The Great Meadows of the Connecticut River

Glastonbury, Rocky Hill & Wethersfield,
State of Connecticut

A Review of Its Resources & Recommendations for Its Protection & Preservation

EXECUTIVE SUMMARY ONLY

Prepared for
The Great Meadows Conservation Trust, Inc.

by
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CHAPTER 1

EXECUTIVE SUMMARY

This Executive Summary provides an overview of the inventory and analysis conducted for this study and includes some recommendations to be considered for the future planning of the Meadows. More detail of the components discussed in this chapter can be found in the following chapters of this report. The assessment and recommendations of this plan focus on proper landuse practices, wildlife and water quality management, historical and cultural preservation, and recreational activities. After an initial assessment of these individual issues, strategies for management and protection were considered for the Great Meadows as a whole.

ASSESSMENT

An assessment of the key issues relating to existing land uses and natural and cultural resources are described in this section. Figure 1.1 (p. 13) displays general land use conditions in the Meadows as well as displaying natural resources, important cultural and historic resources and public access areas. The resources shown on this map contribute to the unique character and natural diversity of the Meadows.

Existing Conditions

LAND USES

Glastonbury, Rocky Hill, and Wethersfield are part of the Capitol Region Council of Governments and, as with the rest of the Capitol Region, have experienced rapid growth and development over the past 20 years. Although the Great Meadows, as part of a flood plain, are considered largely protected from development, this does not necessarily exclude them from the *effects* of encroaching development on the edges. Land use issues such as flood plain management and watershed management should both be considered when designing strategies for continued protection and management of the Meadows. Both approaches require gauging activities in the uplands for their potential impact on the lowlands. Increases in population and new development create a need for long term open space planning. As available open land declines and population rises, demand for access to reserved open spaces increases and pressure to balance conservation and public use of remaining areas become concerns.

All three of these towns are continuing efforts to balance the demand for residential land with community desires to protect existing open space for recreation, conservation, and farming. The town planning departments have implemented certain zoning and flood plain management regulations to help deter development in certain areas. Such regulations help the Meadows and reduce impact from development along the edges. However, there are some areas which remain unprotected by town regulations, and current development trends are cause for concern.

AGRICULTURE

These three communities share a strong agricultural heritage and farming is still a vibrant part of the local economy. Agriculture accounts for the majority of land use in the Meadows. Farming contributes both economically as well as culturally to these towns, and farmland holds significant scenic value giving these suburban towns a distinctively rural character. However, with recent growth and development trends, farmland, considered prime for residential development, has been subdivided in a number of places along the edges of the Great Meadows. With availability of farmland dwindling in the uplands, farmers are increasingly dependent on the fertile flood plains of the Meadows for much of their crop production. In addition, one of the dangers of increasing residential development in traditionally agricultural areas is the potential for conflict between farmers and non-farming neighbors.

Permanent farmland protection is limited in the three towns. Overall, there is low enrollment in state or private purchase of development programs which would protect farmland from development (Goldberg, 2001). A few properties, which are currently leased by farmers, are designated town open space, and the Great Meadows Conservation Trust and local fish and game clubs also lease some of their protected land to farmers.

There are a number of options available in the state of Connecticut for preserving farmland. Some of these programs are the Open Space Acquisition Programs, Use Value Assessment, Right-to-Farm Laws, Connecticut Farm Viability Enhancement Program, Farmland Preservation Program, Environmental Assistance Program (Agricultural Waste Management Program), and the Joint State-Town Farmland Preservation Program (Working Lands Alliance, 2000). In addition, the USDA offers programs to assist farmers in soil and water conservation in return for financial benefits (USDA, Natural Resources Conservation Service, 2000). On a local level, municipalities can implement zoning ordinances to create agricultural overlay districts or other measures that guide development patterns in rural areas (Gibbons, 1999a). Finally, private initiatives, such as development rights purchases by land trusts or community supported farms, can also play a key role in protecting agricultural land and maintaining a viable agricultural community (Farmland Preservation Toolkit, 1999).

While opportunities exist for farmland protection, farmers are underrepresented in local conservation organizations as well as in town government. Cooperation may be possible between some of these groups if more of an effort is made to involve farmers and landowners in discussions about land protection.

NATURAL RESOURCES

The Great Meadows is a large inland wetland and a significant regional resource. The Connecticut River meanders through the Meadows shifting over time and depositing sediments into the expansive flood plain (MacBroom, 1998). The river has been recognized regionally, nationally, and internationally. The river is one of 14 American Heritage Rivers and the Silvio O. Conte Refuge Act established a U.S. Fish and Wildlife Service natural refuge encompassing the entire watershed. The Great Meadows has been listed as a special focus area to be targeted for natural resource protection as part of the Conte Refuge (US FWS, 1995).

Thanks to the efforts of the Trust, the section of river from the former oil tank farm in Glastonbury to the State Ferry landing in Rocky Hill has been listed in the National Rivers Inventory of the U.S. Park Service. This distinction makes this five-mile stretch eligible for nomination by Congress as a Wild and Scenic River.

There are a number of natural features that contribute to the unique character of this portion of the Connecticut River. Geologically, the Meadows are typical of the middle Connecticut River – the Connecticut River Valley Lowlands. Its basic characteristics include the soft, erodable sedimentary rock and interlayered deposits of hard traprock. Glacial forces have shaped the contour of the land, resulting in gently rolling valleys and the flat flood plain of the Connecticut River which is a remnant of ancient glacial Lake Hitchcock (Little, 1998).

Hydrologically, the Connecticut River is an alluvial river, which changes as the river channel erodes and redeposits sediment. The river floods regularly during the spring thaw, but has been known to flood every month of the year. As a natural storage basin for floodwaters, the Meadows help control flood levels for the surrounding areas, including Hartford. The water quality of the river has improved significantly over the past 30 years as a result of regional, state, and federal efforts. Formerly classified as a D grade river, the river now has a B grade rating and is considered safe for swimming and excellent for fish and wildlife habitat (MacBroom, 1998).

Ecologically, the Great Meadows feature a wide assortment of natural diversity. Three main ecological areas provide habitat for a variety of wildlife. These areas can be described as flood plain meadows, wetlands, and wooded riparian zones (Fabos, 1969; MacBroom, 1998). A number of endangered and uncommon species live in the Meadows. The Puritan tiger beetle and the shortnose sturgeon are endangered species. The Atlantic salmon is a federally endangered species, the great blue heron, black-crowned night heron, sea lamprey, blueback herring are all noted as species of special concern. The bur-head is a rare and endangered grass found along the borders of the Meadows, and the once endangered green dragon plant grows in the Meadows (CT DEP, 2000).

HISTORIC AREAS

This study inventoried existing historical and cultural features of the Great Meadows and areas directly bordering it. Particular attention was given to those areas that are both historically and culturally significant and whose protection would prove valuable for the Great Meadows as a whole. This assessment identified existing levels of protection of the inventoried resources and highlighted areas that might be threatened by development or land uses that are contradictory to the historical and cultural character of the study area.

At present, there are no formal town regulations in effect to protect the historic areas in Rocky Hill. There is limited protection in Glastonbury, while Wethersfield has a significant Historic District. All towns have sites that are listed on the National and State Registers of Historic Places, but these designations carry limited protection at the local level (Connecticut Historical Commission, 2000). In areas where no other protection exists, the towns must rely on the cooperation of current homeowners to protect the historic character of these homes.

PUBLIC USE AND ACCESS

Existing public uses of the Meadows include bird watching, hunting and fishing, horseback riding, biking, hiking, and motorized recreation. Access is limited to a few public entry points as well as by the periodic flooding conditions. In addition, agricultural activities and concerns for wildlife habitat protection are reasons more widespread recreational uses are not encouraged. Recreational activities tend to be restricted to town roads, a few small parks along the periphery of the Meadows, and land owned or managed by local game clubs. Some hiking and horseback riding occur on private land with permission of the landowners.

In response to recent demographic changes and increased development, long-range open space needs are being studied in all these towns (Wethersfield, 2000; Glastonbury, 1995a; Rocky Hill, 2001). As demand increases for reserving open spaces for conservation as well as for meeting the recreational needs of the community, there will be rising pressure for utilizing the Meadows to address some of these needs. Some recent town proposals include adding trails to link the Meadows to other town parks and developing recreational parks at former industrial sites (Popper, 2001; Rocky Hill, 2001; Eastern Connecticut Resource Conservation and Development Area, Inc., 2000). Consequences of these proposals could be both beneficial and detrimental to the Meadows. While increasing access and visibility can create more public awareness to support protection efforts, more access could also invite the possibility for conflict with wildlife protection as well as hunting and agricultural activities.

Areas of Concern

There are some areas in the Meadows where the existing features and resources may be under threat. A description of these areas of concern is offered below. In addition, some options for managing these areas have been included. These issues are not equal in level of impact or ease of being addressed. As with any management plan, it may be beneficial to initially focus on the issues that can be addressed with minimum opposition, to ensure enthusiasm and support for additional projects.

COMMERCIAL AND INDUSTRIAL DEVELOPMENT

Intensive development within the Meadows and its borders and along the tributaries is problematic because it contributes urban stormwater runoff into the Meadows and, eventually, the Connecticut River. This runoff can be caused by an increase in impervious surface material created by parking lots and buildings. Runoff from these areas is often significantly more polluted because there are minimal vegetated areas that can act as a natural filter of pollutants and sediment (Center for Watershed Protection, 1998). Examples of areas with potential for future commercial and industrial development are found in the Home Depot Commercial Complex in Glastonbury and the industrially zoned land adjacent to Beaver Brook in Wethersfield.

FLOODPLAIN PROTECTION

The Meadows plays a major role in flood storage capacity for the Connecticut River watershed. Any filling in the floodplain for new development detracts from the flood capacity of the Meadows and may create a hazardous situation for nearby residents. Development in the Meadows is restricted by federal, state and local regulations. While the Meadows are restricted from development by municipal floodplain zoning, there are houses

in the floodplain zone in South Glastonbury and Wethersfield that were built before the flood zone regulations were established.

ROADS

Running parallel to the Meadows through the towns of Wethersfield and Rocky Hill, Interstate 91 creates a physical barrier that limits public access and visibility of this highly scenic natural area. Route 3 crosses the Connecticut by way of the Putnam Bridge passing over the northern portion of the Great Meadows. The proximity of the Meadows to these transportation corridors is cause for concern due to pollution from road runoff, automobile exhaust, litter, and noise.

FARMING

With population growth and development of upland farmland for other uses, the fertile flood plain soils of the Meadows become an increasingly important agricultural resource. The agricultural industry is not only important to these communities economically, but culturally as well. The scenic farm landscapes represent the agricultural heritage of these historic towns along the Connecticut River. Extensive farming has occurred in the Meadows since the first European settlements of this area, but the viability of the industry is threatened due to economic and cultural factors which reflect state and national trends (Working Lands Alliance, 2000). Some local efforts to protect farmland have been successful, however overall enrollment in state agricultural programs is low. In addition, not all farmland protection programs address the viability of the industry, a concern for local farmers.

Programs supported by the USDA provide financial incentive to farmers to implement certain conservation practices to improve soil and water quality on agricultural lands (USDA, Natural Resources Conservation Service, 2000). Although many local farmers implement some type of conservation practice on their land, the use of chemical fertilizers and pesticides may still be a cause for concern for potential impacts on the environment. Studies in other regions of Connecticut have found a close correlation between water quality and agricultural practices particularly during the spring floods (Mullaney and Zimmerman, 1997; Zimmerman, 1999). These concerns merit more conclusive scientific study to determine the impacts of agricultural practices on the ecology of the Great Meadows.

OPTIONS FOR FURTHER MANAGEMENT AND PROTECTION

In considering the multiple uses and unique features of the Meadows, this study has explored a number of options for a strategic and coordinated approach to land protection and management of this area. The goals are to protect and maintain water quality, wildlife habitat, farmland, and historic and cultural resources.

To achieve these goals a range of land protection strategies include:

Land Use Regulation

- enforce regulations to protect floodplain areas

Farmland Preservation

- town programs and policies to support agriculture

Natural Resource Protection

- water quality monitoring and clean-up projects along rivers and streams
- maintenance and replacement of vegetative buffers along waterways
- use of conservation easements or outright land acquisition to protect open spaces and wildlife habitat

Historic Areas

- adoption of Village District zoning or other historic district designation

Public Use

- community outreach and education to encourage respectful use of the Meadows

Based on the components of the study discussed in the latter sections of this report, certain key areas have been identified as the most threatened and would benefit most from protection efforts by the Trust and the three towns (refer to Figure 1.1, p. 13).

Elm Street area in Wethersfield:
This area is located within the floodplain, but as it is on the west side of I-91, it is less visibly connected to the Meadows. In addition, its proximity to the highway interchange has made it attractive to development proposals in the past. These factors may place it in danger of development in the future. If development does occur here valuable farmland would be lost. Furthermore, the Elm Street access, which connects Wethersfield's historic district to the Meadows, is currently one of the only places where pedestrians can bypass I-91 to get to the Meadows. Every effort should be made to maintain this section in its current land uses to ensure that these resources remain intact. Zoning regulations might be considered to restrict development in this area and encourage continued agricultural uses. Another protection strategy to consider could include purchase of easements or outright acquisition of this land by a public or private entity to prevent development.

South Glastonbury Meadows:
This area is currently zoned residential although it falls within a floodplain zone as determined by the Federal Emergency Management Agency (FEMA). Development in this area would reduce the flood storage capacity of the Meadows and result in additional loss of farmland. This area is one of the most visible parts of the Meadows. Ferry Lane, which runs along the northern portion of this part of the Meadows down to the ferry landing, has been designated a state Scenic Road. Tryon Street, which runs parallel to the river, offers views of the Town's oldest farming properties that abut the river. Therefore, inappropriate development could be devastating to this unique historic landscape. Any decisions about this area should include active participation of the local landowners and area farmers.
Some options for protection could include adopting overlay zoning such as a historic district or agricultural zone. One avenue to consider might be the new Village District zoning recently passed by the Connecticut legislature with the goal of protecting the distinctive character, landscape, and historic structures of an area. If local landowners are willing, this area may be considered for the Connecticut Farmland Preservation Program which buys development rights on important farmland to protect these areas in perpetuity. The Town, while it does not have an agricultural land protection fund may use the existing open space acquisition fund to buy farmland.

Rocky Hill Foundry Site:
A former industrial complex just to the south of the Meadows area, formerly a foundry, is in a prime location for extending the Rocky Hill Ferry Park south along the Connecticut River. The Town Council and the Redevelopment Agency are considering a mixed-use plan that would include 40% open space, elderly housing, a restaurant, a riverfront boardwalk and a community center (Ricci, 2000). Some local residents and landowners in the Meadows have expressed concerns about the possible negative impacts associated with any increases in street and pedestrian traffic along the border of the Rocky Hill Meadows resulting from this redevelopment plan.

Connecticut River tributaries and feeder streams:
There are a number of waterways running through the uplands of these three towns that flow into the Great Meadows and onto the Connecticut River. Major tributaries include Salmon Brook, Roaring Brook and Goff Brook. Development close to these areas can threaten the fragile riparian ecology and can contribute to pollution further downstream. With recent increases in population in these three towns and corresponding new development, protection of these waterways has become a concern. Where possible, a vegetative buffer along rivers and streams could be implemented as a no-build zone. Such buffers are essential to the maintenance of water quality as they naturally filter runoff and can reduce erosion of soils to prevent sedimentation. Thanks to controls on point source and non-point source pollution the overall water quality in the Connecticut River watershed has increased significantly in the past 30 years. However, maintaining the health of tributaries and feeder streams is still an important strategy for continuing to protect and improve the important riparian habitats of the Meadows. Local water quality monitoring can be carried out by volunteers as part of this cooperative effort (CT DEP, 2001A; Brawerman, 2001).

Historic areas:
Important historic areas are present along the borders of the Meadows in all three towns, and there are significant historical properties within the Meadowlands themselves. At present, Wethersfield is considering an extension of a heritage way which would link its historic district to existing roads in the Meadows (Popper, 2001). The three towns could build on the strength of each other's historic areas by linking the three historic areas through a tri-town heritage way. Building on the proposed trails in Wethersfield, this heritage way could be developed along existing public roads and could be used as both a walking and biking trail. A feasibility study could be conducted by the towns to determine where such a trail would be appropriate. The final route could be determined with local citizen involvement and could be designed so as to have minimal impact on the natural resources of the Meadows and without interfering with existing agricultural or sporting and game club uses.

Public Access Areas:
Encouraging appropriate use of the Meadows could be accomplished through public outreach and education. For example, posting signs at any trails or public access points, whether existing or proposed, would alert users of their rights and responsibilities in the Meadows. In addition, involving local residents and landowners in future planning and protection of the Meadows would help raise community awareness about this important natural resource.

CONCLUSION

Significant cultural and natural features contribute to the unique character of the Meadows and the surrounding towns. As the largest contiguous open space in this area, the Great Meadows are a valuable regional resource for the economic and scenic qualities they contain. The prime farmland is essential to area farmers; the wetlands, woodlands, meadows, and streams provide habitat for wildlife and fish; and the scenic vistas and undeveloped expanses offer a pleasant refuge enjoyed by area residents in a variety of low-impact recreational activities. The Meadows proximity to residential, commercial, and industrial areas make this area a highly accessible and visible resource, but also threatens the health and protection of this open space. The following chapters review the natural and cultural resources represented in the Meadows. In addition, this study considered threats posed to the Meadows by the growth and development trends occurring along the borders.

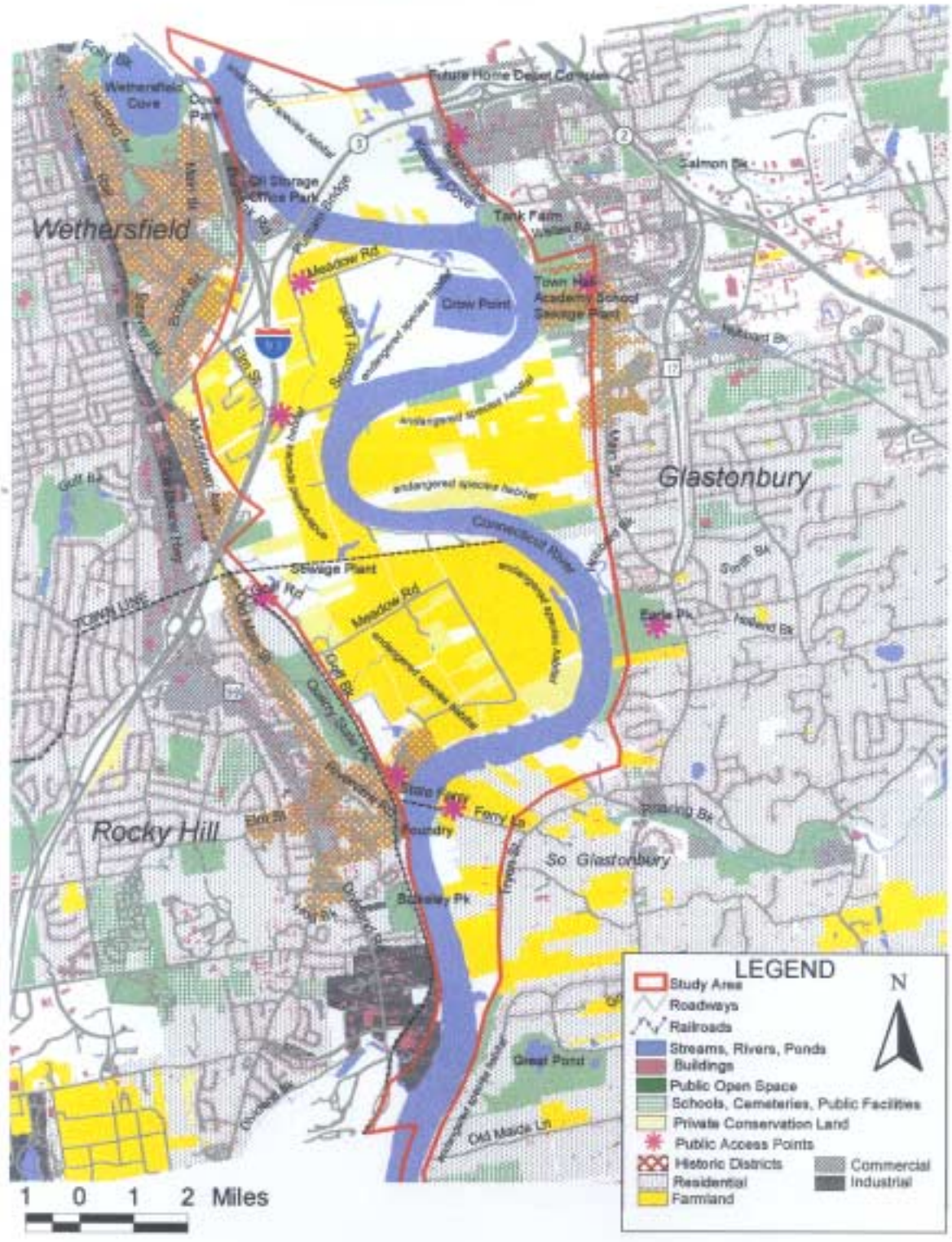

Figure 1.1 Great Meadows of the Connecticut River
Scale 1: 120,000