Quinebaug Shetucket

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A Study of **Quinebaug—Shetucket Region of Connecticut**

National Park Service
North Atlantic Region

Rivers and Trails
Conservation Assistance

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A STUDY OF THE QUINEBAUG - SHETUCKET REGION OF CONNECTICUT

Prepared through:

River & Trail Conservation Assistance Program
U.S. Department of the Interior
National Park Service
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INTRODUCTION

Throughout the study of the Quinebaug-Shetucket region, people expressed one overriding desire -- to take control of their own communities by:

* acting, not reacting;
* coordinating their efforts with others to achieve better and bigger results; and
* tapping a variety of sources for funding and expertise.

People in Northeastern Connecticut are primed for action and are already taking steps to achieve their goals.

We hope this report makes those steps easier.

DESCRIPTION OF STUDY AREA

The study area encompasses approximately 600 square miles and 24 towns in northeastern Connecticut:

Brooklyn, Canterbury, Chaplin, Coventry, Eastford, Franklin, Griswold, Hampton, Killingly, Lebanon, Lisbon, Mansfield, Norwich, Plainfield, Pomfret, Preston, Putnam, Scotland, Sprague, Sterling, Thompson, Voluntown, Windham and Woodstock.

These towns are represented by 3 regional planning agencies:
--Northeastern Connecticut Council of Governments
--Windham Regional Planning Agency
--Southeastern Connecticut Regional Planning Agency.

The Heritage Corridor Advisory Committee, an ad-hoc Committee formed to assist the National Park Service with the study, determined the study area based on regional planning districts and on a concentration of common resources, themes, issues, concerns and opportunities.

Numerous names are used to describe Northeastern Connecticut -- the Eastern Highlands, Windham Hills, the Quiet Corner, Quinebaug-Shetucket River Valley, etc. In this report, we refer to the study area as the Quinebaug-Shetucket region, or QSR.

BACKGROUND

The combination of river corridors, rolling open countryside, mill villages and hill towns give Northeastern Connecticut a distinctive character. The region's special resources, however, are threatened by increasing development pressures. In 1988, Congressman Sam Gejdenson conducted a field hearing to assess the situation and the status of parks, recreation areas and open space. Findings from the hearing were:

-- No adequate or organized strategy exists to protect the region's special features, due partly to a lack of parks, recreation areas and protected open space.

-- Connecticut lags far behind other northeastern states in the amount of land set aside for public recreation. While northeastern states have an average of 294 acres of public recreation land per 1,000 residents, Connecticut has less than 100 acres; and the amount of state-owned forest land has declined by 30% since 1950.

-- Connecticut ranks last among the 50 states in the amount of federal land, such as National Parks, Forests or National Recreation Areas, within its borders.

-- Connecticut residents want to protect their heritage and resources, but are wary of handing over land management control to the federal government.

-- Connecticut is a small state without large tracts of open land, but has rivers that are scenic and historically important and have enormous recreation potential, especially given recent and dramatic improvements in water quality.

-- The history of the state and an important part of the history of the American textile industry stems from the industry's development along the Quinebaug and Shetucket Rivers. The mills and mill villages along these two rivers are among the most architecturally significant in the Northeast.

Findings from the 1988 Northeast Corner Strategic Analysis report add to the general picture of the region:

-- While the regional economy has generally improved, the Northeast Corner remains the poorest region in the state.

-- The region is experiencing severe development pressures with significant impacts on its quality of life:

* affordable housing is increasingly hard to find;
* population increases have put enormous pressures on town governments to provide basic services;
* rising land prices encourage landowners to sell to developers rather than maintain agricultural and natural resource-related activities;
* development pressures are increasing the call in many towns to institute or tighten land use/zoning regulations;
* the economic base has changed dramatically over the past decade with the loss of manufacturing jobs, a growing dependence on a few large companies, and the increase in the number of retail and service jobs;
* the region lacks the institutional capacity to adequately address many of its problems; towns are primarily managed by part-time officials and voluntary boards and commissions. With few exceptions, local communities do not have sufficient planning and regulatory capacity to effectively manage development pressures.

Mr. Gejdenson identified the National Heritage Corridor program as a possible strategy for the area, and consulted state and local officials and environmental groups to determine support for such a program. The proposal received strong support at all levels; and an independent group of civic leaders, environmentalists, sportsmen, historians and others formed an ad-hoc committee to promote the creation of a heritage corridor and to protect the region's significant resources.

In 1989 National Park Service (NPS) staff toured the Quinebaug-Shetucket River Valley to evaluate the feasibility of designating the area as a National Heritage Corridor. Preliminary findings were that the region had great potential for recreation and site interpretation due to its abundance of outstanding 19th century mills, mill villages and beautiful landscapes, but that further study was required to adequately determine the area's potential for federal designation.

This resulted in NPS conducting a study of the area.

Study Purpose

Congress requested that the National Park Service evaluate the Quinebaug-Shetucket region for potential designation as a National Heritage Corridor. National Heritage Corridors are considered to be affiliated areas of the national park system.

A study by the National Park Service found that, currently, there is no clear legislative basis for listing affiliated areas, the title has not been applied consistently in the past, and that no standards exist for National Park Service oversight of how affiliated areas are operated. Areas have been classified as affiliated because they did not fit the definition of a park system unit rather than because they did meet some clearly defined criteria.

A February, 1990 National Park Service Report on Criteria for Affiliated Areas made several recommendations regarding affiliated areas: in particular, that the affiliated areas classification be established legislatively, and that they meet certain criteria.

The report recommends that the title of affiliated areas be applied to a select group of nationally significant areas that have a formal cooperative relationship with the National Park Service. Areas would be defined as being affiliated with the National Park System if Congress or the Secretary of the Interior has determined that they meet criteria for national significance, the resources can be most efficiently and effectively managed by a cooperative arrangement with the National Park Service instead of direct operation as a unit of the National Park System, and NPS has some continuing responsibility for technical or financial assistance and oversight of the area's management.

The report also recommends having a single set of criteria for national significance for potential NPS units and affiliated areas. As outlined in the 1988 NPS Management Policies, a resource is considered nationally significant if it:

1) is an outstanding example of a particular type of resource;
2) possesses exceptional value or quality in illustrating or interpreting the natural or cultural themes of our Nation's heritage;
3) offers superlative opportunities for recreation, public use and enjoyment or for scientific study; and
4) retains a high degree of integrity as a true, accurate, and relatively unspoiled example of the resource.

Two additional criteria are recognized in evaluating potential new parks and affiliated areas: suitability/feasibility and management alternatives. These additional criteria are usually applied only if the resources meet the first criterion of national significance.
To summarize, the National Park Service will not support adding areas to the affiliated list unless these criteria are met, or unless Congress provides some other direction.

This report applied the criteria described above and describes:

* the significance of the Quinebaug-Shetucket region, based on the area's historic, natural and recreation resources;

* two conservation strategies to preserve and manage the QSR resources, based on the types of resources, the area's commitment to conservation, and the public/private interest in working together to achieve common goals.

* cost estimates and next steps for implementing the conservation strategies;

* federal assistance available to the region;

* future actions, based on developing a greenway in the region;

* public concerns, as expressed at public workshops during the study.

Note: Feasibility/suitability were not required or addressed in this report, due to a finding that resources did not meet national significance criterion.

Public Concerns

Citizens concerned about the progressive loss or degradation of resources identified certain common needs at workshops held throughout the region:

* local control of resources;
* professional assistance in planning, conservation, preservation and interpretation;
* recognition by federal and state governments that the resources are important to protect;
* sufficient funding to adequately preserve and enhance the resources.

The concerns and needs expressed by the public fell into five general categories:

1. Develop a Regional Vision

...maintain the region's quality of life, characterized by a pervasive sense of open space in a rural agricultural landscape....
...maintain open space and real, working farms -- not just the look of the landscape...
..."package" the region's significant recreation and historic resources as a means of strengthening a unified regional image...
...develop political clout for the region in the State House...

2. Work Together

...towns want to play major role in preserving resources...
...growing realization that communities in the region can benefit from working cooperatively on regional issues, such as natural resource protection and tourism promotion...
...need to strengthen and develop working partnerships, drawing on the strengths of all levels of government and the private sector, to achieve common goals...
...establish regional information centers that focus on the area's historic and cultural resources, recreational opportunities and tourist accommodations...
...most towns are preparing 5-year plans of development -- a good time to share planning strategies...
...innovative land use management strategies exist; towns need information on how to implement these strategies...

3. Greenways

...greenway linkages can accomplish many town and regional goals...
...balance recreation use among the region's existing parks and forests...
...promote better canoe and pedestrian access to rivers and riverfront trails...
...enhance existing recreation programs and activities, such as bike or canoe club events, by tieing to other cultural and interpretive programs...

4. Tell our story

...region is undergoing a cultural awakening, as demonstrated by growing museum visitation figures...
...Association of Northeastern Connecticut Historical Societies and area historical commissions are raising profile of the region's culturally significant mill complexes and historic sites...
...the "hill town/mill village" theme has potential to tell a cohesive story about the region's historical development...
...public perception has not caught up with reality: resources are excellent but underused due to lack of promotion; river is cleaner than people think...

5. Connecticut's Quiet Corner

...Northeastern Connecticut is an attractive area ideally poised for residential growth; need to accommodate growth while being sensitive to cultural landscape values...
...typical of rural, sparsely developed areas, effective land use controls designed to allow towns and residents some say in their future either do not exist or are insufficient...
...need to accommodate new development within existing built environment...
...need to reconcile regional tourism efforts with state needs for landfill sites...
...tourism is a way to preserve resources; "Come and see but don't settle"...

These comments led to an assessment of historical, natural and recreation resources; identification of threats to their integrity; a description of state and local preservation initiatives; and the development of specific conservation strategies for the QSR.

EXECUTIVE SUMMARY

The Quinebaug-Shetucket Region

The 24-town study area of Northeastern Connecticut has abundant natural and historic resources and a rich cultural heritage. With its 19th-century mills and beautiful rural landscapes, the region has great potential for recreation development and historical interpretation.

The area is threatened, however, by a growing population and the resultant suburbanization of the countryside, the disappearance of valuable farmlands, lack of effective zoning, inappropriate development, abandonment of century-old mills and uncoordinated planning. While numerous community groups, local officials, state agencies, businesses and private citizens are committed to historic and cultural preservation and environmental conservation, many people see the need to combine forces: to work cooperatively to preserve resources region-wide and better plan for the future. Additional state and local coordination is needed to protect the key elements that give this area its special identity.

Significance of the QSR

The Quinebaug-Shetucket region is not recommended for inclusion in the National Park System. The historic, natural and recreation resources make the QSR distinct from other parts of Connecticut, but do not reflect national significance.

An historical overview reveals certain distinctive themes and characteristics. The QSR's geography, relationship with Rhode Island, agricultural tradition, textile industry, and hill/mill town relationship all contributed to its development and can lead to strategies for its preservation and growth.

The most conspicuous historical feature of the region is the density of Classic era mills and self-contained mill villages along the Quinebaug and Shetucket rivers. Several mill villages are virtually intact and retain a high degree of integrity. Complementing this are examples of original hilltop centers contrasting nearby 19th-century industrial districts.

The region's designated National Historic Landmarks (Jonathan Trumbull House, Samuel Huntington birthplace, and William Williams House) do not reflect the historical themes most important to the development of the region and to its regional identity, i.e., early American industrial development, represented by Classic-era mills and mill villages. While the

region is a cross-section of much of New England history and serves as a case study of the process of de-industrialization, the factory systems do not represent technological innovations of the era and are largely derivative of and dependent on those found in the Blackstone River Valley in Rhode Island and Massachusetts.

The river systems of the QSR are its primary natural assets. The region also retains a degree of wildness not found in other parts of the state, due to its rural nature and tracts of state forests, which provide a variety of animal habitat within a small geographic area.

Special designations include National Natural Landmark status for Pachaug Great Meadows, listing of Quinebaug River on American River's Outstanding Rivers list, and a 9-mile stretch listed on the Nationwide Rivers Inventory as a potential candidate for national Wild and Scenic River designation.

Recreation resources in the QSR reflect the interweaving of natural and cultural resources. The region's natural resources provide not only outdoor recreational opportunities, but context and integrity to the area's historic resources.

Conservation Strategies

Two conservation strategies were developed to help protect and enhance the resources and provide a management framework for the region. Both strategies have common elements and goals, but different management structures.

1. Building upon the existing Heritage Corridor Advisory Committee's work, partnerships with state, local and private organizations would be formed to develop and implement conservation and preservation plans, projects and programs. Recommendations include developing an action agenda, formalizing the committee organization and purpose, and pursuing funding and technical assistance from various private and public sources, while maintaining local control over project work.

2. Through State Executive Order or legislation, the Governor would designate the QSR a special heritage area and establish a committee to focus state, local and federal efforts in the region. The committee would develop a comprehensive action agenda and consistency agreements to protect and manage the region's resources and help concentrate sources of assistance on the QSR.

Both strategies recognize the special character of the QSR and recommend protecting resources and the regional identity through partnerships and state-local cooperation.

Future Action

In the immediate future, the Heritage Corridor Advisory Committee would continue to focus on developing a greenway system and other tangible, visible projects that help build broad support for historic preservation, recreation and tourism development and environmental protection.

SIGNIFICANCE

The Quinebaug-Shetucket region is not recommended for inclusion in the National Park System. The historic, natural and recreation resources make the QSR distinct from other parts of Connecticut, but do not reflect national significance.

An historical overview reveals certain themes and characteristics: the region's geography, relationship with and influence by Rhode Island, agricultural tradition, textile industry, and hill/mill town relationship all contributed to its development, and lead to strategies for its preservation and growth.

Historical Resources

The QSR has three National Historic Landmarks: Jonathan Trumbull House, Samuel Huntington birthplace, and William Williams House; and a nomination has been submitted for Roseland Cottage.

The most conspicuous historical feature of the region, however, is the density of Classic era mills and self-contained mill villages along the Quinebaug and Shetucket Rivers. Several mill villages are virtually intact and retain a high degree of integrity -- most notably North Grosvenordale, Wauregan, Baltic and Ponemah.

Mill villages in the QSR were generally patterned on the same hierarchical principle as the mills themselves; i.e., mill village architecture and arrangement expressed the social order. However, because most QSR mill owners lived elsewhere, the area lacks the splendidly endowed churches, libraries, schools and museums industrialists bestowed elsewhere.

The QSR retains remarkable evidence of the development and relationship of hill and mill towns -- hill towns clustered around a central common, and textile mills surrounded by a supporting village complex. The best of these are designated historic districts on the National Register. Hill-mill town contrasts can be found in the same town, notable examples being Windham/Willimantic and Thompson/North Grosvenordale. An abundance and variety of mill housing also represent the historical settlement patterns and social history of the region.

The region represents a nearly complete evolution of the American textile industry, with the post-Civil War to early 20th century the dominant era, but lacks structures from the initial phase of eastern Connecticut's textile industry.

While various programs protect individual sites and buildings, no coordinated state/local program exists to comprehensively protect the mill villages. Mill housing, being small, well-built and adaptable for re-use, is more likely to survive than the mills themselves. Several complexes have already been lost to fire, flood or commercial destruction. Additional losses would diminish the region's identity and integrity of surrounding villages.

Natural Resources

The QSR's primary natural assets are its rivers. The region retains a degree of wildness not found in other parts of the state, and provides a variety of animal habitat within a small geographic area.

The state's Natural Diversity Database includes 70 sites in the QSR, including critical habitats for Species of Special Concern, Natural Area Inventory sites, and a Natural Area Preserve site. Other special designations include National Natural Landmark status for Pachaug Great Meadows, listing of the Quinebaug River on American River's Outstanding Rivers list, and a 9-mile stretch of the Quinebaug River listed on the Nationwide Rivers Inventory as a potential candidate for national Wild and Scenic River designation.

Few of these designations currently provide any real protection; protected sites are those already under state ownership or held by private conservation groups or local land trusts. The state has several protection initiatives underway, however, including the Agricultural Lands Protection Program, the preparation of a rivers manual for local governments, a statewide rivers assessment, and the reintroduction of anadromous fish and wild turkeys to the area. Pending state legislation will require the compilation of a list of state endangered and threatened species and some level of protection given to areas supporting them.

Likewise, several regional, local and private conservation initiatives are addressing the area's conservation, planning and management needs; but many towns find themselves unable to effectively integrate resource protection measures into larger town plans due to the lack of resource data and the need to address more immediate concerns, namely, subdivision applications.

Recreation Resources

Recreation resources in the QSR reflect the interweaving of natural and cultural resources. While the region's natural resources are important for the health and vitality of human, plant and wildlife, they also provide recreation opportunities and, as the backdrop or context for cultural sites, lend integrity to the area's historic resources. Special recreation areas and opportunities include:

- Quinebaug and Shetucket River corridors
- Historic sites within mill villages and hill towns
- Existing federal, state and local recreation areas, forests and parks
- Blue-Blazed Hiking Trail system and abandoned railway trails
- Special places, such as the Windham Textile and History Museum
- State-owned open spaces including the Danielson Airport area, a 9-mile segment of the Quinebaug River, and the Providence & Worcester Railroad right-of-way along the Shetucket River
- State Heritage Parks being developed in Willimantic and Norwich.

Conclusion

There is strong support for actions and assistance that protect, enhance and interpret the region's historic, natural and recreation resources on a regional level. One recommended action is to develop a greenway system throughout the area. Through its technical assistance program, NPS could remain active in supporting local and state planning in park and greenway development, interpretation and historic preservation throughout the region.

RESOURCE ASSESSMENT

The Last Green Valley

The Quinebaug-Shetucket River Valley is often called "the last green valley" in the burgeoning Boston-to-Washington coastal corridor. It is surprisingly open and rural for an area so close to the most populous New England cities: Boston, Hartford, Providence and Worcester. The region is a distinctive cultural landscape, graced with diverse historical, natural and recreation resources.

Yet despite having some preserved lands and extensive areas of natural beauty, this "Quiet Corner" of Connecticut is threatened. A growing population and the resultant suburbanization of the countryside, the disappearance of valuable farmlands, careless (or no) zoning, inappropriate development, abandonment of century-old mills, and uncoordinated planning are beginning to take their toll.

This section describes the area's historical themes and its historical, natural and recreation resources; describes some of the state and local initiatives toward the preservation and enhancement of these resources; and identifies threats to their integrity.

HISTORICAL THEMES

The development of the Quinebaug-Shetucket region is similar to other parts of New England; but the QSR's geography, natural resources, people, and relationship with neighboring Rhode Island contributed to its developing a distinctive character.

This section highlights those themes and characteristics that affect the region today and guide its plans for the future. Please refer to the Appendix for an historical overview.

An inland "Island"

The QSR's hilly terrain is its distinguishing physical feature; its rough and rugged geography has been a determining factor in the region's development. While initial settlement of Connecticut took place in meadows along the coast and in the Central Valley, the interior long remained a "howling wilderness." Non-navigable rivers, poor roads and dense vegetation made early settlement difficult. Gloomy, thickly forested, inhabited by Indians, the region was crossed with trepidation on the dim path between Massachusetts Bay and the Connecticut Valley. The eastern Connecticut hill country took on some of the characteristics of an island, which remain today.

Many European-American settlers emigrated from populous towns along Massachusetts Bay. Although colonial boundaries were roughly established, borders were porous, identities fluid, and an underlying sense of belonging to an expanding Puritan commonwealth survived. Settlers centered many of their new towns, notably Lebanon, Franklin, Sterling, Brooklyn and Hampton, on "streamlined hills" which were suited for the Puritan clustered community pattern. Traces of this pattern remain (as in Woodstock), but depart from the original ideal.

Agriculture: a common tradition

As maritime and commercial centers developed east (Providence) and south (Norwich/New London) along the coast, Connecticut's interior region spawned small family farms. Farms of the colonial period were "laid out with ample capacity for a hand labor, family system of agriculture...[and] usually contained a hundred or more acres of land of which 30 to 60 were tillable. Fields were small and bounded usually by stone walls."

Despite the absence of military action in the area, the American Revolutionary War brought a time of prolonged hardship for its farm families. Many farms were necessarily neglected while men marched in distant campaigns; and as the war dragged on, incessant food demands further impoverished the rural population. During this time, Connecticut earned the reputation as being the "Provisions State," and it is no exaggeration to say that its agricultural contributions saved the Continental Army.

The productivity implied in the state's moniker has a solid basis in fact. Much land remains productive today after three centuries of cultivation. The region and state promote and encourage "home grown in Connecticut" produce, and the agricultural/horticultural-related industry is seen as a potential growth industry for the region.

Farm to Factory: a dynamic time in QSR history

In 1800 Timothy Dwight of Yale University provided a glowing account of the Quinebaug Valley:

> The verdure which here overspreads a great part of the whole region is of the finest tint, and produces the most cheerful sense of fruitfulness, plenty and prosperity...Orchards...everywhere meet the eye. Herds of cattle are seen grazing the rich pastures, or quietly ruminating in the shade. Neat farmhouses standing on the hills, a succession of pretty villages with their churches ornamented with steeples...lend the last touches of art to a picture so finely drawn by the hand of nature.

While agriculture was often prosperous, prosperity was achieved by the wasteful, unthrifty methods used when land was more abundant. Even before the War for Independence, there was a steady drift of eastern Connecticut residents to new lands in the north and west. Those who stayed behind often experimented with new methods and products. The more practical strategies led to increasing regional and local specialization of agriculture, such as dairying. The town of Pomfret, for instance, became famous for "export butter and cheese of superior quality."

The beginning of the 19th century marked the time when Connecticut reached its carrying capacity under prevailing agricultural methods. Small industries had flourished in the area since the earliest days of settlement -- grist mills, sawmills and fulling mills; skilled millers and smiths were considered vital to new communities, often more so than ministers. Although these small operations used mechanical processes they were not "industrial" in traditional terms; rather, they more accurately represent a proto-industrial stage.

Village mills were seasonal, usually served only the immediate community and required little capital. Mills proliferated throughout the QSR -- as many as 75 grist mills and 115 saw mills were counted as late as 1833. In 1766, a prominent resident of Norwich, Christopher Leffingwell, built a paper mill and, over the next several years, followed with silk, fulling, chocolate and pottery mills. Another Norwich resident, Dr. Joseph Lathrop, established a textile mill after the War of Independence. Yet none of these early operations had the success or long-term effects of those being developed in Rhode Island.

The Rhode Island connection

Early entrepreneurs in the QSR showed the venturesome, innovative spirit that fueled the American Industrial Revolution, and under different circumstances, Norwich might have taken the lead in industrialization. However, almost simultaneously, the successful Providence merchant Moses Brown and his son-in-law William Almy were conducting their own experiments with textile manufacture. They experienced a similar lack of success until they established contact with Samuel Slater, who knew the Arkwright water frame system for spinning and carding thread from his English apprenticeship and introduced it to America in Pawtucket. The leadership of the American Industrial Revolution became centered in Rhode Island, with profound consequences for adjacent Connecticut.

As the textile industry grew, it quickly spread beyond Rhode Island to nearby portions of Connecticut and Massachusetts. The new wave of industrialization first touched eastern Connecticut at Cargill Falls on the Quinebaug River, the premier water power site in the area. Here in 1806, Slater's brother-in-law and protege Smith Wilkinson, established Pomfret Factory. Men and money from Rhode Island continued to provide the needed impetus for additional development in the region. Shrewd merchants turned their talents toward land-based investments even at time when traditional maritime ventures were still flourishing. They applied to the textile industry the attitudes, methods and to a large degree even the organizational structure they had perfected in seagoing commerce. Ideas and investment proposals circulated quickly among a small group of interrelated men.

Two communities: hill towns and mill villages

The growth of mills instigated the first serious division between towns that remained agricultural and those that turned toward industry. The relationship between them was complex and often supportive, but two distinct types of community emerged. Changes were sweeping and often catastrophic to farming communities.

> In several hundred communities, mostly small and rural, the traditional agrarian culture felt its weakened economic foundations being shaken and dismantled by an explosion of technology, attended by restructuring of the networks and concepts of transportation, commerce, finance, labor, family and time -- to categorize but a few.

A mitigating factor to this abrupt change, was Samuel Slater himself, who not only developed the first machinery and first mill, but also created the first planned mill village at Slatersville, RI in 1806. Deeply affected by his English experience, Slater consciously sought to achieve a smooth transition to industrialization. To achieve public toleration of his new order, Slater tried to make his mills compatible with familiar architectural forms. "Within the context of the factory system, Samuel Slater recreated the traditional New England village."

Another factor easing the transition from the farm-to-factory life was that the first generation of textile mills used power only for spinning. Weaving remained a "putting out" operation, in which households near a mill could be profitably engaged without disrupting their accustomed lifestyle. Factory-style weaving became prevalent in the 1820s, bringing an end to the cottage industry stage, but by then the industrial economy was too firmly established to be resisted or dislodged.

Small factories, with their familiar vernacular architecture, blended into their surroundings in a way that did not arouse the fears of the inhabitants. The ominous specter of "another Manchester," which made many people fearful of industrialization, was avoided. Americans in the Quinebaug-Shetucket region seemed to have achieved Leo Marx's ideal of the "Machine in the Garden."

> The manufacturing operations of the United States are carried on in little villages or hamlets, which often appear to spring up as if by magic in the bosom of some forest, around the water-fall which serves to turn the mill wheel.

In the early stage of the textile industry most unskilled mill labor was performed by children. Smith Wilkinson wrote in 1826:

> In collecting our help, we are obliged to employ poor families and generally those having the greatest number of children, those who have lived in retired situations on small or poor farms, or in hired houses, where their only means of living has been the labour of the father and the earnings of the mother, while the children spent their time mostly at play.

The mills offered men employment compatible with their self-esteem as mechanics, supervisors or farmers. This may have been a consideration in Slater's practice of establishing farms in association with his mill villages; but even where this was not the case, it is reasonable to assume that a new concentration of consumers benefitted nearby agricultural producers. The labor supply near the mills soon proved insufficient, however, and mill owners had to attract suitable families from a considerable distance.

Mill villages were generally patterned on the same hierarchical principle as the mills themselves; i.e., mill village architecture and arrangement expressed the social order. However, because most owners lived elsewhere, the social structure resembled a truncated pyramid, the result being that northeastern Connecticut generally lacks the splendidly endowed churches, libraries, colleges and museums industrialists bestowed elsewhere.

While agricultural decline has been a trend throughout New England's history, QSR hill towns in the mid-1800's saw a drastic decline in their populations. At the same time, industry was growing and mill villages were flourishing. This decline of agriculture and growth of industry affected their previously stable and supportive relationship. New towns sprang up along the Quinebaug and Shetucket Rivers, breaking ties with the older hilltop settlements.

The Future

Hill towns and mill villages have been brought back together by problems common to the decline of both ways of life. Hill towns have made some effort to recover by becoming summer resorts, exemplified by Roseland Cottage in Woodstock, but have never developed a mass tourist industry. Until World War II people were able to live in rural areas and supplement their income by part-time farming, but in recent times the drastic increase in taxes and cost of living has brought an end to this kind of marginal existence.

Yet people are now moving to the countryside, seeking to absorb something of the New England tradition that permeates the QSR landscape. The region's historical themes and trends can not only be seen in the landscape, but can provide good examples for future growth.

* The clustered development patterns of mill villages and hill towns are emulated today by creative developers, designers and planners. The mix of residential and commercial uses gives an area a special vitality; and clustered development combined with open space reservations preserve land for agricultural, conservation and recreation use; encourages a sense of "community"; and can potentially save infrastructure costs to towns.

* The "Machine in the Garden" ideal can be a symbol for attracting appropriate industry and development to the area. "Good neighbor" industries that enhance, not disrupt, the region's rural beauty and ecosystem can be encouraged.

* Samuel Slater's desire to maintain traditional community patterns and lifestyles was achieved in part by the design of his industrial villages based on the traditional New England village model. Likewise, towns can accommodate growth and maintain their historical patterns and integrity by encouraging developers to "fit" new projects within the town's historical context; by respecting the scale and style of surrounding buildings; by restoring and reusing historic buildings whenever possible; by preserving the integrity of historic districts and important sites through overlay zoning; by buffering existing incompatible developments from historic sites; and by encouraging new, out-of-scale development in non-sensitive areas.

HISTORICAL RESOURCES

Connecticut, famed as the "Land of Steady Habits," has earned a reputation for moderation. While the region has avoided the kinds of dramatic conflict that create traditional historic sites and shrines, it contains valuable historical resources.

If one of the purposes of historic sites is to teach history and provide continuity with our heritage, the Quinebaug-Shetucket region presents excellent opportunities. A traditional method of classifying and appraising individual historical resources is not adequate here -- any system that emphasizes individual sites does not allow the QSR to fully express its historical significance, for its resources are collective and aggregate.

The integration of its resources is, in fact, a major characteristic.

This region represents a cross-section of much of New England history -- and, as so much of New England's history set the pattern and laid the foundation for the nation as a whole, it is a 24-town "laboratory" where one can observe the major trends of America's development. To this day, the area serves as a case study of the process and consequences of de-industrialization and revitalization.

Moreover, compared to other areas of New England, the evidence of historical development is still clearly visible throughout the region. Much of northern New England is simply not old enough to have experienced as many stages, and eastern New England is now so intensively urbanized that evidence of earlier stages is fragmented and lacks context or integrity.

Hill-Mill Towns

In particular, the Quinebaug-Shetucket region retains remarkable evidence of the development and relationship of hill and mill towns -- hill towns clustered around a central common, and textile mills surrounded by a supporting village complex. The best of these are designated historic districts on the National Register. Instructive examples of startling contrast within the same town between the original hilltop centers and the 19th-century industrial districts are Windham/Willimantic and Thompson/North Grosvenordale.

Mill Complexes

The region's early textile mills represented a sharp divergence from the type of village saw and grist mills that sprung up almost from the first days of settlement, although on occasion the same dam sites and buildings were employed. Few, if any, of the old-style village proto-industrial structures remain. The Gurleyville and Brayton mills are representative of

the type, but are of later date. Structures from the initial phase of the textile industry in eastern Connecticut are lacking, but, otherwise, the region presents a nearly complete evolution of the textile industry.

From the Civil War to the early 20th century, large textile factories were constructed at key points along the Quinebaug and Shetucket Rivers. Associated with sprawling, self-contained mill villages, they form the most conspicuous historical feature of the region. In most cases the builders were concerned with making an enduring statement and attempted to incorporate architectural distinction, as well as functionalism, into their creations. These structures were, indeed, "the cathedrals of their time." The Baltic, Wauregan and Ponemah mills, built in the mid-1800's, represented this new breed of mill. Meanwhile, various individual elements were combined into the American Thread Company at Willimantic, creating probably the largest factory complex in the region.

The factory systems of eastern Connecticut were largely derivative of and dependent on those found in the Blackstone Valley. While they may not represent technical, economic or architectural innovation, they are noteworthy for their high degree of integrity, freedom from intrusion, and density over a long distance.

These symbols of America's industrial infancy are endangered, however. Large mill structures present unusual challenges in finding and funding appropriate re-use. Several complexes have already been lost to fire, flood or commercial destruction; additional losses would diminish the region's identity.

Machine in the Garden

QSR industrial complexes sit in a predominantly rural landscape. This 19th-century ideal of the "Machine in the Garden" creates an unusual harmony between the built and natural environments. Together they form a coherent New England landscape of great integrity. Indeed, the existence of several intact mill villages -- especially North Grosvenordale, Wauregan, Baltic and Ponemah -- is the region's outstanding cultural resource.

Mill Housing

The area is also notable for its abundance and variety of mill housing. Being smaller and more susceptible to re-use, the houses are more likely to survive than the mills themselves. They contribute to the understanding of 19th-century mill life and social structure and, on a practical level, provide northeastern Connecticut with well-built, low and middle-income housing, an advantage not widely shared in southern New England.

Other Historic Sites

Northeastern Connecticut has numerous other historic sites, museums and houses that are open to the public and that offer art, artifacts, furnishings, exhibits and special events related to the Revolutionary War and the textile industry era. The Nathan Hale Homestead in Coventry is a popular site, as are the QSR's three National Historic Landmarks: Jonathan Trumbell House, Lebanon; Samuel Huntington birthplace, Scotland; and William Williams House, Lebanon.

Preservation Initiatives

Recent initiatives to better document and preserve the area's historical resources include the formation of an Association of Municipal Historians, and the appointment of municipal historians in four towns: Eastford, Killingly, Plainfield, Putnam; and the Connecticut Department of Transporation's (CT DOT) recent designation of Route 169 as a scenic road.

A Preservation Plan was prepared for Coventry Village, a 19th-century mill village. A model for other QSR towns, this plan recognizes the town's development pressures, and addresses ways to preserve, protect and enhance the historic character and natural assets of the village, while developing a framework to allow for growth, and increasing public awareness of village resources. In addition, the town prepared three reports on its most important sites: the Mill Brook Region, the Nathan Hale Homestead, and Nathan Hale Forest. Reports describe the sites' architectural, historical or natural significance, recreation opportunities, and nearby accommodations and facilities; and can be easily translated into walking tour brochures.

Threats

The QSR's relative isolation from major commercial centers has allowed this "island" to retain many of its historic resources intact. Modern transportation systems, however, make the area extremely accessible to New England's major population centers. The region now has a tenuous hold on its resources due to development pressures, lack of coordination with state government, lack of funding sources to preserve and revitalize its historic mill complexes, and the general downturn of economy. The problems of the region are compounded by a lack of political clout: few holders of high statewide office are from the region.

The CT Historical Commission has indicated that 1991 was the first year since 1966 that no state or federal funds were available from the Commission to restore properties owned by the state's municipalities and non-profit organizations.

While the future of many of the region's historic buildings and mills is far from assured, and contrary to what one might expect, it is not the buildings that are now most threatened. The gravest immediate danger is the progressive loss of agricultural and undeveloped lands -- lands that provide a livelihood for area farmers, that contribute to the region's identity and that protect and enhance the integrity of the mill villages and hill towns.

NATURAL RESOURCES

> [The Quinebaug] is a beautiful stream. Its waters are everywhere pure, sweet, salubrious, and well stocked with fish; and its bed is clean sand or gravel. --Timothy Dwight, 1800.

River Systems

The region's river systems are its primary natural assets. Their vitality and green corridors support human, plant and wildlife communities; provide opportunities for study and recreation; and reflect the overall health of the environment.

The QSR is part of the Thames River drainage basin, encompassing roughly 600 square miles of land. The major river basins drain to the Quinebaug and Shetucket Rivers, with some northern and western sections draining to the Willimantic and Natchaug Rivers.

The Quinebaug River originates in southern Massachusetts, entering Connecticut at the village of Quinebaug. From there it stretches south 25 miles to Norwich, where it joins with the Shetucket River and flows into the Thames, emptying eventually into Long Island Sound.

Geology

The geological uplift of the Triassic Period and the erosive and depositional force of a series of glaciers left the Eastern Highlands with a distinctive pattern of rolling hills, broken only by the broad troughs of its major river valleys: the Quinebaug, Shetucket and Willimantic. As one writer described it:

> Traveling east-west through the region is like crossing a sea of long waves in a small boat. The wide almost symmetrical ridges run north and south and you drive from one crest to a trough and on to the next crest. In many parts ...north-south roads are laid out along the crests and from these roads you get the feeling of being on top of the entire region.

Vegetation

It is difficult to imagine that the region's forest-draped hills of today were once primarily open agricultural lands. In fact, in the mid-1800's, crop and pasture land covered nearly every available acre. As many as 40 farms at one time could be found on the larger drumlins, whose source of productivity was tied to a thick cover of glacial till deposited over infertile bedrock.

The forest that has reclaimed this early farmland is dominated by the Central Hardwoods-Hemlock-White Pine association, with Oak and Hickory making up the majority of the hardwoods. An understory of blueberry and mountain laurel blooms on the wooded hillsides in June, and wildflowers such as wood lily, lady's slipper, sweet fern and partridgeberry cover the forest floor.

Field flowers, such as Joe-Pye weed, dandelions, and even poison ivy were important to the Indians and early settlers for such diverse uses as medicine, wine and ink. More unusual natural areas found in the region are the biological habitats associated with sand pines, Atlantic White Cedar swamps and old growth forests.

Open lands and agricultural areas still exist in the Quinebaug-Shetucket region and along the north-south ridgelines of drumlins. Agriculture and horticulture-related businesses, such as farms, orchards, nurseries, greenhouses and vineyards, abound and represent a major potential growth industry.

Fish and Wildlife

The region's composition of fish and wildlife species has changed dramatically since the arrival of English settlers, when cougar, wolf and Canada lynx still roamed the forest, and large runs of salmon and shad swarmed upriver from Long Island Sound during seasonal migrations.

Yet, the Quinebaug-Shetucket region retains a degree of wildness that provides a great variety of animal habitat within a small geographic area. Commonly seen mammals include the white-tailed deer, eastern coyote, red fox, beaver, otter, porcupine, rabbit and opossum. Less commonly seen and considered a rare mammal is the southern bog lemming, which has been recorded in the region's White Cedar swamps. Scotland Dam, along the Shetucket River, is a potential site for wintering bald eagles, and fisher cats have been captured from other states and released in northeastern Connecticut to establish a wild population.

New England is home or travelling station to well over 400 species of birds; many of these can be seen in northeastern Connecticut. The Quinebaug-Shetucket River Valley, having a rural nature and state holdings that have kept extensive tracts of habitat intact, has the potential for supporting higher populations of rare field and forest birds.

Water quality has improved considerably in the Thames River basin in the last two decades, especially in the Quinebaug (Class B in many sections). Free-flowing areas of the Quinebaug and Shetucket rivers are among the state's five important large trout streams. The Quinebaug Valley Trout Hatchery in Plainfield is Connecticut's major trout production facility.

State Initiatives

The state is pursuing two initiatives to restore certain species to the Quinebaug-Shetucket region.

The first is the restoration of anadromous fish to the Thames River basin. American shad, American salmon and Atlantic sturgeon ascended the Thames River system in large numbers until the 1830s. Parts of the lower Quinebaug and Shetucket supported a commercial fishery for shad until the construction of the Greenville Dam in the mid-1800's.

The goal for the Connecticut Department of Environmental Protection (CT DEP) Thames River Anadromous Fisheries Restoration Program is "to provide and maintain a sport fishery for American shad and American salmon in the Thames River basin, and to restore, enhance and maintain spawning populations...in all suitable habitat." The 1985 plan calls for equipping dams in the Thames basin with fish passage facilities, making possible viable populations of 450,000 American shad and 8,000 American salmon.

The second state project is the Wild Turkey Program, begun in 1975 with the release of turkeys captured in New York to suitable habitat in Connecticut. The birds, needing mature forest areas, were driven from the state in the extensive agricultural period of the 1850s. The objectives of the program include creating a new opportunity for sportsmen (for wild turkeys, unlike their domesticated cousins, are intelligent and challenging to hunt), and restoring the habitat necessary for the turkeys' survival. The first releases were in northwestern Connecticut, with study area towns Pomfret, Hampton and Voluntown not far behind. The entire Quinebaug-Shetucket region is considered "primary range" for the turkey, owing to its extensive forested areas.

Endangered, Threatened and Locally Significant Species and Biological Communities

Seventy sites in the QSR are listed in the state's Natural Diversity Database. The database is kept in conjunction with The Nature Conservancy's Natural Heritage Program, and includes all information to date regarding critical biological resources. Database sites represent habitat for rare animals, fish spawning areas, flood flow stability areas, Atlantic white cedar swamps, scrub barrens, kettle bogs, and significant geological sites such as cave formations and excellent examples of undisturbed stratified drift.

Species of Special Concern

Over 48% of these database sites provide critical habitat for "Species of Special Concern"; these are defined by CT DEP as species that occur in small or reduced numbers throughout the state in comparison to their historic distributions. Lygodium palmatum, or Climbing Fern, is one of the region's rare plant species. In southern New England, the distribution of the species is so rare that one would almost never chance upon it without a thorough search.

Habitat destruction or degradation and over-collection are major factors influencing the status and abundance of a species; preservation and management of habitat are, therefore, key to its survival. Over the next few years CT DEP will be determining boundaries for each rare species' critical habitat, based on space for normal growth, movement and territorial behavior; nutritional requirements; sites for breeding and reproduction; cover and shelter; and other biological, physical or behavioral requirements.

Natural Area Inventory Sites and Preserves

Thirty-six of the 70 database sites are Natural Area Inventory Sites, designated by the Connecticut Forest and Park Association in 1972. These sites were nominated for their geologic, hydrologic, biologic, archaeologic, cultural, aesthetic and/or research and educational values.

One site, a scrub barrens habitat, is a Natural Area Preserve. These lands are "deemed worthy of preservation in their natural condition" by the DEP Commissioner and the Governor.

Other Special Designations

-- The Quinebaug River is on American Rivers' Outstanding Rivers list.
-- Pachaug Great Meadows in Voluntown is a designated National Natural Landmark.
-- Edwin Way Teale farm in Hampton is a CT Audubon Society sanctuary.
-- Pachaug State Forest has a rare rhododendron sanctuary.

State Protection of Special Natural Resources and Agricultural Land

At present, few designations provide any real protection for natural resources, but they do recognize the value of eventual protection. Protected sites are those, such as Pachaug Great Meadows, already under state ownership or held by private groups such as The Nature Conservancy and local land trusts. Being listed as a Natural Diversity Database site does not provide legal protection or any restrictions. It only identifies areas that should receive special consideration before any proposed alteration or development is approved.

However, the State of Connecticut recently passed legislation that requires a list of state endangered and threatened species to be compiled and some level of protection given to areas supporting those species. Key provisions of the bill include: identification of essential habitat, cooperative partnerships with landowners for habitat management, priority given to state acquisitions involving essential habitat, and a provision that those taking endangered or threatened species from public or private lands for commercial gain are subject to a $1,000 fine or a prison term of up to six months.

Other initiatives include:

-- Connecticut's Agricultural Lands Protection Program includes approximately 30 parcels of active farmland, or approximately 6,300 acres, as of 1989.
-- CT DEP is preparing a rivers manual for local governments and, with NPS assistance, a statewide rivers assessment.

Current Threats to Resource Protection

State environmental agencies, conservation organizations and area residents have identified six key issues affecting the region:

* unguided development and "reactionary planning,"
* pollution problems and overall water quality management,
* landfills and ash dump sites,
* delay of construction of fish ladders at dams,
* groundwater protection,
* adverse impacts on scenic vistas and historic town centers.

For most towns, two major obstacles to integrating resource protection measures within the overall planning process are a lack of timely natural resource data and the need to address more immediate concerns. In Connecticut, conservation commissions are charged with doing natural resource inventories. However, since conservation commissions are usually combined with inland wetland commissions, whose major responsibility is to review all subdivision applications, inventory work is perennially left undone. With regional land values doubling every two and a half years during the 1980s, inland wetlands commissions have been kept busy.

There is widespread feeling in the region that now is the time for towns to do inventories and planning. Growth in the area and improvements to Route 6 have the potential to change the area dramatically. Some towns have responded by revamping their master plans to allow for more creative zoning, or requiring a conservation easement, as part of a development, to maintain valuable open land or provide public access to a waterway.

Local conservation efforts

Several towns in the QSR are addressing natural resource issues through conservation, planning and management initiatives:

* Plainfield, Killingly and Woodstock have established conservation commissions, separate from the towns' inland wetlands boards;
* Plainfield has initiated open space and recreation planning;
* Hampton is working with Earthcare, a local conservation group, and Joshua's Trust, a land trust, to seek protection of the Little River by acquiring easements for conservation land;
* Killingly recently purchased 100 acres near the town center for conservation and recreation.

Local land trusts are also actively involved in preserving lands. As of 1988, the Joshua's Tract Conservation and Historic Trust (formed in 1966) was responsible for the stewardship of approximately 1,000 acres of land. In addition to keeping land open for conservation purposes, the Joshua's Trust also makes many of its holdings available for hiking.

The Wyndham Land Trust (formed in 1975) is currently responsible for stewardship of about 260 acres of land. Many of its easement holdings are along the upland farmlands along the Quinebaug River corridor.

The Quinebaug Rivers Association, Inc. (organized in 1986) functions as a watershed association and land trust for the Quinebaug River Basin of eastern Connecticut and south-central Massachusetts. In addition to its river and riverbank protection activities, the QRA provides a forum for various river users, and was instrumental in forming the Heritage Corridor Advisory Committee.

Other groups are more local in scope, such as Earthcare, which is working to conserve the Little River corridor (a Shetucket tributary) in the Town of Hampton.

Regional Planning

* The 24 towns in the Quinebaug-Shetucket study area are serviced by three regional planning organizations: Northeastern Connecticut Council of Governments; Windham Regional Planning Agency; and Southeastern Connecticut Regional Planning Agency. Each provides assistance to member communities in environmental, land use, transportation, and solid waste planning.

* The Heritage Corridor Advisory Committee (established in 1988), includes historians, river users, governmental officials and members of the business community, and was formed to work with its Congressional delegation toward obtaining heritage corridor designation for the Quinebaug and Shetucket River Valley.

  The committee has assisted NPS in its study of the region by collecting data, preparing historic inventories, and providing contacts and insights into the dynamics of the region. The group has recently become a subcommittee of the Northeastern Connecticut Council of Governments and is pursuing activities in the areas of land acquisition, tourism, education and recreation programs and economic development.

* Eastern Connecticut Resource Conservation and Development Area, Inc. (RC&D) A provision of the National Food and Agriculture Act created the RC&D program, which is administered by the Soil Conservation Service. The program was created in 1968 to help local citizens develop and implement social, economic and environmental action plans, and is a joint effort of federal, state, regional and local agencies. CT DEP sponsors the project in cooperation with the 5 soil and water conservation districts and the regional planning agencies. The program sponsors several committees and programs:

  -- Rural Conservation Development Committee, which focusses on coordinating assistance among federal and state agencies in implementing rural-related programs.
  -- Agricultural Committee, which focusses on sustaining and expanding a viable agricultural enterprise in Connecticut.
  -- The Eastern CT Environmental Review Team (ERT), which helps towns and developers review sites proposed for major land use activities, identifying the natural resource base of the project site and highlighting opportunities and limitations for the proposed land use.
  -- Connecticut RC&D Forestry Program, which focusses on promoting and sustaining forest resources and the forest industry.

RECREATION RESOURCES

The QSR's historical and natural resources provide recreation opportunities for hikers, boaters, fishermen, equestrians, bicyclists, history buffs, photographers, bird watchers, naturalists, school groups, antique hunters, bed & breakfast guests, Sunday drivers, museum-goers, and families out for a pleasant excursion.

These resources include not only the river corridors, but agricultural and forested uplands, historic sites, and a variety of other recreational and commercial attractions. While it is beyond the scope of this study to include them all, this section highlights a few to demonstrate the region's potential for further recreation development.

River Uses

During much of their history, the Quinebaug and Shetucket Rivers have been viewed as sources of power and outlets for industrial and human waste. In recent decades, as the mill industries have departed and municipal sewage treatment plants have been constructed, the rivers have become significantly cleaner, but negative perceptions persist. Consequently, the rivers' recreation and scenic potential are often overlooked or underutilized.

Fishing

Before the days of dams and industrial exploitation, both rivers provided extensive fisheries for shad and Atlantic salmon. Today dams prevent their migration, but many "hot spots" for freshwater fishing, primarily for trout, remain. A CT DEP Bureau of Fisheries study describes the rivers' free-flowing sections as among the five most important large trout streams in Connecticut. Several tributaries, including the Willimantic, Natchaug, Little, Moosup, Yantic and Five Mile Rivers, are also counted among Connecticut's major trout streams.

Boating

The Quinebaug and Shetucket Rivers are navigable by canoe and other car-top boats, offer primarily flatwater and quickwater paddling, and are extensively documented in regional canoeing guidebooks. For 15 years, the Shetucket has been the site of an annual 12-mile canoe cruise and race, a two-day event that draws over 100 canoes. (The event depends on the release of flow from the upstream Mansfield Hollow flood control dam.) Several hydropower dam sites include improvements for canoe carries (portages) around them.

Hydropower

The Quinebaug and Shetucket Rivers powered the region's early industry. Extensive sections of both rivers are impounded by dams -- 8 on the Quinebaug and 5 on the Shetucket -- and contain remains of non-functional dams. Federal licenses for hydropower development have been issued for several dams in recent years, and hydropower generation is likely to remain an important use of the rivers.

In many cases, small, independent companies have applied for permits to redevelop existing hydro sites. Currently, licensing requires applicants to provide for public access and recreation and to work with several federal and state agencies, such as the Federal Energy Regulatory Commission (FERC) and the State Historic Preservation Office (SHPO). SHPO reviews and comments on the project's effects on the historic/archeological importance of the site under section 106 of the National Historic Preservation Act of 1966.

Hydropower sites can be part of education or interpretation programs, particularly when historic, old industrial and engineering components are rehabilitated and incorporated into the development.

Historic Sites and Scenic Settings

Mill Villages: Nineteenth-century industrialists built mills that were not only functional but architecturally impressive. These huge structures visually dominate their villages and provide a focal point for the community and the visitor. Likewise, the mill housing and commercial buildings that make up the villages surrounding the mills have historical, architectural and social interest; many have dramatic, scenic settings along rivers with their waterfalls and dams.

Hill Towns: The older agricultural hill towns, as well as several historic sites, are dispersed throughout the upland sections of the QSR. They are important components of the region's history and landscape, and are potential focal points for recreation and interpretation, particularly when linked with nearby mill villages.

A tour guide by the Association of Northeastern Connecticut Historical Societies, Inc. describes the historical resources of eight QSR towns along Routes 16 and 12. Individual historical societies, such as Plainfield Historical Society's "A Drive through History," also produce driving and walking tours of important local historic sites.

Museums and historic sites

A brochure by the Museums of Northeast Connecticut describes several museums and historic sites to explore in the region. One of its special sites, the Windham Textile and History Museum in Willimantic, interprets the evolution of the American textile industry, the ethnic and social history of mill workers, and textile production process.

Special places

The Northeast Connecticut Visitors District produces and distributes several guides for local people and visitors to use in touring the area. The QSR abounds with country inns and bed & breakfasts; antiques and crafts shops; and horticulture-related industries, such as nurseries, orchards, farms and farm markets, greenhouses, wineries and herb gardens.

Public Recreation Areas

State Forests and Parks

State-owned lands contribute to the region's rural and forested character and provide additional recreation opportunities:

* Pachaug State Forest (23,115 acres)
* Natchaug State Forest (12,941 acres)
* Mansfield Hollow State Park and Wildlife Management Area (2,328 acres: owned by Army Corps of Engineers and leased to state of Connecticut)
* James L. Goodwin State Forest (1,820 acres)
* Nathan Hale State Forest (1,215 acres)
* Waldo Tract (75 acres), borders the Shetucket River.

West Thompson Lake

West Thompson Lake, a flood control project administered by the Army Corps of Engineers, is near the northern end of the Connecticut section of the Quinebaug River. In conjunction with this facility, the Corps also maintains a campground and boat ramp. It is the only publicly-owned boat ramp on the Quinebaug River and, depending on river height, provides access to large sections of the Quinebaug River upstream of the West Thompson Dam. Canoeing runs from the West Dudley Hydro dam in Massachusetts downstream to the boat ramp are popular in spring. The total area in federal ownership is about 1,800 acres and includes nearly six miles of river corridor. Compared to the rest of the Quinebaug River, this area receives intensive recreational use.

Quinebaug Management Area

CT DEP's 1,219-acre Quinebaug Management Area between Wauregan and Canterbury is a key open space resource along the Quinebaug River. The management area includes nearly six miles of river corridor and surrounding uplands in two disjunct sections; and contains a major state fish hatchery, an important attraction and source of fish for stocking.

Trails

The Blue-Blazed Hiking Trail System provides over 500 miles of scenic trails in Connecticut. Established by the CT Forest and Park Association since 1929, these trails are maintained through the efforts of volunteers and the cooperation of landowners. Two trails -- the Nipmuck and Natchaug trails -- are in the QSR. Additional Blue-Blazed trail sections are within the Pachaug State Forest. While generally within existing State parks and forests, many trail sections also cross private lands. Designated areas along the trails offer backpack camping.

Connecticut DEP owns four abandoned railways within the study area:

* Airline State Park Trail (21 miles) extends from Willimantic to near Putnam and links with the Goodwin Forest. It is part of the multi-state Southern New England Trunkline National Recreation Trail (NRT) and links the Quinebaug and Shetucket River corridors near their northern ends.

* A second trail extends from Moosup east to the Rhode Island state line, where its continuation is a maintained and recognized recreation trail, the Moosup Valley State Park Trail.

* Hop River State Park Trail runs west out of the study area from Willimantic toward Hartford, roughly parallel to Route 6.

* Airline State Park Trail South runs southwest from Willimantic and provides a potential linkage with the Salmon River State Forest and the Hop River State Park Trail.

A fifth abandoned rail right-of-way, another part of the former Airline Railroad, extends from Putnam northeast to the Massachusetts state line. This section, which was recently transferred from CT DOT to DEP, will link with the Massachusetts section of the Trunkline NRT. All abandoned railways now function as undeveloped trailways with cinder surfaces, are without developed facilities, and are largely un-maintained.

Potential Recreation Areas

In addition to already-dedicated open space lands, there are de facto state-owned open spaces that could serve as recreation areas. These include the Danielson Airport, which encompasses over a mile of riverbank along one shore of the Quinebaug, and DOT-owned lands south of Putnam with nearly two miles of Quinebaug shoreline.

A nine-mile segment of the Quinebaug River is listed on the Nationwide Rivers Inventory (NRI). The NRI segment, extending from above Aspinook Pond upstream to Wauregan, may qualify for further study and/or inclusion in the National Wild and Scenic Rivers System under the National Wild and Scenic Rivers Act (Public Law 90-542). The values that merited its inclusion in the NRI are its scenic characteristics, its historic importance related to the Wauregan mill and village complex (listed on the National Register of Historic Places), and its importance as an historic American salmon fishery.

The Shetucket River is paralleled for over ten miles by a single-track railroad bed, a section of the Providence and Worcester Railroad that is currently owned by the State. The railroad right-of-way follows the northeast shoreline within about 500 feet, and includes some access to the riverbank. A proposal is pending to convert this line to a light-rail tourist service, operating out of a base in Willimantic.

CONSERVATION STRATEGIES

> "You have to look at the mixture that nature and history have given you, and not set a level of purity and ignore anything that falls short. How we treat our working land, the land that has produced for us, is a better measure of our society and of our future than how we treat the few pristine places we have left."
>
> The New Yorker, "Thorne Moors," February 4, 1991.

Two non-federal conservation strategies were developed to help protect and enhance the natural, cultural and recreation resources of the Quinebaug-Shetucket region. While both strategies have common elements, the management structure, who leads it, and what can reasonably be accomplished through that structure differs.

These common elements are discussed as well as some of the federal programs and technical assistance available to the region.

STRATEGY ONE

Goal:

Build on the momentum established by the Heritage Advisory Committee to develop evolving public/private partnerships, plans and strategic projects for the region.

Management Structure:

The Heritage Advisory Committee would develop partnerships with state, local and private organizations and individuals to develop and implement plans, programs and projects within the region. The Committee, through its partners, would promote a variety of initiatives related to clearly defined regional goals. No special legislation would be required to establish the partnerships, but the Committee would become a non-profit organization, capable of entering into legal contracts and accepting funds.

The Committee would develop an action agenda -- a focussed program of yearly activities and projects. While many activities, such as historic inventorying or development of a region-wide land protection or interpretive plan would necessitate a multi-year approach, the Committee would focus primarily on visible and tangible products for the public, such as publications, exhibits, signage, park development and river access, nature and heritage trails, rehabilitation of historic buildings and "Main Street" revitalizations.

Benefits:

* Locally controlled organization, which initiates and manages local programs and activities through partnerships.
* Flexible, evolving partnerships and priorities based on opportunities and funding sources.
* Independent of any one funding source for continued operations.
* Ability to act quickly.

Costs:

-- No cost to federal government.
-- No cost to state government.
-- Committee continues to operate as a volunteer organization with minimal operational expenses, which could be shared by the area's three regional planning agencies. Committee seeks grants and financial and technical assistance from various public and private sources for specific projects.

Next steps:

-- Advisory Committee becomes non-profit organization.
-- Advisory Committee restructures to become more formal organization.
-- Committee develops action agenda for the year, develops cost estimates for agenda items, and seeks financial and technical assistance from public/private organizations.

STRATEGY TWO

Goal:

Build cooperation and consensus between state and local government regarding the future of the QSR as a special heritage area.

Management Structure:

The Governor, through State Executive Order or legislation, would designate the QSR a special heritage area and appoint a committee to focus state, local and federal efforts in the region.

The committee would represent key state, regional and local officials and citizens representing the power centers and interest groups needed to implement projects and programs in the region. The committee would be a catalytic organization and play a crucial role in developing a regional vision for resource protection and management, appropriate economic development and planning, interpretation and heritage tourism. The committee would be responsible for forging partnerships, developing a regional action agenda and advocating its incorporation into state, regional and local master plans.

The committee would build coalitions, set priority actions, encourage the completion of state heritage park plans and other state and regional initiatives, develop programs that promote the goals of the heritage area, and identify and actively pursue various sources of assistance and funding. While endorsed by the Governor, the committee would operate as an independent entity and work cooperatively with interested communities in the region, thus remaining flexible and creative in seeking opportunities and willing partners to achieve its goals.

Within two years of appointment, the committee would develop a comprehensive action agenda for the designated area and submit it to the Governor for review and approval. Upon approval, the action agenda would direct the activities of the committee.

The action agenda would consist of historic and natural inventories and other resource data, priority projects and programs, a strategy for implementation, consistency requirements to protect and manage the region's important resources, and economic development plans consistent with resource and protection.

Benefits:

* Formal recognition and designation by the state.
* Better state-local communications and coordination of projects and programs within the QSR.
* Region would have stronger voice at State House.

Costs:

-- No cost to federal government.
-- Costs to state government for yearly operations of committee: approximately $250,000 to provide staff assistance and seed money to jump start partnership projects.
-- Committee would develop grant requests and pursue development funds through existing federal, state and private programs.

Next steps:

-- Heritage Corridor Advisory Committee (HCAC) meets with Governor to discuss designation and establishment of committee.

-- HCAC drafts legislation for Governor's use.

-- HCAC submits list of potential committee members for Governor's consideration.

COMMON ELEMENTS FOR BOTH STRATEGIES

Both conservation strategies reflect common objectives and assumptions:

1. The QSR is a special heritage area.
2. The QSR has an important story to tell.
3. The QSR has great potential for recreation.
4. The QSR needs state-local cooperation to plan for its future.
5. The QSR needs a political spotlight.
6. The QSR needs working partnerships.
7. The QSR needs long-term commitment.
8. The QSR needs private as well as public funding.
9. The QSR needs to build on past and on-going initiatives.
10. The QSR needs a management focus.

1. The QSR is a special heritage area.

The region has a special character and quality. The QSR is defined by compact mill villages along its rivers, New England hilltop communities, and a rural landscape of forests, parklands and farms.

These characteristics, along with historic sites and stories associated with America's early industrial development, make the QSR distinct from other parts of Connecticut. People living and working in the region want to protect their natural and cultural resources. At the same time, people want to encourage economic activity in the region that enhances that quality of life and preserves the area's important natural, historic and recreation resources.

Both strategies focus attention on the region as a heritage area and call for public and private sectors to work together to preserve its character.

2. The QSR has an important story to tell.

Preserving the QSR cultural landscape is important to understanding America's early industrial development, and provides lessons for our future regarding the environmental and economic revitalization of a region abandoned by industry.

Historians and tourism organizations are working to develop a unified interpretive story and programs for the region, integrating the story of the mill villages and industrial era historic sites with the area's natural assets.

Good interpretation relies on having resources accessible to the public. Both strategies recommend communities completing historical and archaeological surveys, developing local historic district zoning through the State Historic Preservation Office, and nominating qualified historic resources to the National Register of Historic Places or as National Landmarks to obtain recognition and better assistance and protection for important historic sites.

Both strategies advocate the continued development of the State Heritage Park program in the region. Heritage park sites could serve as focal points for a wide range of activities, including environmental conservation, recreation development, economic development, interpretation and tourism.

3. The QSR has great potential for recreation.

The rivers and riverbanks, state and local parks and forests, historic sites, winding country roads, inns and other attractions make the QSR ideal for many active and passive types of recreation.

People in the QSR want to promote recreation and public access to underused recreation resources; broaden use of the region's river corridors, parks and forests, and make other resources more accessible to the public.

Both strategies recommend developing a greenway of linked natural and historic sites to help preserve natural resources, provide close-to-home recreation opportunities, buffer existing parks, and improve people's experience and appreciation of the QSR's cultural landscape and to help planners and decision-makers determine where growth and development should occur.

Specific greenway recommendations are included in the "Future Action" section.

4. The QSR needs state-local cooperation to plan for its future.

Preserving the region's quality of life and valuable resources depends on a strong regional economy. Environmentalists, town governments, business and tourism communities recognize the importance of enhancing the economic base for towns in the region while protecting the very resources that first attracted new residents and industries.

Both strategies recommend developing a consistency agreement between state and local governments. This agreement would address issues of tourism development activities, state park planning and land acquisition, environmental protection and clean-up activities, historic rehabilitation initiatives, job training, economic development initiatives, and issues such as landfills, hydropower facilities and waste treatment facilities.

Both strategies recommend developing an economic development strategy that encourages industries and businesses to reuse mill complexes and historic structures and to occupy town centers to help revitalize the QSR communities, and facilitates the planning and permitting for new industries in less sensitive areas.

5. The QSR needs a political spotlight.

Recognition of the QSR as a special heritage area is an important first step in focussing efforts and attracting public and private investment in the region.

Both strategies recommend state heritage designation, additional state support, and targeting of people, programs and funding to the region.

6. The QSR needs working partnerships.

Effective, broad-based partnerships -- combining public and private energy -- are necessary to protect the QSR and to share expertise and funding to accomplish program goals.

Both strategies recommend the continued active support of local groups, such as the Heritage Advisory Committee, Quinebaug Rivers Association, regional planning agencies, and Northeast CT Tourism District. Both strategies' committees would actively encourage the state to maintain and support existing organizations, staff and programs vital to the protection, enhancement and interpretation of the region's important resources.

7. The QSR needs long-term commitment.

Long-term, consistent commitment by partners is required to implement regional plans and programs. This requires partners to enter into formal agreements and incorporate consistency components in all plans so that, despite changes in governments or economy, program goals and focus are well established.

Both strategies recommend developing state consistency legislation and land protection strategies for the region. In particular, legislation could require, prior to the licensing of landfills, disposal sites or power plants, an analysis and review of the impact of such projects on the key resource values and interpretive themes of the QSR.

8. The QSR needs private as well as public funding.

Private funding and private sector involvement in regional plans and programs are required to successfully achieve resource protection, recreation development and economic revitalization in the QSR.

Both strategies require adequate operational and development funding to effectively accomplish goals and objectives. The QSR is a 24-town region with complex and diverse resources. Funding from various public and private sources and commensurate with the geographic area and scope of programs is necessary.

9. The QSR needs to build on past and on-going initiatives and organizations.

It is critical to recognize previous efforts by state, regional, local and private groups and to base future plans and programs on successful work done to date or currently underway. While this report highlights only a few of these works, both strategies assume a thorough understanding and incorporation of applicable plans, reports and thinking for the region.

While much data already exists, it is not always widely distributed or in a readily usable form. Both strategies advocate communities and state agencies completing necessary research or inventories as a first step toward resource protection. The review and preparation of this information would be developed as a way for communities to focus on actions, not simply for the sake of doing a report. Local and state data would be the backbone of a comprehensive, strategic management and action agenda for the region.

Both strategies recommend the coordinating committees to strongly encourage their state representatives and Governor to implement existing plans, prior commitments and programs for the region, such as:

-- Environment 2000, which identifies the state's priority environmental issues and sets the agenda for Connecticut's environmental programs -- leading to policy and program development, legislative and regulatory proposals and budget requests;

-- the State Heritage Park program in Willimantic and Norwich.

10. The QSR needs a management focus.

Both strategies require a management focus. Partnerships are, by their very nature, complex; they depend on commitments and actions by numerous parties rather than relying on a single agency or individual to carry out the agenda.

Clear objectives can help coordinate action, but some group must act as the nerve center. Priorities must be set, meetings convened, opportunities communicated and responsibilities shared. Planning should proceed at the right pace, neither a drag nor a scramble. Planning cannot get far ahead of local willingness and ability to be effective. It is not realistic to expect an infusion of funds so large that this principle can be overcome. Therefore, both strategies recommend formally establishing a regional organization to take the lead.

FEDERAL ASSISTANCE

Various types of federal assistance, ranging from technical to financial, are available to continue and augment the conservation and preservation work in the Quinebaug-Shetucket region. The Heritage Corridor Advisory Committee could become a non-profit agency and apply directly to these programs, or serve as a catalyst for local communities and other organizations seeking available assistance for resource protection.

Most federal assistance programs operate through state government offices, and applications are made through the designated state authority. Many programs require matching funds and/or services.

Listed below are some programs relevant to QSR interests and activities.

Historic Resources

* Through the Connecticut Historical Commission, limited grant funds are available from the National Historic Preservation Fund/Grants-In-Aid program for surveys, planning and technical assistance that contribute to historic preservation, and for nominating resources to the National Register of Historic Places. Grants are made to non-profit organizations and municipalities.

* The "Historic Assets Fund" provides funding for the restoration and rehabilitation of historic resources that can generate quality tourism. Funding is provided through the Connecticut Economic Development Office.

* Other funding and technical assistance grants for historic resources can be sought through Connecticut state government offices and through the National Trust for Historic Preservation regional office in Boston, Massachusetts.

* The National Foundation of Arts and Humanities and the National Endowment for the Humanities have grants available for related public information projects including exhibits, educational programs, regional theatre and public media. These types of grants could be used to educate the public about the QSR's cultural landscape and the need to preserve its resources.

Natural and Recreation Resources

* Land and Water Conservation Fund grants are available through the State Liaison Officer (CT DEP's Commissioner) and can be used for a wide range of outdoor recreation projects, such as parks, trails, boat launching ramps and support facilities. Some planning and technical studies that are related to the Statewide Comprehensive Outdoor Recreation Plans (SCORP) could also be requested. The State Liaison Officer applies for acquisition and development grants on behalf of other state agencies or political subdivisions.

* The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 seeks to integrate transportation with other community goals and has set aside funding for safety and transportation enhancement activities. Trail development and bicycle and pedestrian projects that are related to greenway development in the QSR could qualify for this funding. Applications are made through the regional planning agencies.

Conclusion

Additional federal assistance information is available from the "Catalog of Federal Domestic Assistance" or from related state and regional agencies administering the programs.

While there are limitations to the funding and requirements surrounding applications for assistance, the QSR has begun to develop a strong regional support system that can help local communities find assistance for their resource protection efforts.

FUTURE ACTIONS

The Quinebaug-Shetucket region abounds with historic, natural and recreation resources. Private organizations, state and local governments and individuals are working in the areas of environmental conservation, historic preservation, recreation development and tourism; but recognize the need to coordinate and link their efforts. At public workshops during the study, people voiced three major needs:

* preserve resources,
* make them more accessible to the public, and
* coordinate individual efforts with other organizations and governments.

As part of the study, NPS explored the area's potential for developing a greenway system to meet public needs and enhance on-going efforts and initiatives. The Conservation Strategies describe "next steps" for the Heritage Advisory Committee; this section describes greenway actions that can be taken by the Committee, local groups, towns or state government.

Definition of a Greenway

A greenway is a series of protected open spaces, connected through trails and other means, to provide necessary ecological corridors for plant and animal species and make historic, natural and recreation sites available for public enjoyment. This study focussed on the historic preservation and recreational aspects of greenway development; information about greenways as natural corridors can be found in the NPS publication, "The Ecology of Greenways".

While open space is disappearing at an alarming rate, there is more demand for close-to-home recreational sites. Surveys show that the more people use their resources, the more they care about them; and conservation efforts are enhanced when people feel a connection to their natural areas.

Generally, a greenway comprises parks, preserved areas, cultural and historic areas, open spaces and linear corridors; and includes anchor sites and linkages.

Anchor sites are nodes of historic, natural or recreation resources and may include:

* cultural centers and historic sites/districts
* publicly-owned forests, parks and management areas
* population centers in villages and cities.

Greenway resources are unified by physical linkages across the landscape, and by thematic linkages based on common historical events, trends or movements.

Physical linkages may be walkways, bikepaths, waterways, trails, scenic roads, or continuous parklands. Thematic linkages may take the form of uniform signage and brochures from site to site, interpretive and education programs, self-guided driving tours, and coordinated programs and events among sites.

Greenway Goals

Developing a greenway requires a coordinated approach to preserving and interpreting resources and making them accessible to the public. Goals for the QSR include:

1. Unify and interpret historic, natural and recreation sites as anchors in the greenway system.

2. Develop linkages among sites.

3. Protect landscapes surrounding key greenway resources.

An essential aspect of each greenway goal is to provide adequate and attractive access to resources.

-- Swimmers, boaters, fishermen need access to waterways.
-- Picnickers, hikers and campers need access to shorelines.
-- Bikers, hikers, walkers and equestrians need access to trails.
-- Local people and visitors need visual access to scenic areas.

Similarly, QSR people need better access to historic sites and structures. Access need not mean that every historic structure be open to the public, but that visual and "walk by" access is encouraged, and that important sites be made available to the public wherever possible.

The following section describes, through examples, how these goals could be realized in the QSR.

1. Unify and interpret historic, natural and recreation sites as anchors in the greenway system.

Urban Walkways

Establish a pedestrian route or "heritage walkway" within mill villages to make the historic, cultural and natural resources more accessible and to unite key sites. The walkway could link the riverfront with a mill site, mill housing, historic structures and other local attractions that give a town its special character.

Interpretive Programs

To accompany the walkway, develop an interpretive program: signs, markers, guided walks and self-guiding brochures. Develop a contact station (library, museum, historical society, historic building, visitor bureau, etc.) to provide information and be a point of origin for the mill village tour.

Three towns in the QSR have great potential for developing urban walkways: Willimantic, Putnam and Danielson.

Willimantic. Pursuant to Public Act 87-463 of the Connecticut General Statutes, CT DEP is establishing a state heritage park system to recognize, preserve and interpret the historical and cultural heritage of many older communities; to provide additional recreation opportunities; and to foster economic revitalization by encouraging private sector investment and tourism. A statewide study recommended six locations for state heritage parks; two sites, Willimantic and Norwich, are in the QSR.

Plans for the Willimantic state heritage park are underway to develop a park with waterfront promenade along the north bank of the Willimantic River and adjacent to the former American Thread Company mill complex. The park and the adaptive reuse of the mill are major elements in the economic renewal of the city. The park will link with the Windham Textile and History Museum, which in its present and proposed expanded future form, will serve as the park's museum/visitors center. Other possible linkages are with the town's Recreation Park downstream of the Thread Mill Complex and upstream with the proposed Railroad Museum and Downtown Willimantic. Exhibits and oral and written histories are also being developed to complement the existing interpretive and archival facilities at the Windham Textile and History Museum. Interpretive themes include waterpower, development of the threadmaking industry, and the social history and the economic context of industrialization.

Putnam. Existing walkways in Rotary Park could be extended to form a loop trail along both shores of the Quinebaug River, embracing the Morse, Powhatan, Rhodes and Nightingale mill sites; Town Hall; the bridge overlooking Cargill Falls; Veterans' Park; and recreation areas along the river. The walkway could extend south along the river to Simonzi Park, and potentially beyond, continuing as a riverside hiking trail. Within the town center, the walkway could interpret the local mill industry and the 1955 flood history.

Danielson. Currently, pedestrian access to the riverfront is impeded by a heavily-trafficked highway and traffic circle. CT DOT has begun a highway realignment project in the area to simplify and improve traffic flow and eliminate the traffic circle. Plans include moving the highway farther from the river and altering, removing or reconstructing three bridges in the immediate vicinity. Town officials have worked with DOT to incorporate a local park and walkways into the road and bridge designs to provide better pedestrian access to and use of the riverfront. The town and state are working together to coordinate their planning, which will result in improved regional transportation and a regained important amenity for two communities.

2. Develop linkages among sites.

Several town recreation plans (Brooklyn, Killingly, Mansfield and Putnam) emphasize access to the rivers and a linked system of open space along rivers and tributaries. Plans recommend maintaining riverfront open space to provide additional recreation areas and prevent further development in areas that could be endangered by flooding.

Recreationways and hiking trails

Several opportunities exist for developing riverside trails along the Quinebaug and Shetucket Rivers. Existing informal trails or woods roads parallel the banks in many places. With the exception of the mill villages, much of the Quinebaug River shoreline is undeveloped woodland and floodplain, interspersed with some agricultural use, and paralleled by a railroad at its southern end. The Shetucket River includes more residential development near its shoreline, and is paralleled by railroad lines for much of its length. Nonetheless, much of the river corridor is green, and a continuous trailway between the railroad and river could be explored further.

Most QSR trailways are within State-owned parks or forests; however, Blue-Blazed Trails also cross private land. While public ownership affords the best long-term protection for trail corridors, key linkages may also be made through trail access easements and conservation easements on land remaining in private ownership. Public Act 249 (of the 1971 General Assembly) limits liability for landowners who open their lands to recreational use without charging a fee.

A potential recreation trailway is the largely intact and abandoned interurban trolley route between Danielson and Wauregan. This two-mile stretch along the Quinebaug River trail could be developed to accommodate bicycles or other non-motorized use. By preserving open lands surrounding the trailway, the area could have a riverine park or preserve over five miles long and be immediately accessible from two population centers and several neighborhoods.

Tourist train linkage

Light-rail tourist train service along the Shetucket River (on the existing State-owned railroad bed) could be a special part of an overall greenway system. Much of the river corridor traversed by the railway is scenic and undeveloped; trains could provide interpretive guides, dining and other services as package tours or as special events. Although continued rail use is probably most appropriate for this corridor, interim trail use of the railroad grade could be considered if active rail use is infeasible.

Canoe routes

At present, most boating access to the Quinebaug and Shetucket rivers is informal. Guidebooks list most access points at bridge crossings on public roads; some additional access is available from private campgrounds. The only publicly-owned boat ramp on the Quinebaug River is at West Thompson Lake; there is no comparable site on the Shetucket. A more formalized system of canoe (or other cartop boat) launches could provide greater access and use of the river corridors. Where appropriate, access could be linked with camping sites.

Rapids, falls and dams are plentiful on the Quinebaug and Shetucket Rivers. Well-sited and attractive canoe portages are critical to the safety and enjoyment of canoeists. Communities with dams could incorporate plans for portages into other plans for riverfront access. In some places, it may also be possible to combine the design of canoe portages with fish passages around dams, providing an exciting, innovative and safe alternative to the traditional "shoulder" carry, in addition to allowing fish passage to their traditional spawning grounds.

Regional Linkages

Additional linkages could unify resources on a larger, regional scale, as well as link the QSR more effectively with recreation resources outside the region. As described elsewhere, many of these linkages already exist and include the State-owned railroad corridor (with tracks) and rail trails, the Blue-Blazed Trails, and tributary rivers and streams throughout the region. Regional linkages could also include bicycle tours along lightly-traveled roads or off-road bikeways.

Since most people travel to recreation areas by automobile, the character of roadways linking sites greatly affects the visitor's experience. The Association of Northeastern Connecticut Historical Societies worked with the state DOT to designate Route 169 (the Old Norwich-Woodstock Turnpike) a Scenic Road. Interpretive guidelines could be developed utilizing designated scenic roads to help direct traffic use and protect the region's scenic roadscapes.

3. Protect landscapes surrounding key Greenway resources.

The landscapes surrounding the hill towns and mill villages form scenic backdrops to the historic, natural and recreation resources, and enhance their integrity and appeal. Preserving individual sites is important, but preserving sites in their context is the long-term goal of the QSR. As the history section describes, it is the total landscape that gives this area its identity and importance.

If the QSR is to retain and enhance its regional identity, future development must enhance, not destroy, the very scenic, historic and natural characteristics that make it special. Numerous mechanisms exist to protect resources and viewsheds; a few are listed below.

Village Ordinances

Facade ordinances could preserve the visual integrity of historic buildings along a "heritage walkway." These ordinances encourage private owners to maintain the historic appearance of building fronts. Other ordinances and design guidelines can encourage appropriate street furniture, including signs. Many towns suffer from a proliferation of haphazard, overly large and poorly designed signs. Developing attractive, consistent, well-placed signs for historic districts and Main Streets could greatly enhance the appearance of all QSR towns and their architecturally significant buildings.

Visual Screening

In some areas landforms, vegetation or appropriate fencing can buffer contrasting land uses and incompatible development (recreation vs. industry, for example). Eyesores -- such as sand and gravel operations, landfills and auto junkyards -- could be screened during operation and prior to reclamation efforts.

Conservation Lands

Several area groups -- Quinebaug Rivers Association, Inc. (QRA), Joshua's Trust, Wyndham Land Trust, and Earthcare -- are preserving open space, lands that could become part of a greenway system. Organizations like the QRA could systematically work with towns to incorporate river access into their recreation plans and local ordinances. Towns could increase their cooperation with these organizations to better meet local and regional preservation and recreation needs.

Conservation Easements

In many cases, scenic character can only be protected by preserving or limiting certain types of land use. For example, to protect the historic integrity of a hill town, it may be necessary to preserve the surrounding open fields and hilltop vistas, or the nearby fields, woods, stone walls and tree-lined country roads. In such areas, a coordinated program of conservation easements could preserve specific parcels of land where preservation needs are most critical. It may be possible to combine conservation easements with "limited development," where only specific portions of a parcel are accorded new development and the remainder is placed under easement.

Local Zoning

Good zoning is the key to maintaining and improving an individual town's character. Zoning can steer development toward certain areas and away from others. It could for instance:

-- encourage small businesses to locate in town centers rather than in mini-malls, thereby reusing the town's existing building infrastructure and contributing to a livelier downtown;
-- provide nodes for commercial development rather than allow strip development;
-- restrict development along river corridors to protect water quality and afford more public recreation opportunities.

Municipal Parks

Several municipal parks are sited on riverfronts. While most are limited in acreage and serve local recreation needs, they could be incorporated into a broader greenway network of parks and trails.

Conclusion

Developing a greenway in the QSR is not without challenges. Incompatible land uses and regional growth pose many problems and occasional opportunities. Mined lands, landfills, polluted industrial sites, sewage treatment plans, toxic waste sites, proposals for resource recovery plants, and a general trend toward sprawling residential and commercial development contribute to the disappearance or degradation of valuable resources. QSR town and state officials need to work cooperatively to resolve land use problems: to consider local greenway goals as well as regional needs.

Nonetheless, the Quinebaug-Shetucket region has the ability and support needed to develop a greenway system. The 1991 Annual Report of the Connecticut Council on Environmental Quality focused on "Greenways for Connecticut" and has identified the QSR as a possible

greenway project area. The Heritage Corridor Advisory Committee has also appointed a subcommittee to develop a greenway by coordinating regional efforts, establishing partnerships, and assisting local communities plan and implement individual segments of the greenway.

In addition, NPS is providing technical assistance to three communities in the QSR - Norwich, Killingly, and Mansfield - to complete conceptual designs for their segments of the greenway system, and is funding an historic resources inventory to be used in future planning.

Several of the actions described here can be carried out at relatively low cost by local communities or groups, or as cooperative ventures between communities. As more and more local efforts are realized, a greenway system will begin to take form.

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