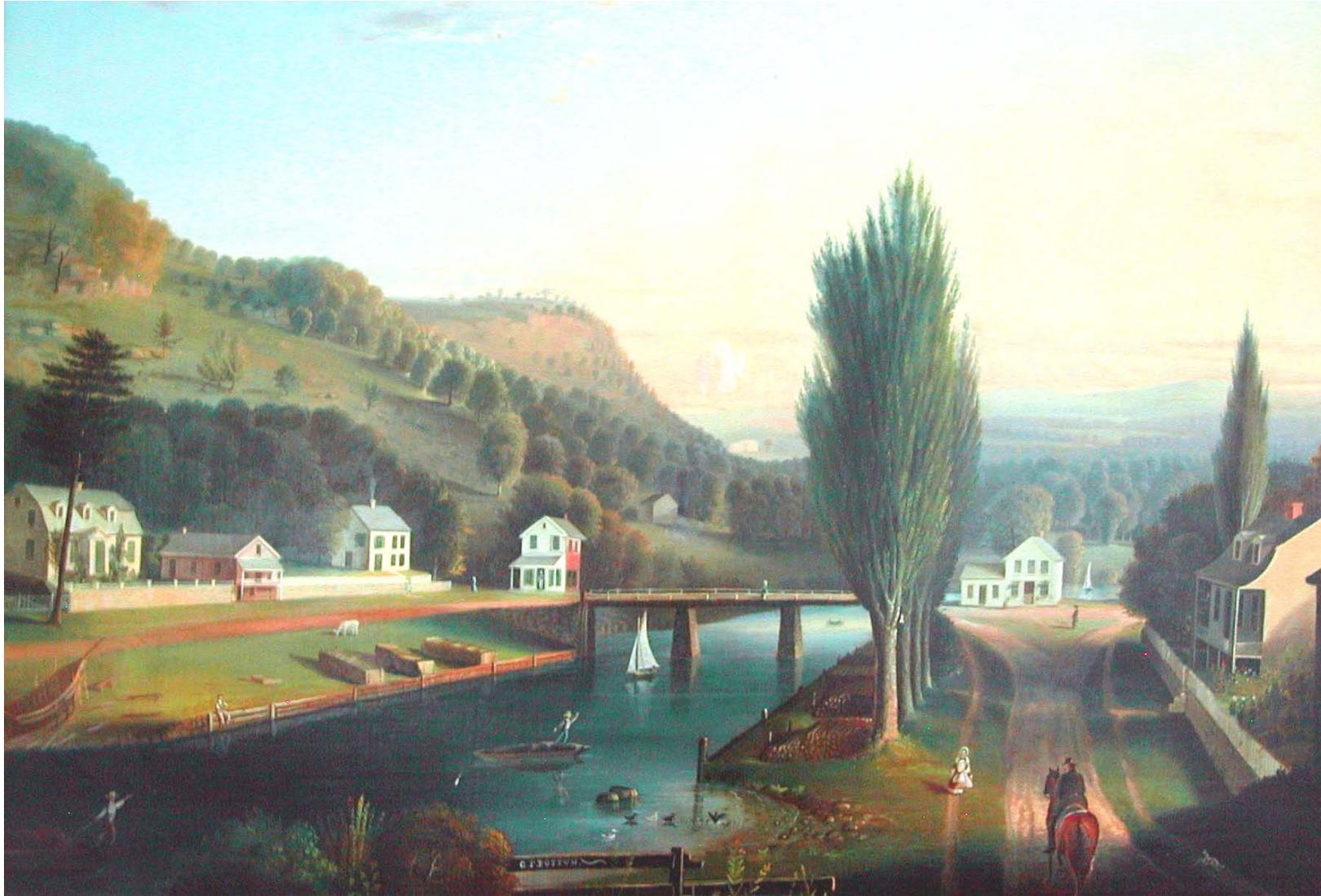


FIG 64. Old Hamburg Bridge and Reed's Landing

This mid-19th century painting was done by G.F. Bottume and originally titled "Canal Near Salem, Connecticut". The Lombardy poplars on the right side of the painting demonstrate that this landscape was "improved." The view shows the Old Joshuatown Road Bridge and the openness of the surrounding agricultural landscape.



FIG 65. Old Hamburg Bridge and Reed's Landing, 2004

The vegetation growth along the riverbank, as well as the growth on the hill overlooking the river, makes it impossible to replicate the same view of the bridge and surrounding buildings and structures.

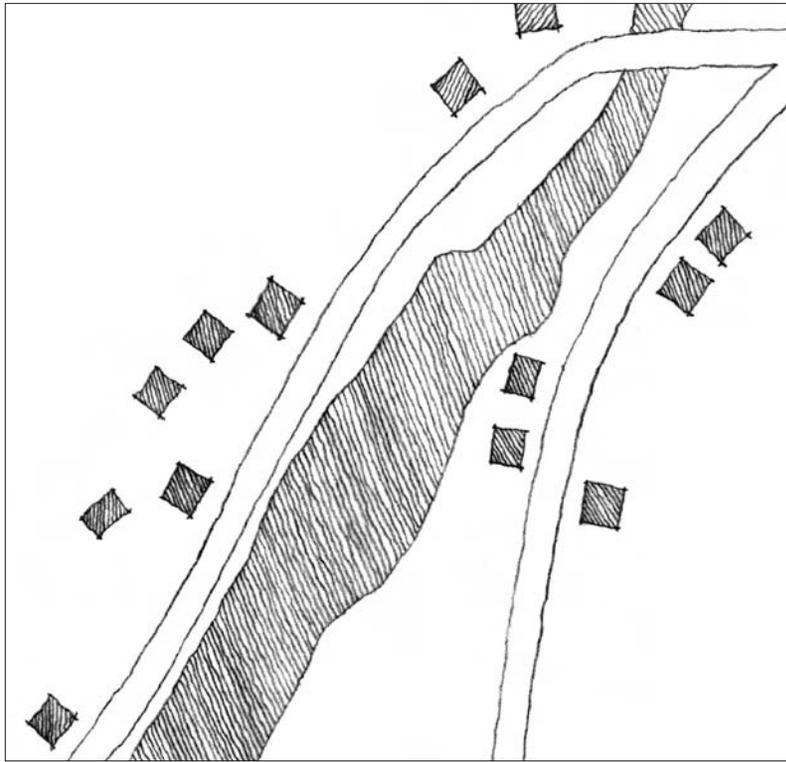


FIG 66. Figure Ground Diagram, Hamburg Bridge

This diagram shows the pattern of development that evolved along the Eightmile River at Hamburg Bridge. The majority of houses and buildings were built along the road, on the opposite side of the riverbank, allowing for the land adjacent to the water's edge to be used first and foremost for commercial activity.

Buildings, Structures, and Sites

The largest change in architectural development that the Hamburg Bridge study area has seen over the last two centuries is the concrete replacement of the old bridge after it was washed out in the 1936 flood. Joshuatown and Old Hamburg roads were also paved in the 20th century. The circulation pattern around Hamburg Bridge remains the same and can be

traced to 1775. The houses and wharfs near the bridge, and the historic district generally, retain integrity to their 18th and 19th century forms. The houses and wharf sites have not been disturbed by development and continue to maintain their historic relationship to one another and to the river and the bridge.¹²

The following is a list of existing conditions of the contributing buildings, structures, and sites within the Hamburg Bridge Historic District. The list and descriptions follow the format of the National Register nomination form, which lists and describes each property according to a lot number.

Lot 9

Located on Joshuatown Road, this lot is currently vacant.

Lot 10

Located on Joshuatown Road, this lot is currently vacant.

Lot 11

Located on Joshuatown Road, this lot is comprised of one house dating to c. 1780.

Lot 12

Located on Joshuatown Road, this lot is comprised of one house, two sheds/cottages, one barn, one well, and a stone retaining wall.

Lot 13

Located on Joshuatown Road, this lot is vacant and has a remnant stone bulkhead.

Lot 14

Located on Joshuatown Road, this lot is vacant and has a remnant stone bulkhead.

Lot 15

Located on Joshuatown Road, this lot has one house, one well house, one studio, one garage/shed, all dating to c. 1800.

Lot 16

Located on Joshuatown Road, this lot is vacant and has a remnant stone bulkhead.

Lot 17

Located on Joshuatown Road, this lot has one house, one stone wall, one picket fence, and one garage, all dating to 1803.

Lot 18

Located on Joshuatown Road, this lot has one house dating to 1821.

Hamburg Bridge

This modern, three-arched concrete structure dates to 1936, and connects Joshuatown Road to Old Hamburg Road.

Eightmile River

The river is narrow and shallow in depth, typically used now for recreation, including kayaking and canoeing.

Lot 19

Located on Joshuatown Road, this lot is currently vacant.

Lot 96

Located on Joshuatown Road, this lot is vacant and has a remnant stone bulkhead.

Lot 23

Located on Old Hamburg Road, this lot has one house dating to c. 1803 and one garage dating to c. 1867.

Lot 24

Located on Old Hamburg Road, this lot has one house, one shed, one garage and one wharf area dating to c. 1867.

Lot 25

Located on Old Hamburg Road, this lot has one barn dating to the mid 20th century.

Lot 26

Located on Old Hamburg Road, this lot has one house and one barn dating to the turn of the 19th century.

Lot 27

Located on Old Hamburg Road, this lot has one cottage dating to the early 20th century.

Lot 28

Located on Old Hamburg Road, this lot is currently vacant.

Spatial Organization

Some of the open green areas along the riverbank still exist, yet even at the water's edge, the greatest sense of open space is on the Eightmile River. The majority of the woodland and forest succession that has occurred around Hamburg Bridge has happened during the 20th century and encroaches upon the backs of the houses. Surrounded by woodland and successional growth along the riverbanks, the river appears as an open corridor, separating the residents of Old Hamburg Road (east side) and Joshuatown Road (west side). There is also a sequence of woodland, house, road, green space, and river on each side of the Eightmile River. The relationship of the buildings, to the road, and to the water's edge is a function of the waterfront activity and commerce, and is a permanent indicator of the importance of access to the river.

For the residents of the Hamburg Bridge study area, there is still an orientation towards the river, despite the lack of wharfs and associated marine activity. The wharfs of the 18th and 19th century have disappeared over the past century with flooding, hurricanes, and weathering. Some of the residents have built modern, wooden docks for recreational use. The use of the green space around the water's edge for recreation and leisure has become a common past time for the community. Although the land along the river banks is divided by house lot and remains under private ownership, there is a unique notion of open green space that brings a sense of preservation of the community's relationship to the river.

Conclusion

The Hamburg Bridge Historic District has changed little since the mid-19th century. The bridge was rebuilt with modern materials after the 1936 hurricane, and one 18th century house was destroyed by a fire. Virtually no 20th century development, however, has occurred in the proximity of the bridge and surrounding parcels. Therefore, the pattern of buildings around Hamburg Bridge is a function of their relationship to the wharfs.

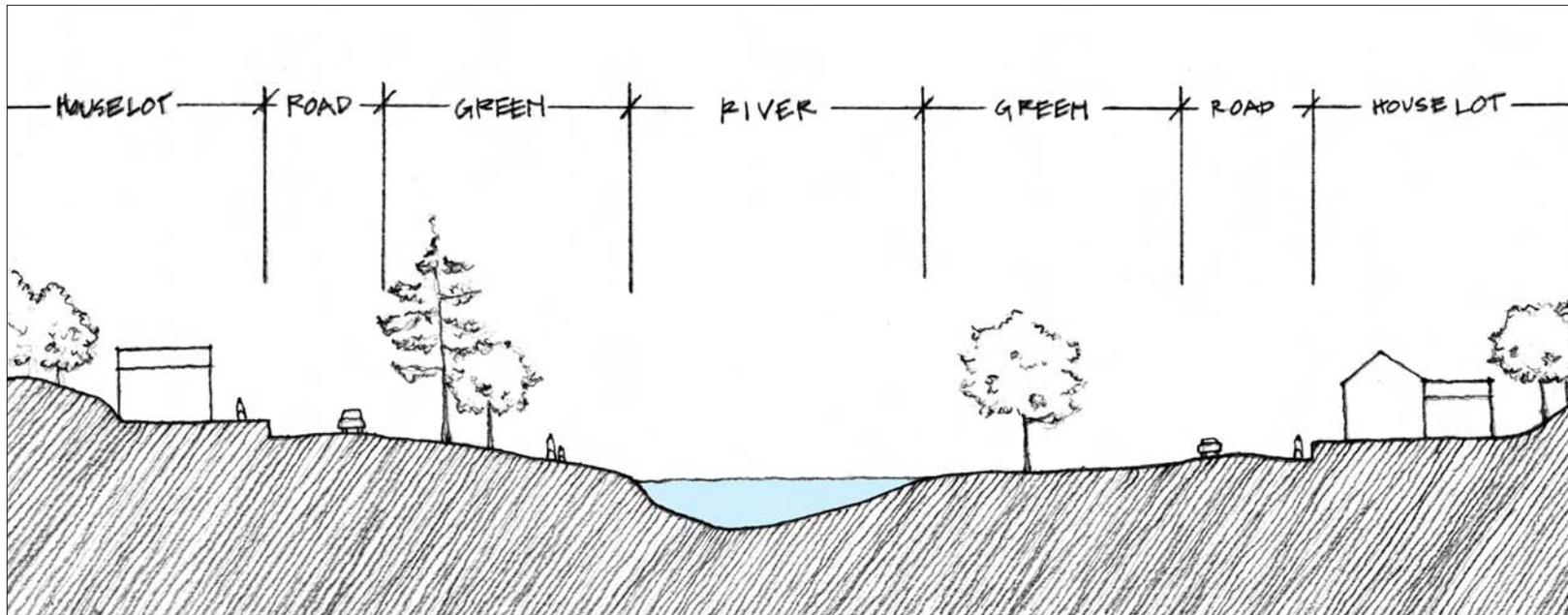


FIG 67. Typical Section, Hamburg Bridge

This section shows the relationship of buildings to the riverbank. Most of the land along the water's edge is undeveloped.

The buildings and associated structures of the Hamburg Bridge study area still have great integrity to the mid 19th century.¹³ The visual and physical appearance of the landscape has changed with successional vegetation, as has the marine use of the riverfront. But the cultural context still exists today, especially through the integrity of the architectural structures, the pattern of development, and the circulation of the study area.

The open parcels of land and vacant lots along the riverbank are fairly unique. Most waterfront properties in other parts of New England or Connecticut would have been further developed throughout the 20th century. The Hamburg Bridge Historic District has managed to preserve its historic riverfront. This connection between the houses, the narrow road, and the

undeveloped, mostly grassy waterfront contributes to the quiet, charming character of Hamburg Bridge.



FIG 68. Hamburg Bridge Over Eightmile River, pre-1936
The former stone and wood structure of the old Hamburg bridge.



FIG 70. Old Hamburg Road, Hamburg Bridge Historic District
The narrow road and building setbacks are characteristic of the pattern of development in the Hamburg Bridge Historic District.



FIG 69. Hamburg Bridge Over Eightmile River, 2004
Replacement concrete bridge built by the Army Corps of Engineers in the late 1930s after the hurricane of 1936.



FIG 71. Eightmile River, Hamburg Bridge Historic District
Today the Eightmile River is mostly used for recreation.

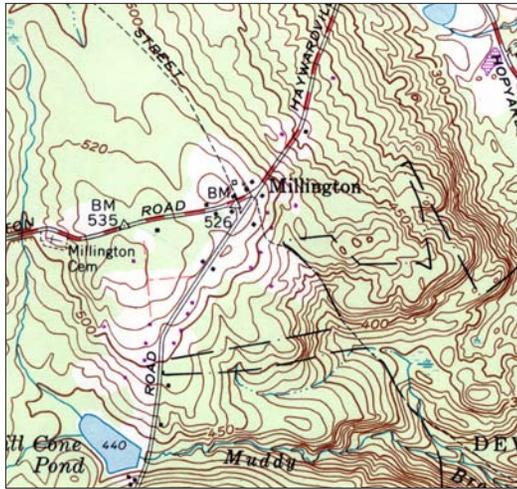


FIG 72. Millington Green Study Area

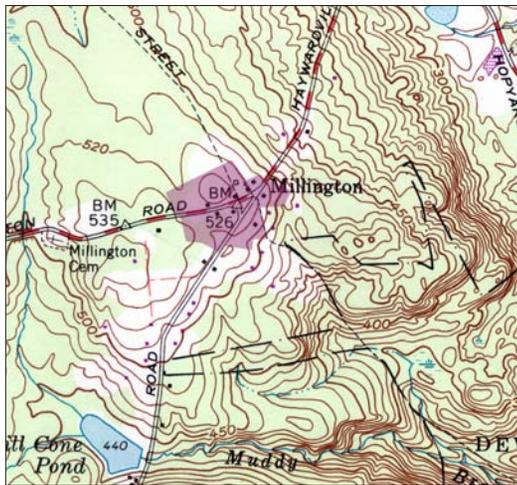


FIG 73. Millington Green Historic District
The area shown in pink is currently the historic district listed in the National Register of Historic Places.

A Village Center: Millington Green, East Haddam

Millington Green has often been described as a quaint and picturesque New England hamlet. Driving through the winding, forested back roads of East Haddam, one might miss Millington Green, if it were not for the substantial, long triangular clearing, lined with six historic houses. Although the Green historically was the commercial center of the surrounding area, in recent decades, it has become one of the quietest parts of the town.

A portion of this study area has already been established as a National Register District, called the Millington Green Historic District. The study area is located along Millington Road, Haywardville Road, and Tater Hill Road in East Haddam, south of Lake Hayward. The National Register District, which encompasses a smaller area, is comprised of twelve buildings: six houses, a former parsonage for the Congregational meetinghouse, a former schoolhouse, and several small barns and outbuildings. The district also includes one site: the small triangular parcel called “Millington Green” at the center of the district. All of the district buildings, structures, and sites date to the 18th or 19th century.¹⁴ The Historic District of Millington Green is an example of a religious, commercial, and social center for the surrounding agricultural areas, characteristic of early New England settlement.

Settlement

Millington Green was first settled in the early 18th century, with the arrival of Jonathan Beebe and his family in 1704.¹⁵ By 1732, several families from neighboring communities moved to Millington and the settlement was granted the right to establish its own ecclesiastical society, separate from the nearby village of Moodus. Soon after, Millington began to develop around the Congregational meetinghouse, which was built in 1740 on the north side of the common land of what is now the Green. It was eventually



FIG 74. Settlement Along Wall Street

View of old foundations and stone walls from past settlement along Wall Street.



FIG 75. Remnants of Past Agricultural Use, Wall Street

An old pickup truck sits abandoned just off Wall Street.

rebuilt in 1832.¹⁶ The first schoolhouse in Millington was built circa 1754, also located along the Green. During the late 18th century, several of the properties on Millington Green had small buildings that were general stores, one of which has become a single-family residence. The village green provided a social gathering place for the surrounding agricultural community, and the district schoolhouse also helped establish Millington as a social center.

According to records, the village was named Millington because of the many saw and gristmills located on the surrounding streams. By 1831, the Millington post office was established, and by the 1860s, commercial growth in Millington had reached its height, with numerous taverns, stores, and mills serving the local population. During this time, Millington had over one hundred buildings and was a thriving mill community, with a larger population than the town center of East Haddam.

Today, Millington Green is surrounded by only a handful of buildings, most of them residential. One house, located on the southern side of the Green, dates to 1952 and is considered non-contributing in the Historic District. Even this ranch-style house, however, incorporated an earlier barn into its 20th century architectural design. Overall, the pattern of settlement is centered around the Green. There are only four major buildings, however, that actually can be seen when standing on the Green. The majority of the residences within the study area are set back from the road, sometimes behind stonewalls within the wooded landscape, and often shielded by vegetation. The lack of imposing residential development and architecture emphasizes the feeling of being removed from the busy streets around the Goodspeed Opera House in downtown East Haddam.

Circulation

Although Millington today is a rural area, separated from the commercial centers of Moodus and East Haddam, during the 19th century Millington

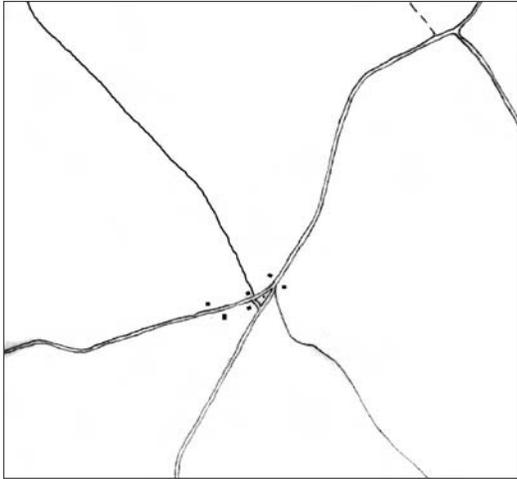


FIG 76. Diagram of Circulation c. 1934



FIG 78. Diagram of Circulation c. 1995
The road pattern has remained virtually unchanged, with the exception of Wall Street becoming a trail with limited public access.



FIG 77. Diagram of Forest Cover c. 1934
At this time, approximately 40% of the study area remained non-forested.

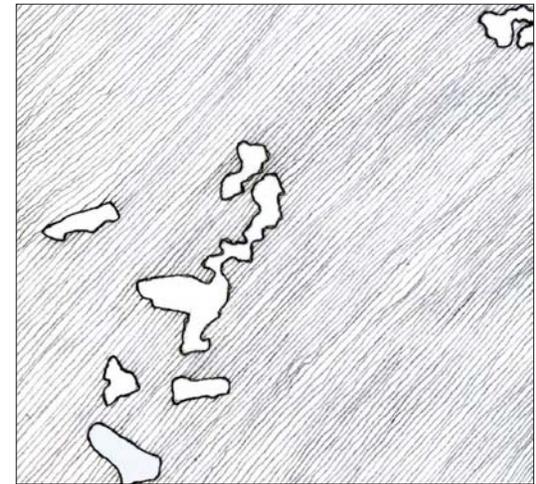


FIG 79. Diagram of Forest Cover c. 1995
Approximately 10% of the study area remains non-forested.



FIG 80. Wall Street, Millington, 2004

What was once the busiest commercial route in Millington has become an abandoned, overgrown trail in the woods. Access to the trail is through the driveway and backyard of the Daniel Bulkley House.

Road was part of the direct route from Goodspeed's Landing on the Connecticut River to Colchester and Lebanon, two large inland towns. This made Millington a busy commercial hub between the two larger commercial centers. In 1815 the establishment of the East Haddam and Colchester Turnpike provided an alternate route to Colchester and Lebanon, and historians speculate that Millington "continued to receive the advantage of through traffic as well as local business."¹⁷ In 1868, however, the future of Millington's commercial growth was determined when plans for a railroad connecting Colchester and Old Lyme by way of Millington were abandoned due to the lack of capital.¹⁸

Today, the roads around the Green probably see less traffic than they did during the height of commerce at the end of the 19th century. Because there is no commercial activity, automobiles passing through Millington move fairly fast on the winding roads. Over the past century, the circulation pattern has remained mostly unchanged. Wall Street, leading to the Green, has become a trail in the woods, due to the abandonment of the adjacent farmland and the decline in population. It is used by the Millington Green residents for hiking and dog walking. The walk down old Wall Street is peculiar, with many stone foundations and dry cellars located just off the path. Surrounded by forest, it is difficult to imagine the overgrown trail as one of the busiest commercial corridors in East Haddam only a century ago. The remnants of occupation can still be seen, especially further down the road towards the old Eightmile River bridge crossing. Access to old Wall Street, which was once a main commercial route to Millington from the northern crossing of the Eightmile River has now been obscured by vegetation growth and a cast iron chain. Other trail systems to the east of the Green connect the community to Devil's Hopyard State Park.

Vegetation

The land surrounding Millington Green was primarily used for agriculture, with many saw and gristmills located on nearby fast-flowing streams. By

the 19th century, most land was sparsely vegetated, with forests cleared for timber, and stonewalls and simple fencing separating agricultural fields. By the early 1930s, agriculture was still present immediately around the Green, but began to decline thereafter. By the 1990s, nearly all of the agriculture had been abandoned, with successional woodland taking over as the predominant view on the landscape.

Millington Green is approached by driving along winding roads, surrounded by woods. Millington is almost entirely a forested landscape, with the exception of the Green itself, which is literally a clearing in the woods, as well as an intersection of Millington Road, Haywardville Road, and Tater Hill Road. The forested land bordering Millington Green to the north is largely owned by East Haddam Fishing & Game Club, the largest land owner in East Haddam, owning over 2,000 acres of property.

Buildings, Structures, and Sites

The majority of the buildings in the study area date to the 19th century. However, the most important social building of the Millington Green community no longer exists. The Congregational meetinghouse that was located on the north side of the Green was destroyed by a fire in 1971 and was never rebuilt. The original parsonage, an 1854 schoolhouse, and many houses dating to the 18th and 19th century still exist, which help preserve the historic appearance of the village. Many of the houses exemplify the distinctive characteristics of New England Colonial and Greek Revival architecture. Well-preserved, with their small-pane windows, brick chimneys, doorway transoms, and clapboarded exteriors intact, these buildings are among the finest examples in the Eightmile River watershed.¹⁹

The following is a list with description of existing conditions of the contributing buildings, structures, and sites within the Millington Green Historic District.



FIG 81. Daniel Bulkley House, 1792

This clapboard house is an example of a historic home built on the north side of Millington Green. Note, Wall Street is located to the right of the house, and access to the trail is behind the house through the backyard.



FIG 82. 10th District Schoolhouse, c. 1854



FIG 83. Millington Green, East Haddam c. 1958
 Note the openness of the landscape around Millington Green, the shaded quality of the Green in the foreground, and openness of the agricultural land behind the Congregational meetinghouse that burned in 1971.



FIG 85. Millington Green, East Haddam, 2004
 Today the Green contains a small shrub-sized planting in the center, some signage, a flagpole, and a bench.



FIG 84. Site of Former Congregational Meetinghouse, 2004
 The site of the former Congregational meetinghouse has been maintained as an open green space.



FIG 86. Congregational Meetinghouse, c. 1940s
 This unknown artist's painting of the Millington Congregational meetinghouse shows the openness of the surrounding agricultural landscape.

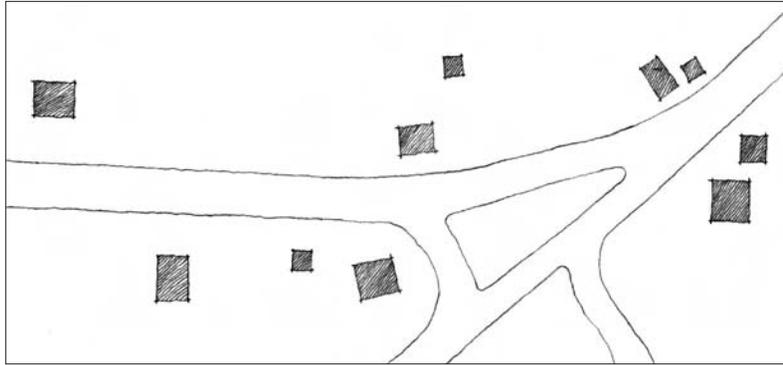


FIG 87. Figure Ground Diagram, Millington Green

This diagram shows the triangular parcel of land, around which the historic settlement patterns of Millington radiated. The green occupies a long triangular piece of land, which results in an awkward set of intersections, and a largely unused green space at the center of this now small community.

10th District Schoolhouse, c. 1854

Located at 3 Haywardville Road this lot consists of two buildings.

Daniel Brainerd House, c. 1752

Located at 79 Millington Road, this lot consists of one building.

Daniel Bulkley House, 1792

Located at 87 Millington Road, this lot consists of four buildings.

William Henry Cone House, c. 1840

Located at 82 Millington Road this lot consists of one building.

Ebenezer Dutton House, 1766

Located at 86 Millington Road, this lot consists of two buildings.

Congregational Parsonage, 1854

Located at 108 Millington Road, this lot consists of two buildings.

Millington Green, c.1730

This long triangular grassy parcel is located in the center of the Historic District.

Spatial Organization

Town-centered development, radiating around a town common or green is a typical pattern of early New England Colonial settlement. The exact pattern of building footprints around Millington Green is a reflection of the triangular shape of the Green itself. The oblong shape of the Green is a result of the circulation pattern of the junctions of Millington Road, Haywardville Road, and Tater Hill Road. These roads, as well as the historic homes, define the edges of the Green.

The historic homes all face the Green, with associated outbuildings located behind each dwelling. The only openness in Millington Green is the Green itself, the former site of the Congregational meetinghouse, and the small front yards of the historic homes. Because of the lack of open agricultural land, successional growth also defines the edge of the Green, obscuring views beyond.

Conclusion

The use of the land surrounding Millington Green has gone through a familiar succession of agricultural practice, abandonment, and subsequent reforestation. Similar to the Bingham and Hamburg Bridge study areas, the landscape around Millington Green has not been affected to a great degree by 20th century development. There is still at least one farm in operation northwest of the Green, with cattle left to graze in the successional fields and woods.

The establishment of the National Register District around Millington Green confirmed the integrity of the 18th and 19th century buildings and circulation patterns that are still in existence today. The Green itself has integrity in terms of shape and form, retaining a feeling of openness within the larger forested landscape.

PART THREE

INTEGRITY AND SIGNIFICANCE OF THE LANDSCAPE



FIG 88. The Eightmile River Watershed

Summary

The study areas of Millington Green, Hamburg Bridge, and the Bingham Family properties exhibit great historic integrity to their colonial, agrarian, maritime, and industrial origins. They are representative of other cultural landscapes, features, and characteristics throughout the Eightmile River watershed. By identifying the significance of each study area's landscape features and characteristics, the presence of historic integrity, especially of buildings, structures, and circulation patterns, within the entire watershed is strengthened.

Overall, the watershed remains a rural place, full of small hamlets, winding roads and hiking trails. There are no large supermarkets or other major shopping centers, with convenience stores outnumbered by general stores and farm stands. Small dispersed hamlets and farmsteads, as well as town greens and 18th and 19th century buildings, are connected by a pattern of circulation dating originally to the Colonial era. The overall historic pattern of settlement and circulation within the watershed still exists today. Many individual cultural landscapes within the watershed such as Hamburg Bridge, Sterling City, Millington Green, Salem, and the Bingham family properties, can be traced to their 18th or 19th century origins. They exhibit great historic integrity in terms of patterns of settlement, circulation, and architecture. These landscapes can be considered of outstanding cultural resource value. Because they are typical of conditions in the watershed as a whole, the larger cultural landscape of the Eightmile River watershed also should be considered to possess outstanding resource value.



FIG 89. New Development Within the Eightmile River Watershed

Water as a Resource

Throughout each layer of cultural history, water may have been the most significant and consistent natural resource within the Eightmile River watershed. The Eightmile River and its branches supplied the watershed inhabitants with a transportation corridor to the Connecticut River, a food supply, and maritime commerce throughout history. Today, the water within the Eightmile River watershed is valued as an outstanding natural and ecological resource. But the watershed offers more than clean water and a thriving ecosystem to its residents. For example, contemporary use of Devil's Hopyard State Park, Walden Preserve, Lake Hayward, and Hamburg Cove are all associated with recreational use. Almost all of the scenic waterways or associated conservation areas are managed for recreational use such as hiking, boating, and camping. The water within the Eightmile River watershed signifies much more than just a healthy ecosystem. It has

become a recreational resource for the surrounding community as well as for visitors to the watershed. The historical significance of water in the landscape, and in the relationship of people to the landscape, make water quality management an important cultural, as well as natural, resource issue.

Development

The Eightmile River watershed landscape is a significant example of a successional agrarian landscape in southern New England that has been relatively undisturbed by 20th century urbanization or other modern development. There are several reasons why the watershed has seen less change than other comparable areas. The hydrology of the estuary at the mouth of the Connecticut River caused sand bars to accumulate, preventing the mouth of the river from becoming a major transportation corridor. A major harbor never developed at the mouth of the Connecticut, inhibiting population growth within the watershed and surrounding area. For those who did settle within the watershed, agricultural practices were limited by the rocky and steep topography. These factors hindered the amount of development within the watershed.

Suburban development within the past twenty-five years has also been actively controlled through the efforts of area residents. Residents are aware of the incompatibilities between the footprints and patterns of suburban development, and the 18th and 19th century patterns of development that still characterize their region. Because of their appreciation for this historic landscape character, each of the towns continues to make great efforts to limit growth and purchase land for conservation.

The most important difference between the Eightmile River watershed and other comparable rural landscapes in New England is the limited amount of modern development that has occurred throughout the past century. In much of New England, significant Colonial era landscapes have not

only become forested, but they have been more affected by 20th century development as well. The fact that the watershed has escaped many of the effects of 20th century development, especially on large swaths of agricultural land and areas around Hamburg Bridge and Cove, makes it unusual in southern New England.

Vegetative succession on formerly agricultural lands is common throughout the Northeast. What is less common is to see such succession occur, since the 19th century, relatively undisturbed by later development. What is rarer still, is to have such a situation near the mouth of one of the largest and most historically significant rivers in the country, the Connecticut. This location made the Eightmile River watershed an important location, at least until the mid 19th century. Since then, what was a central location has been left in relative isolation. The result is a cultural landscape of particular interest.

Conclusion

The limited amount of 20th century development means that the overwhelming footprint of settlement, circulation and even land use patterns can be traced to 17th, 18th and 19th century origins. Remnants of the agricultural and industrial past can still be found throughout the watershed landscape. Moreover, many of the buildings, structures, and sites analyzed as cultural landscape study areas demonstrate the amount of historic integrity that has been retained, particularly in architectural form. Overall, the large number of 17th, 18th and 19th century buildings, structures, sites, and patterns of settlement, circulation, and vegetation, combined with the quantity and condition of intact archaeological sites within the watershed, sets the Eight-mile River cultural landscape aside from other comparable watersheds in Connecticut, as possessing outstanding cultural resource value.

AFTERWORD



FIG 90. Sensitive Natural Resource Areas

Zoning procedures such as Transfer of Development Rights can allow towns to steer development pressure away from sensitive natural resource areas such as wetlands.

After having assessed the significance of the cultural landscape of the Eightmile River watershed as having outstanding resource value, it is important to consider how residents and officials within the watershed can manage change and growth. Land conservation within the Eightmile River watershed has become an important issue for many residents of the region. The East Haddam Land Trust, the Salem Land Trust, the Lyme Land Conservation Trust, and the Nature Conservancy are all active partners in the protection of the natural and cultural resources of the area. As of 2004, the total amount of land protected through public ownership and conservation easements within the watershed was nearly 11,000 acres, which is approximately 27% of the entire watershed.

Because many of the towns and villages within the Eightmile River watershed retain integrity to their 17th, 18th, and 19th century town-centered settlement patterns, encouraging compatible development is fundamental to preserving the character of the watershed. Moreover, the need to protect sensitive natural resources also requires towns and residents to continue to promote compatible land-use patterns for the future. The following management strategies are general examples that can be adopted and modified to protect the natural and historic resources of the Eightmile River watershed.

Planning

The most effective management process involves describing the resources the community has identified, assessing the sensitivities of the resources, and finally prescribing the strategies needed to protect or preserve the resources. The first stage always involves planning, as an organized approach to land-use. In particular, the development of a comprehensive



FIG 91. Historic Overlay District Zoning Bylaw

Revising zoning regulations in order to establish or modify a historic overlay district can help control the type of development that occurs, as well as provide management guidelines for current residents living within the district.

plan is the community's guide for the future, organizing what actions need to occur and in what order, for the community to achieve their short and long-term goals.

Developing a watershed-wide framework for future development and protection of critical resources could be the first step towards protecting resources and guiding growth. Such a plan would require a participatory process and involves citizens and local governments working together towards common goals.

Land-Use Regulations

Traditional zoning and subdivision regulations can be inflexible, as it is difficult to plan for all variables of development within one ordinance. In particular, zoning in rural areas often assumes that uses should be segregated. This factor often overlooks a community's character and can

have adverse effects on natural resources.²⁰ The following strategies and ordinances are examples that offer more options and land protection than conventional zoning regulations. They should not be viewed as individual solutions, but as potential components of an overall strategy.

Conservation Easements

A conservation easement is a legal agreement between a landowner and a land trust or government agency that permanently protects the land while the landowner continues to own it. It often involves placing a restriction on a piece of property, limiting the use of the land, or even permanently preventing development in order to protect the associated natural and cultural resources. If a conservation easement is donated to a land trust, a landowner may be required to relinquish some of the rights associated with the land. A conservation easement may restrict any additional development or structures on the land, but still allow the land to operate as a farm without inhibiting agricultural practices.

Many landowners implement a conservation easement as a way to manage and protect their open space land from inappropriate development while still maintaining their private ownership. Granting an easement to a conservation organization or a land trust can result in reduced taxes.²¹ Agricultural landowners within the watershed should be made aware of the tax benefits of donating an agricultural conservation easement to a local land trust.

Development Rights Programs

Similar to the conservation easement strategy is the Connecticut Farmland Preservation Program, the state Purchase of Development Rights program (PDR), which currently protects 130,000 acres of Connecticut's most productive farmland. The program entails the Department of Agriculture acquiring development rights to agricultural properties. While the farms remain in private ownership and continue to pay local property taxes, a permanent restriction on non-agricultural uses is placed on these properties.²²

Another option is called the Transfer of Development Rights (TDR) which can be used to protect open space, agricultural land, natural resources, and historic or culturally significant land. Transfer of development rights is a planning technique for protecting land by transferring the “rights to develop” from one area and giving them to another. This strategy allows towns to guide development away from areas of sensitive natural and cultural resources. Placing conservation easements on property in agricultural areas could allow for an increase in development (a “bonus”), in other areas that are already being developed. The costs of purchasing the easements would be recovered from the developers who receive the building bonuses.²³

Overall, towns can partake in development rights programs or strategies in order to protect highly sensitive areas of natural, cultural, and visual resources.

Overlay Zoning

As the Eightmile River watershed consists of many local governments, it is important for towns to work together towards unified goals for the management of growth and development within the watershed. Each town can consider revising zoning bylaws in order to enhance regulations and policies for proposed and existing development that are sensitive to height and visual quality, (so as not to impair scenic views and vistas), character (especially historic), and natural resources within the watershed.

Several local historic districts already exist within the watershed and are a testament to local desire to maintain visual character and historic development patterns in a certain area. The zoning ordinances associated with each historic district provide guidance for design control and compatibility among existing and future structures. Restrictions on building height, signage, and landscape design are some of the elements considered when creating a historic overlay zoning district.

Extending boundaries of local historic districts to include adjacent cultural landscapes of historical significance should be considered. For example, the boundaries of the Salem Historic District could be expanded to include the surrounding agricultural and conservation lands, including Walden Preserve and the historic John Whittlesy house further north along Route 85. Extending the boundaries of local historic districts to include adjacent cultural landscapes could also help protect the historic character of the watershed as a whole.

Revising zoning regulations in each of the three (or five) towns, in order to establish a watershed overlay district can help control the type of development that occurs within the entire watershed. Such an overlay district should include a unified approach to preserving the historic character of the cultural landscape.

The National Register of Historic Places

Listing a property in the National Register contributes to preserving historic properties in a number of ways including: recognition that a property is of significance to the Nation, the State, or the community; consideration in the planning for Federal or federally assisted projects; eligibility for Federal tax benefits; and qualification for Federal assistance for historic preservation, when funds are available.²⁵

In order to be eligible for the process of identification and evaluation for the National Register program, historical significance must be present in one or more of the following: districts, sites, buildings, structures, and objects that possess integrity of location, design, materials, workmanship, feeling, and association, and which meet at least one of the following National Register criteria:

a: That are associated with events that have made a significant contribution to the broad patterns of history; or

b: That are associated with the lives of persons significant in our past; or

c: That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or

d: That have yielded or may be likely to yield information in prehistory or history.²⁶

A prime example of a nomination for a listing in the National Register of Historic Places is the Bingham family properties. The properties have already been significantly researched for historic relevance as well as managed to retain their historic character.

There are several other individual cultural landscapes within the watershed that should be considered for National Register listing, including the Bingham Family Properties, Sterling City, Pleasant Valley and other hamlets.

Further Research

Further research and inventory of cultural landscapes and other historic resources within the watershed should be done. Existing National Register properties should be re-examined for possible boundary expansion. This would require researching and documenting more cultural landscapes throughout the watershed, such as farms or hamlets, and characteristic buildings, such as churches, schoolhouses, and mills that have not yet been mentioned in this study. This type of research is already occurring in some areas of the watershed, such as the Millington schoolhouse in East Haddam.

One of the most powerful planning tools is the historic district at the town level. Further research for National Register listings can also become the basis for establishing or revising local historic district designations. This

would be one of the most effective ways to preserve the cultural landscape of the Eightmile River watershed.

Another area of further research is the association of fine artists, particularly those of the American Impressionist movement, with the watershed landscape. At the turn of the 20th century, many painters came to Old Lyme and places within the Eightmile River watershed from various locations throughout the country. Inspired by the rural qualities of Connecticut life, the artists represented many famous views and vistas within the watershed in their works. Further research into the role of the work of the Eightmile River watershed painters and their contribution to the American Impressionist movement should be considered. This component of social history of the Eightmile River watershed will strengthen the historical and pictorial documentation of the cultural landscape.

The history of the recent land preservation movement within the watershed is another important theme in the social history of the landscape. Land preservation and conservation efforts within the watershed in some cases were important precedents for the land preservation movement at the national level. Local preservation efforts since the 1960s have been very active, and have contributed to the preservation of the cultural landscape that we see today.

All of the further research suggested here would require collaboration with local and regional institutions, and individuals, including the Florence Griswold Museum in Old Lyme, local and state libraries, historical societies, historians, archaeologists, officials, managers, and land conservation groups. Sharing watershed-wide, cultural resource data, perhaps through a unified database, will enrich the documentation of cultural resources within the watershed, giving the towns a strong basis for the protection of the watershed's cultural landscape. Recent NPS research and documentation using Geographic Information Systems (GIS) at the Delaware Water Gap National Recreation Area, for example, is one precedent for such a comprehensive approach.

In general, the social history of the watershed landscape-the history of the individuals and groups that have lived here and shaped the landscape-needs to be undertaken to complement a study of this type, which emphasizes analysis of physical landscape characteristics. Further research into settlement history, agricultural economics, and population trends, for example, are all needed to better contextualize this analysis of cultural landscape features.

Conclusion

The landscape of the Eightmile River watershed has resulted from combined ecological and cultural processes. The landscape embodies this combination of natural and cultural elements in each layer of its history. As the landscape of the watershed progresses, transforms, and continues to change, further cultural landscape research should be undertaken. Through cooperation between town governments, residents, and private non-profit partners, planning tools and strategies can help assure the continued integrity of the cultural landscape of the Eightmile River watershed, and the preservation of its outstanding resource value.

APPENDIX

NATIONAL REGISTER PROPERTIES

There are nine properties within the Eightmile River watershed listed in the National Register of Historic Places. There are three National Register Historic districts and two National Register Historic buildings. Three structures and one site are listed in the *Lower Connecticut Valley Woodland Period Archaeological Thematic Resource*. This Appendix lists the properties, as well as the structures, objects, sites, and buildings within each district.

East Haddam, Connecticut

Bridge No. 1603

CT State Park and Forest Depression-Era Federal Work Relief Program Structures TR
Devil's Hopyard Road over unnamed brook
Devil's Hopyard State Park, 07/29/93

Bridge No. 1604

CT State Park and Forest Depression-Era Federal Work Relief Program Structures TR
Devil's Hopyard Road over Muddy Brook
Devil's Hopyard State Park, 07/29/93

Bridge No. 1605

CT State Park and Forest Depression-Era Federal Work Relief Program Structures TR
Devil's Hopyard Road over unnamed brook
Devil's Hopyard State Park, 07/29/93

Millington Green Historic District

Bounded by Millington, Tater Hill, Haywardville and Old Hopyard Roads
Local Historic District, 12 contributing buildings and 1 contributing site, 07/25/96

Salem, Connecticut

Salem Historic District

CT Route 85, 09/22/90

Contributing

The Salem Green, 1831-1885: 1 site

Salem Grange, 1885: 1 building

Salem Congregational Church, c. 1840: 1 building

Salem Town House, 1749 and 1831: 1 building

Salem Public Library, c. 1929: 1 building

The Methodist Tavern, 1720: 1 building

1 house and 1 barn once part of the Music Vale Seminary, c. 1835: 2 buildings

Greek revival house, Pratt Rd.: 1 building

1 house, Chapman Road and Route 85, c. 1800: 1 building

Simon Tiffany House

Darling Road

1 house, 1 outbuilding, 1 garage, 2 fieldstone foundations,
stonewalls, 2 wells, and 1 root cellar, 06/30/83

Woodbridge Farm

29, 30 and 90 Woodbridge Road

2 buildings and 1 site, 12/01/97

Lyme, Connecticut

Hamburg Bridge Historic District

Joshatown Road and Old Hamburg Road

18 parcels of land, 21 contributing buildings, and 10 contributing structures, 03/10/83

Hamburg Cove Site

Lower Connecticut River Valley Woodland Period Archaeological Thematic Resource

Address Restricted, 10/15/87

Other

Lower Connecticut Valley Woodland Period Archaeological Thematic Resource

Also in Haddam, Lyme, and Old Lyme, 07/31/87

ENDNOTES

¹ Charles A. Birnbaum, *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*, (Washington DC: U.S. Department of the Interior, National Park Service: 1996) 12.

² Dr. Marc L. Banks and Dr. Lucianne S. Lavin, "Assessment of the Eight Mile River's Archaeological Resources," (unpublished report: 2004), 6.

³ Banks and Lavin, "Assessment of the Eight Mile River's Archaeological Resources," 9.

⁴ Connecticut Historical Commission, *Eastern Coastal Slope: Historical and Architectural Overview and Management Guide*, (Hartford, CT: State Historic Preservation Office: 1996), 12.

⁵ Carolyn Bacdayan, "Outstanding Cultural Value in the Eight Mile River Watershed: Lyme," (Unpublished paper: 2004), 5.

⁶ Tom Wessels, *Reading the Forested Landscape: A Natural History of New England*, (Woodstock, VT: The Countryman Press: 1997), 43.

⁷ Connecticut Historical Commission, *Eastern Coastal Slope: Historical and Architectural Overview and Management Guide*, (Hartford, CT: State Historic Preservation Office: 1996), 15.

⁸ Tom Wessels, *Reading the Forested Landscape: A Natural History of New England*, 110.

⁹ Bacdayan, "Outstanding Cultural Value in the Eight Mile River Watershed: Lyme," 4.

¹⁰ Correspondence with David Bingham. July 2004.

¹¹ National Register of Historic Places, *Hamburg Bridge Historic District Nomination Form*, (United States Department of the Interior, National Park Service: 1996), 8.

¹² National Register of Historic Places, *Hamburg Bridge Historic District Nomination Form*. 8.

¹³ National Register of Historic Places, *Hamburg Bridge Historic District Nomination Form*. 9.

¹⁴ National Register of Historic Places, *Millington Green Historic District Nomination Form*. (United States Department of the Interior, National Park Service: 1996), 3.

¹⁵ National Register of Historic Places, *Millington Green Historic District Nomination Form*, 6.

¹⁶ National Register of Historic Places, *Millington Green Historic District Nomination Form*, 6.

¹⁷ National Register of Historic Places, *Millington Green Historic District Nomination Form*. 7.

¹⁸ National Register of Historic Places, *Millington Green Historic District Nomination Form*. 7.

¹⁹ National Register of Historic Places, *Millington Green Historic District Nomination Form*. 6.

²⁰ Stokes, Samuel N. and Watson, A. Elizabeth. *Saving America's Countryside: A Guide to Rural Conservation*. (Baltimore, MD: The Johns Hopkins University Press: 1989), 143.

²¹ Land Trust Alliance. <http://www.lta.org>. Accessed November 1, 2004.

²² Connecticut Department of Agriculture, Farmland Preservation Program. <http://www.ct.gov/doag/cwp>. Accessed September 5, 2004.

²³ Planning Commissioners Journal. <http://www.plannersweb.com>. Accessed November 1, 2004.

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FIGURES

COVER

Eightmile River Watershed, October 2004. (Courtesy: NPS)

INTRODUCTION

FIG 1. A Landscape Mosaic

The cultural landscape of the Eightmile River watershed is a mosaic of buildings, roads, agricultural fields, water features, and forest, all shaped and influenced by human history and interaction with the land and natural processes. (Courtesy: NPS)

PART ONE: CONTEXTUAL HISTORY

FIG 2. Aerial View of Forest Succession, Eightmile River Watershed, 2004.
(Courtesy: NPS)

FIG 3. Statewide Context

The Eightmile River watershed is approximately 62 square miles and includes the towns of East Haddam, Lyme, Salem and a small portion of Colchester and East Lyme. (Source: L.Todd/Smith, Allen R. 1974. *Connecticut: A Thematic Atlas*. Central Connecticut State College: Hartford, CT)

FIG 4. The Eightmile River Watershed

Ninety percent of the watershed is comprised of the towns of East Haddam, Lyme, and Salem. (Source: L.Todd/UConn MAGIC)

FIG 5. Early Map of Agricultural Land Salem, CT, 1769

This map, taken from *Chronicles of a Connecticut Farm 1769-1905*, demonstrates how patterns of early settlement were based on town-centered development, radiating agricultural land, and scattered farmsteads. (Source: Perkins, Mary E. 2002. *Chronicles of a Connecticut Farm 1769-1905*. The Salem Land Trust, The Sullivan Printing Company)

FIG 6. Huckleberry Hill From Candlewood Ledge Hillside, c. 1920s

During the 1920s, there was still open farmland above Hamburg Bridge. (Courtesy: Lyme Public Hall Archives)

FIG 7. Historical Agriculture in East Haddam

Pasture land and hay field side by side, a typical agricultural landscape during the 19th and early 20th century. (Source: Huka, Elisabeth. 1958. "The Changing Geography of an Old New England Town, East Haddam, Connecticut." A Thesis, submitted to the Faculty of Clark University, Worcester, Massachusetts)

FIG 8. The Beginning of Agricultural Succession

Typical red cedar growth on a former hay field in East Haddam, 1958. (Source: Huka, Elisabeth. 1958. "The Changing Geography of an Old New England Town, East Haddam, Connecticut." A Thesis, submitted to the Faculty of Clark University, Worcester, Massachusetts)

FIG 9. Agricultural Succession in Salem

View of the fields behind the Mumford House in Salem. Today, these fields are being managed to allow for a succession of native species. (Courtesy: David Bingham)

FIG 10. Diagram of Forest Cover by 1934

In the mid-nineteenth century, it is estimated that 50% of the watershed landscape was covered by forest. This diagram of forest cover vs. non-forested land shows that approximately 75% of the watershed was forested by 1934. (Drawing/Source: L.Todd/UConn MAGIC)

FIG 11. Diagram of Forest Cover by 1995

The patterns of forest cover vs. non-forested land by 1995 show that approximately 90% of the watershed is forested today. (Drawing/Source: L.Todd/UConn MAGIC)

FIG 12. Music Vale Barn, 2004

A remnant of the 19th century agriculture that occurred at the Music Vale Seminary. (Courtesy: David Bingham)

FIG 13. Etching of Hamburg Cove

Note the young successional vegetation on the far hillside and in the foreground. (Courtesy: Florence Griswold Museum)

FIG 14. Sailing at Hamburg Cove

The picturesque and romantic qualities of the Cove are emphasized with the exaggerated slopes of the surrounding landscape and the reflections in the water. (Courtesy: Florence Griswold Museum)

FIG 15. A Cultural Landscape

Hedgerows and field patterns are well-defined by successional forest growth. (Courtesy: NPS)

FIG 16. Old Patterns of Circulation

Views of the abandoned farm road running between the Mumford House and Route 82. (Photo: L.Todd)

FIG 17. Typical Road in Watershed

Smaller roads within the watershed are typically hilly, narrow, and windy, due to the rocky topography. (Photo: L.Todd)

FIG 18. Open View of Field From Road

A typical view of a "gap" in the vegetation seen from the road. The watershed landscape is dominated by trees, but there are glimpses and sudden views of large expanses of open fields, as seen from the road. (Photo: L.Todd)

FIG 19. Route 11 Overpass, Salem

This portion of the highway, although already built, is not in use. (Photo: L.Todd)

FIG 20. Route 156, Lyme

Route 156 was recently repaved and widened. (Photo: L.Todd)

FIG 21. Wolf Tree in Forest

A lone wolf tree towers over a young successional forest in Millington. (Photo: L.Todd)

FIG 22. Looking down to Hamburg Cove Towards Czikowsky Farm Barn

Open farmland along Hamburg Cove, c. 1920s. (Courtesy: Lyme Public Hall Archives)

FIG 23. Looking down to Hamburg Cove Towards Czikowsky Farm Barn, 2004

Successional growth has completely blocked the view towards the barn, which is in use as a garage for the new residence built beside it. (Photo: L.Todd)

FIG 24. Reynolds General Store, Lyme. (Photo: L.Todd)

FIG 25. Salem Town Green, 2004

The white clapboard buildings are typical of town center buildings within the watershed. (Courtesy: David Bingham)

FIG 26. Salem Historical Society, 2004. (Courtesy: David Bingham)

FIG 27. Tiffany Farm, 2004

One of the last dairy farms in operation in the Eightmile River watershed. (Photo: L.Todd)

PART TWO: CULTURAL LANDSCAPE STUDY AREAS

FIG 28. Cultural Landscape Study Areas

The Bingham family properties in Salem (1), Hamburg Bridge in Lyme (2) and Millington Green in East Haddam (3). (Source: L.Todd/UConn MAGIC)

FIG 29. Bingham Family Properties Study Area. (Source: L.Todd/USGS)

FIG 30. Woodbridge Farm Property, National Register of Historic Places

The Woodbridge Farm district, shown in pink, is currently listed in the National Register of Historic places. (Source: L.Todd/USGS)

FIG 31. Diagram of Circulation c. 1880

Dirt roads appeared as a “web” of roads of roughly equal width and condition connecting various farmsteads. (Drawing/Source: L.Todd/UConn MAGIC)

FIG 32. Diagram of Forest Cover c. 1880

Approximately 85% of the study area was non-forested and primarily used for agriculture. (Drawing/Source: L.Todd/UConn MAGIC)

FIG 33. Diagram of Circulation c. 1934

By this time, Route 82 had been widened, but the road patterns of the 19th century remain intact. (Drawing/Source: L.Todd/UConn MAGIC)

FIG 34. Diagram of Forest Cover c. 1934

Agricultural abandonment lead to reforestation. Approximately 50% of the study area remained non-forested. Note that Mitchell Pond was made during the turn of the 20th century for agricultural purposes. (Drawing/Source: L.Todd/UConn MAGIC)

FIG 35. Diagram of Circulation c. 1995

This diagram shows circulation circa 1995. Note the addition of Route 11 in the upper right hand corner of the study area, and the abandonment of the Mumford Farm road, which was the Colonial era crossing of the East Branch of the Eightmile River. (Drawing/Source: L.Todd/UConn MAGIC)

FIG 36. Diagram of Forest Cover c. 1995

Approximately 25% of the study area remains non-forested, with successional species increasing and maturing. (Drawing/Source: L.Todd/UConn MAGIC)

FIG 37. View of the Brook Bridge, 1919

The Brook Bridge was the colonial era crossing of the East Branch of the Eight Mile River. The surrounding landscape was still used for agriculture during this period. (Courtesy: David Bingham)

FIG 38. View of the Brook Bridge, 2004

Today, the road has been abandoned and the bridge is used mainly by the Bingham family. Note the loss in views beyond the bridge due to the successional growth. (Photo: L.Todd)

FIG 39. View From the Camp, 1950

In the 1950s, there was still a significant visual connection from the Bingham family Camp looking across to Mitchell Pond, Marvel, Mitchell, and Mumford Farms. (Courtesy: David Bingham)

FIG 40. View From the Camp, 2004

The present day vista from the Bingham family Camp looking across to Mitchell Pond, Marvel, Mitchell, and Mumford Farms. (Photo: L.Todd)

FIG 41. The Mumford House, 1945

View looking down the driveway of the Mumford house and farm, 1948. (Courtesy: David Bingham)

FIG 42. The Mumford House, 2003

View of the Mumford house present day. The house dates to 1769 and was built on the site of a former homestead. (Courtesy: David Bingham)

FIG 43. View of the Red Hay Barn and Surrounding Fields

The land was originally used for various types of agriculture, but is now managed as a wetland and is rich in biodiversity and native species. (Courtesy: David Bingham)

FIG 44. Stonewall and Stile

A finely crafted stonewall and stile found on the Bingham family properties. Stone-walls run extensively throughout the forested landscape of the watershed. (Photo: L.Todd)

FIG 45. Bingham Family Properties: Buildings, Structures, and Sites. (Source: L.Todd/USGS)

FIG 46. View of the Tiffany House, 2004

The house dates to 1840 and historical records of the area depict the house site as an orchard. Some of the property is still in orchards. (Courtesy: David Bingham)

FIG 47. Woodbridge Cemetery, 2004

The cemetery is on the Woodbridge Farm property and sits below the Woodbridge House. It dates to 1790 and is still used by the Bingham family. (Courtesy: David Bingham)

FIG 48. The Bingham Family Camp

Built in 1906 by Hiram Bingham, the Camp sits on a hill overlooking the other farm properties. Note the rocky outcrops, typical of the watershed landscape. (Photo: L.Todd)

FIG 49. View of Marvel Farm

The farm dates to 1790 and once had an ice pond that served the entire valley. (Courtesy: David Bingham)

FIG 50. The Red Hay Barn, Mumford Farm, 1947. (Courtesy: David Bingham)

FIG 51. The Red Hay Barn, Mumford Farm, 2004. (Courtesy: David Bingham)

FIG 52. Typical Spatial Organization

Typical spatial organization of a farmstead in the study area. The farmhouse is set back from the road, and a farmyard or interior courtyard is defined by the farmhouse and associated outbuildings. (Drawing/Source: L.Todd/USGS)

FIG 53. Hamburg Bridge Study Area. (Source: L.Todd/USGS)

FIG 54. Hamburg Bridge Historic District

The area shown in pink is the district listed in the National Register of Historic Places. (Source: L.Todd/USGS)

FIG 55. The Eightmile River at Hamburg Cove, 1776. (Courtesy: Lyme Public Hall Archives)

FIG 56. Aerial View of Hamburg Cove, Lord's Dock, c. 1936

Note the openness of the landscape beyond the town green. (Courtesy: Lyme Public Hall Archives)

FIG 57. Candlewood Ledge c. 1900

Note the openness of the agricultural landscape, juxtaposed with an abandoned field above Hamburg Cove. (Courtesy: Lyme Public Hall Archives)

FIG 58. Hamburg Cove, Lord's Dock and Schooners c. 1906. (Courtesy: Lyme Public Hall Archives)

FIG 59. Diagram of Circulation c. 1934

Principle roads and selected buildings shown. (Drawing/Source: L.Todd/UConn MAGIC)

FIG 60. Diagram of Forest Cover c. 1934

Agricultural abandonment lead to reforestation. At this time, approximately 60% of the study area remained non-forested. (Drawing/Source: L.Todd/UConn MAGIC)

FIG 61. Diagram of Circulation c. 1995

The road pattern has remained virtually the same. (Drawing/Source: L.Todd/UConn MAGIC)

FIG 62. Diagram of Forest Cover c. 1995

Approximately 20% of the study area remains non-forested. (Drawing/Source: L.Todd/UConn MAGIC)

FIG 63. Grassy Riverbanks Along the Water's Edge

Grassy riverbanks belong to individual residents and provide visual continuity along each side of the river, and enhance the feeling of openness found along the water's edge. (Photo: L.Todd)

FIG 64. Old Hamburg Bridge and Reed's Landing

This mid-19th century painting was done by G.F. Bottume and originally titled "Canal Near Salem, Connecticut". The Lombardy poplars on the right side of the painting demonstrate that this landscape was "improved." The view shows the Old Joshua-town Road Bridge and the openness of the surrounding agricultural landscape. (Courtesy: Lyme Town Hall)

FIG 65. Old Hamburg Bridge and Reed's Landing, 2004

The vegetation growth along the riverbank, as well as the growth on the hill overlooking the river, makes it impossible to replicate the same view of the bridge and surrounding buildings and structures. (Photo: L.Todd)

FIG 66. Figure Ground Diagram, Hamburg Bridge

This diagram shows the pattern of development that evolved along the Eightmile River at Hamburg Bridge. The majority of houses and buildings were built along the road, on the opposite side of the river bank, allowing for the land adjacent to the water's edge to be used first and foremost for commercial activity. (Drawing/Source: L.Todd/USGS)

FIG 67. Typical Section, Hamburg Bridge

This section shows the relationship of building, road and green space along the Eight Mile River at Hamburg Bridge. Houses line the narrow road, on the opposite side of the river bank. Most of the land along the water's edge is undeveloped and serves as common green space for the community. (Drawing/Source: L.Todd/USGS)

FIG 68. Hamburg Bridge Over Eightmile River, pre-1936

The former stone and wood structure of the old Hamburg bridge. (Courtesy: Lyme Public Hall Archives)

FIG 69. Hamburg Bridge Over Eightmile River, 2004

Replacement concrete bridge built by the Army Corps of Engineers in the late 1930s after the hurricane of 1936. (Photo: L.Todd)

FIG 70. Old Hamburg Road, Hamburg Bridge Historic District

The narrow road and building setbacks are characteristic of the pattern of development in the Hamburg Bridge Historic District. (Photo: L.Todd)

FIG 71. Eight Mile River, Hamburg Bridge Historic District

Today the Eight Mile River is mostly used for recreation. (Photo: L.Todd)

FIG 72. Millington Green Study Area

FIG 73. Millington Green Historic District

The area shown in pink is currently the historic district listed in the National Register of Historic Places. (Source: L.Todd/USGS)

FIG 74. Settlement Along Wall Street

View of old foundations and stone walls from past settlement along Wall Street. (Photo: L.Todd)

FIG 75. Remnants of Past Agricultural Use, Wall Street

An old pickup truck sits abandoned just off Wall Street. (Photo: L.Todd)

FIG 76. Diagram of Circulation c. 1934. (Drawing/Source: L.Todd/UConn MAGIC)

FIG 77. Diagram of Forest Cover c. 1934

At this time, approximately 40% of the study area remained non-forested. (Drawing/Source: L.Todd/UConn MAGIC)

FIG 78. Diagram of Circulation c. 1995

The road pattern has remained virtually unchanged, with the exception of Wall Street becoming a trail with limited public access. (Drawing/Source: L.Todd/UConn MAGIC)

FIG 79. Diagram of Forest Cover c. 1995

Approximately 10% of the study area remains non-forested. (Drawing/Source: L.Todd/UConn MAGIC)

FIG 80. Wall Street, Millington, 2004

What was once the busiest commercial route in Millington has become an abandoned, overgrown trail in the woods. Access to the trail is through the driveway and backyard of the Daniel Bulkley House. (Photo: L.Todd)

FIG 81. Daniel Bulkley House, 1792

This clapboard house is an example of a historic home built on the north side of Millington Green. Note, Wall Street is located to the right of the house, and access to the trail is behind the house through the backyard. (Photo: L.Todd)

FIG 82. 10th District Schoolhouse, c. 1854. (Photo: L.Todd)

FIG 83. Millington Green, East Haddam c. 1958

Note the openness of the landscape around Millington Green, especially shaded quality of the Green in the foreground, and openness of the agricultural land behind the Congregational meetinghouse that burned in 1971. (Source: Huka, Elisabeth. 1958. "The Changing Geography of an Old New England Town, East Haddam, Connecticut." A Thesis, submitted to the Faculty of Clark University, Worcester, Massachusetts)

FIG 84. Site of Former Congregational Meetinghouse, 2004

The site of the former Congregational meetinghouse has been maintained as an open green space. (Photo: L.Todd)

FIG 85. Millington Green, East Haddam, 2004

Today the Green contains a small shrub-sized planting in the center, some signage, a flagpole, and a bench. (Photo: L.Todd)

FIG 86. Congregational Meetinghouse, c. 1940s

This unknown artist's painting of the Millington Congregational meetinghouse shows the openness of the surrounding agricultural landscape. (Courtesy: Millington Green resident)

FIG 87. Figure Ground Diagram, Millington Green

This diagram shows the triangular parcel of land, around which the historic settlement patterns of Millington radiated. The green occupies a long triangular piece of land, which results in an awkward set of intersections, and a largely unused green space at the center of this now small community. (Drawing/Source: L.Todd/USGS)

PART THREE: INTEGRITY AND SIGNIFICANCE OF THE LANDSCAPE

FIG 88. The Eightmile River Watershed. (Courtesy: NPS)

FIG 89. New Development Within the Eightmile River Watershed. (Courtesy: NPS)

AFTERWORD

FIG 90. Sensitive Natural Resource Areas

Zoning procedures such as Transfer of Development Rights can allow towns to steer development pressure away from sensitive natural resource areas such as wetlands. (Courtesy: NPS)

FIG 91. Historic Overlay District Zoning Bylaw

Revising zoning regulations in order to establish or modify a historic overlay district can help control the type of development that occurs, as well as provide management guidelines for current residents living within the district. (Courtesy: NPS)

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