

CHAPTER 3: ELIGIBILITY AND CLASSIFICATION

One day in the summer my mom, brother, some friends, and I decided to go tubing. We went to the Farmington River, since we live near there.

The water was perfect, it was just the right temperature, cold! The water was shallow enough so the rapids were great but it was deep enough so you didn't bump into rocks - which really hurts. There were some people but not so many you didn't see animals. We saw an osprey and two seagulls. I enjoyed seeing these animals up close.

Katie Hart

This chapter summarizes the methodology and results of the eligibility and classification analyses. The purpose of the eligibility study was to determine whether the study segments meet the minimum resource criteria of the Wild and Scenic Rivers Act for inclusion in the national system. To be eligible, a river segment must meet two requirements: 1) it must be "free-flowing;" and 2) it must possess one or more outstanding resource value(s), including but not limited to scenery, recreation, fish and wildlife, geology, and historic and cultural resources. If a segment is found eligible, it must then be given a proposed classification as either "wild," "scenic," or "recreational," depending upon the types and amount of development in the river area. This classification applies if the river is eventually designated into the national system.²⁰

Because the character of the river corridor changes noticeably between the Massachusetts Study Segment and the Connecticut Study Segment, and because the two segments are separated by the sizeable impoundments of the West Branch Reservoirs, individual assessments of eligibility and classification were conducted for each segment. Preliminary findings of the eligibility and classification assessments were reviewed by the Farmington River Study Committee's River Eligibility Subcommittee. Both study segments were found to be eligible for inclusion in the National Wild and Scenic Rivers System. Each was determined to be most appropriate for "recreational" classification.

The information upon which the eligibility and classification determinations were based was gathered from local, state, and federal agencies, private conservation organizations, local colleges, and individual experts. While much of that information was discussed previously in Chapter 2: Description of the Study Area, this chapter presents the information in a more narrowly defined context — that of highlighting the most significant of the Farmington River's natural, cultural, and recreational features. Additional information on the river's resources can be found in the Draft Eligibility and Classification Report (August, 1989), which is published separately as a companion document to this report.

3.1 METHODOLOGY

3.1.1 ELIGIBILITY

Free-Flowing Condition

Section 16(b) of the Wild and Scenic Rivers Act defines "free-flowing" as:

...existing or flowing in natural condition without impoundment, diversion, straightening, riprapping, or other modification of the waterway. The existence, however, of low dams, diversion works, and other minor structures...shall not automatically bar...consideration for...inclusion: *Provided*, That this shall not be construed to authorize, intend, or encourage future construction of such structures within components of the national wild and scenic rivers system.

Federal guidelines provide the following additional clarification: "The fact that a river segment may flow between large impoundments will not necessarily preclude its designation. Such segments may qualify if conditions within the segment meet the criteria [for eligibility]...Existing dams, diversion works, riprap and other minor structures will not bar recreational classification provided that the waterway remains generally natural and riverine in appearance."²¹

²⁰ A finding that a river segment is eligible for designation does not necessarily mean that the river is an appropriate addition to the system. The eligibility analysis simply determines whether the study process should be carried forward into the suitability phase.

Outstanding Resources

The Wild and Scenic Rivers Act and related federal guidelines do not specify standards for how the determination of resource significance (i.e., whether a resource value qualifies as "outstanding") should be made, but indicate that it should be based on the professional judgement of project staff. In the case of the Farmington River Study, the National Park Service considered a resource to be outstanding if it could be documented as unique or exemplary in a regional or national context. (It is accepted practice among Wild and Scenic River planners nationwide that a river segment should have resources that are at least regionally significant in order to be eligible for inclusion in the national system.) To be considered unique, a resource (or combination of resources) must be the only one of its kind in the region. To be considered exemplary, a resource must be one of the best examples of its kind in the region. For the purposes of this analysis, the region was defined as the New England uplands, an area characterized by a landscape of low, steep-sided hills broken by narrow winding river valleys, with elevations ranging from 1,000 - 2,000 feet above sea level. The region includes parts of Connecticut, Massachusetts, Vermont, and New Hampshire.

3.1.2 PROPOSED CLASSIFICATION

The Wild and Scenic Rivers Act and associated federal guidelines require that if a river segment under study is found eligible for designation, it then must be evaluated to determine

²¹ 47 Fed. Reg. 39457-58; September 7, 1982.



which of the classifications established in the Act would be most appropriate if the segment is eventually included in the national system. The Act establishes three classifications — “Wild,” “Scenic,” and “Recreational” — that are distinguished by the amount and types of development along the river. The Act specifies that:

- “Wild” river areas are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted.
- “Scenic” river areas are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by road.
- “Recreational” river areas are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

The three main factors that are considered in determining the appropriate classification for a given segment are: (1) waterway development; (2) shoreline development; and (3) accessibility. To be classified as “wild,” a river also must meet certain water quality standards.

It is important to emphasize that the three classifications are based solely on the amount and types of development existing along the river, and do not necessarily reflect either the outstanding resources that may be present or the primary management objectives for the area. This is particularly relevant for rivers classified as “scenic” or “recreational.” For instance, the term “recreational” does not imply that rivers given that classification must be managed to promote additional recreational use. Nor does it mean that recreational values are necessarily the most, or the only, significant resources in the segment. Regardless of classification, management plans and policies should be designed to maintain and enhance the existing character of the river corridor and the outstanding resources identified in the eligibility assessment.

It also should be noted that classification is only important in a long-term management context for rivers that flow through federally managed public lands. For those rivers, federal land management agencies have specific management guidelines for each classification. On rivers such as the Farmington that flow through private and/or non-federal public lands and for which no federal land management is proposed, classification is inconsequential. It has no bearing on either the non-federal management framework for the river corridor, or on the review of federally assisted water resource projects required under Section 7 of the Wild and Scenic Rivers Act. Nonetheless, Section 2(b) of the Act requires that a proposed classification be given to any river segment found eligible for inclusion in the national system.

3.2 FINDINGS FOR THE MASSACHUSETTS STUDY SEGMENT

3.2.1 ELIGIBILITY

Free-flowing Condition

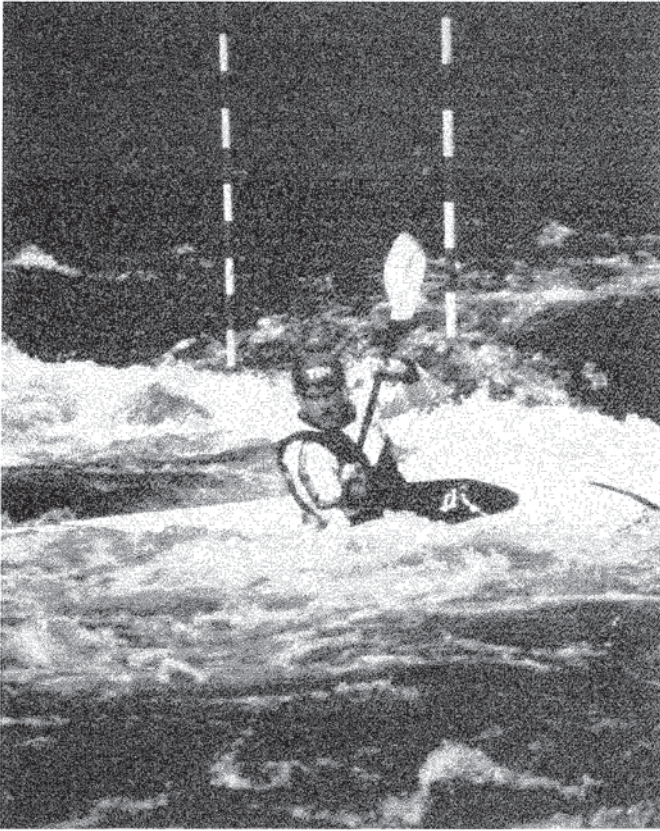
As noted previously, the Massachusetts Study Segment is located between two impoundments — the smaller Hayden Pond located immediately upstream of the segment, and the much larger Colebrook Reservoir downstream. However, within the authorized study boundaries, the segment meets the definition of “free-flowing;” that is, it is free of impoundments, diversions, and major shoreline modifications. While bridge abutments, short sections of riprap and road embankments, and the remains of historic power canals and mill races are scattered along the shoreline of the segment, these modifications do not significantly diminish the river’s natural integrity and were determined to be “minor structures”. The study segment “remains generally natural and riverine in appearance” throughout its length.

Outstanding Resources

- **Recreation:** The Massachusetts segment of the Farmington River is treasured by expert boaters as one of the region’s finest white water runs. While the segment is normally runnable only during spring runoff or following heavy rainfall, controlled releases from the Otis Reservoir (located on a tributary, the Fall River) during a two week period each fall provide a high quality canoeing and kayaking experience at a time when nearly all other white water rivers in the region are impassable. These scheduled releases regularly attract hundreds of boaters, including both individuals and organized groups from around the region. In addition, the Appalachian Mountain Club holds one of the nation’s oldest annual competitions during these releases. Published river guides for the New England region indicate that fewer than 20 similar high order white water runs exist in Connecticut and Massachusetts.

These white water boating opportunities were determined to be a regionally exemplary recreational resource value.

- **Wildlife:** The Massachusetts Division of Fisheries and Wildlife’s Natural Heritage Program has identified the presence of an historical peregrine falcon aerie within the study area. This aerie, which overlooks the Farmington River, is regarded as the best natural cliff site in Massachusetts for reoccupation by returning wild peregrines, a federally listed endangered species. The primacy of the site is a function of its large size and immediate access to the river, where peregrines can prey on the abundant bird populations that fly across the river and adjacent open areas. Protection of the Farmington River site is considered “extremely important” for the recovery of peregrine falcons in New England.



Autumn dam releases on the Fall River provide flows in the Massachusetts Study Segment that support one of the nation's oldest annual white water competitions.

The relationship of this historical aerie and associated habitat for peregrine falcons with the river was determined to be a regionally unique wildlife resource value.

Conclusion

In light of its free-flowing condition and outstanding recreation and wildlife values, the Massachusetts Study Segment was found to be eligible for Wild and Scenic River designation.

3.2.2 PROPOSED CLASSIFICATION

The classification analysis for the Massachusetts Study Segment found the following:

- (1) **Waterway Development:** The Massachusetts segment is free of impoundments. Scattered modifications to the riverbanks are evident (e.g., bridge abutments, short sections of riprap and road embankment, and the remains of a few historical structures such as mill/tannery foundations), but the "waterway remains generally natural and riverine in appearance."
- (2) **Shoreline Development:** In some areas, the river shoreline has returned to a largely primitive and undeveloped state. However, "substantial evidence of human activity" exists, particularly in the historical communities of Otis and New Boston, and limited logging and agricultural practices continue.

- (3) **Accessibility:** The river is "readily accessible by road." It is paralleled by Massachusetts Route 8, a two-lane state road, along its west bank throughout most of the segment. Smaller local roads also provide access in several areas where Route 8 pulls away from the immediate river corridor. Bridge crossings are found on a rough average of one every two miles.

Given this level of development and human activity, the Massachusetts Study Segment would be most appropriately classified as a "recreational" river.

3.3 FINDINGS FOR THE CONNECTICUT STUDY SEGMENT

3.3.1 ELIGIBILITY

Free-flowing Condition

As noted previously, the Connecticut Study Segment begins immediately downstream of the Goodwin Dam and Reservoir in Hartland. However, within the authorized study boundaries, the segment meets the definition of "free-flowing;" that is, it is free of impoundments, diversions, and major shoreline modifications. While short sections of the shoreline scattered along the segment have been modified by bridge abutments, riprap, road embankments, and in one location a retaining wall, these modifications do not significantly diminish the river's natural integrity and were determined to be "minor structures." The study segment "remains generally natural and riverine in appearance" throughout its length.

Outstanding Resources

- **Recreation:** The Connecticut Study Segment offers a broad range of conditions that attract large numbers of sport fishermen, boaters, tubers, and other recreationists. Rough estimates indicate that tens of thousands of recreationists participate in each of these activities annually within the study area. The significance of the segment's recreational opportunities is heightened by its close proximity to the major population base of the northeastern United States. In addition, because of managed releases from the Goodwin Dam that extend the recreation season beyond what would be available naturally, the Farmington is one of only two rivers in Connecticut (the Housatonic is the other) that offers white water canoeing, kayaking, and tubing throughout the summer, when these activities are most popular.

Over 40 canoeing and kayaking groups from seven states regularly use the river for group outings, and scores of individual boaters from around the Northeast use the river on their own. Satan's Kingdom, a steep-sided gorge with class III white water, is the most heavily used stretch of the study segment, where boaters and fishermen often share the river with over 2,000 tubers on a peak use day.



Tubers are among the thousands of recreationists who enjoy the Connecticut Study Segment's combination of flatwater and moderate white water, high water quality, beautiful scenery, and an extended recreation season.

The Connecticut Study Segment also is the most heavily stocked trout stream in the state and is the most intensively fished section of the entire Farmington River. Each kilometer of the study segment receives an estimated 1,000 fishing days annually; use increases to more than 1,600 angler days per kilometer in the 3.6-mile long Trout Management Area (TMA) in Barkhamsted. In total, these figures translate into an estimate of more than 25,000 fishing days per year in the segment as a whole. The river offers high quality fly fishing with a relatively high catch rate, particularly in the TMA. Most fishing within the segment is seasonal, with roughly 60 percent of the activity occurring in the spring, although catch and release fishing is allowed year-round in the TMA. Also, controlled releases of low temperature water from the West Branch Reservoirs allow for summer and fall stocking throughout the segment, supporting an extended season. As with canoeing and kayaking, the Farmington's late-season fishing is particularly valuable because many other trout streams in the region are no longer fishable.

The combination of recreational attributes provided by the segment — namely, the diversity of activities available; the intensity of use for several major activities (fishing, boating, and tubing); the uniformly high quality of experience for all uses; and the proximity to major population centers — was determined to be a regionally unique recreational resource value.

- **Fish:** The relatively high water quality, gravelly stream bottom, and regulated releases of cold water from the West Branch Reservoirs throughout the year combine to make this segment of the river classic habitat for salmonids. Because of these qualities,

the Farmington is a critical component in the ongoing effort to reintroduce the once-plentiful Atlantic salmon to the Connecticut River basin, the southern portion of its natural range. This large-scale program, which has been underway since 1967, is a cooperative venture involving numerous federal, state and local agencies and private organizations. Of the sixteen river systems in New England that are targeted for the restoration of the Atlantic salmon and other anadromous fish populations, the Connecticut River and its tributaries, including the Farmington River, is the largest. It is one of only four river systems projected to reach its restoration potential within the next 25 years.

If current proposals are implemented, it is projected that the Farmington will be able to sustain a population of 770 naturally spawning adult salmon, roughly one-sixth of the entire Connecticut River system's estimated population. The Farmington River system, and in particular, the prime spawning grounds found in the Connecticut Study Segment "are considered critical to the success of the effort. Any significant alteration that impacts the habitat in a negative manner within these reaches will cause irreparable harm to the restoration program."

In addition to the Atlantic salmon, nearly all of Connecticut's freshwater sport fish species can be found in the Farmington River. The river is one of the few remaining unpolluted prime trout streams in southern New England, and the upper portion of the river in the study area is the most heavily stocked trout stream in Connecticut. Approximately 28,000 fish are released per year into the Connecticut Study Segment, which supports the most intensive fishing of any section of the river both in terms of annual and peak-period fishing.



The Connecticut segment's gravelly stream bottom, high water quality, and regulated coldwater releases throughout the year make for excellent trout habitat. This stretch of the Farmington is the most heavily stocked stream in the state.

The high quality of fish habitat in the Connecticut segment and the segment's significance both to the Atlantic salmon restoration effort and as a prime trout stream were determined to be a regionally exemplary resource value.

- **Wildlife:** Bald eagles, a federally listed endangered species, have reestablished a year-round population in the study area. Most of the birds' activity has occurred around the Barkhamsted Reservoir, which has a protected watershed that is closed to the public, providing the undisturbed conditions these birds demand. However, eagles have been sighted year-round on the West Branch, and are most common in the winter months when the reservoir freezes over and the birds fish in the faster flowing sections of the river that remain ice-free. In May 1992, the effort to reestablish bald eagles reached a major milestone when a pair of eagles nesting near the reservoir successfully hatched two chicks. These were the first eagle chicks born in Connecticut in more than 40 years.

The regular presence and nesting activity of bald eagles in the study area was determined to be a regionally unique wildlife resource value.

- **Historic Resources:** In many areas along the Connecticut Study Segment, historic structures and other artifacts remain that reflect the river's central role in the cultural heritage of the Farmington Valley. Structures dating from the 19th century, when mills and other hydropowered industries dotted the river banks, can be found in all three of the principal riverfront communities — Riverton, Pleasant Valley, and New Hartford.

Several nationally recognized historic sites whose past is linked to the Farmington are located near the river. The National Register of Historic Places includes four buildings in the area: the 19th century Chapin house in Pine Meadow; the Depression-era CCC shelter in American Legion State Forest; the Old Riverton Inn; and the early 19th century Gothic revival style stone Union Church, also located in Riverton. Other examples of the historic character of these Farmington River communities include the operational Hitchcock Chair Factory in Riverton, and the clusters of 19th century buildings found in the state and locally designated historic districts of New Hartford and Pine Meadow.

Important archaeological remains also have been found along the Connecticut segment. An area that includes portions of Beaver Meadow in Peoples State Forest has been nominated as a National Historic Site in recognition of its extensive archaeological remnants of pre-colonial Native American settlements. In 1986 and 1987, surveys by the Farmington River Archaeological Project of floodplain, terrace and upland locations along the segment in the Peoples and Nepaug State Forests uncovered prehistoric sites throughout the area. New studies are revealing that these were major sites occupied year-round, and that this may have been a major trade route for the indigenous

peoples. The tools and artifacts found show that this valley was a separate and distinct system from those of other regional river valleys, with different forms of land use.

These diverse historic resources were determined to be a regionally exemplary resource value.

Conclusion

In light of its free-flowing condition and outstanding recreation, fish, wildlife, and historic resources, the Connecticut Study Segment was found to be eligible for Wild and Scenic River designation.

3.3.2 PROPOSED CLASSIFICATION

The classification analysis for the Connecticut Study Segment found the following:

- (1) **Waterway Development:** The segment is free of impoundments. Scattered modifications to the riverbanks are evident (e.g., bridge abutments, riprap, road embankments, and a short retaining wall), but the "waterway remains generally natural and riverine in appearance."
- (2) **Shoreline Development:** Some portions of the river shoreline have returned to a condition not unlike that of 300 years ago, but there are several areas that exhibit "substantial evidence of human activity." Residential and commercial development is concentrated in the historical community centers of Riverton, Pleasant Valley, and New Hartford.
- (3) **Accessibility:** The river is "readily accessible by road." Local and state roads parallel the river on one or both sides throughout most of the segment. Bridge crossings are found on a rough average of one every 3.3 miles.

Given this level of development and human activity, the Connecticut Study Segment is most appropriately classified as a "recreational" river.



CHAPTER 4: RESOURCE MANAGEMENT AND PROTECTION

One day my family and I were riding our bikes on the river road and enjoying looking at the river. We packed a lunch, and sat on the bank to eat. While we ate, we watched the fishermen and wildlife on the river. On the way home, I got hot and we decided to ~~stop~~ for a swim in the river. We swam for a while and then rode home. The water was cool and refreshing and that was one trip along the Farmington River that I will never forget.

Christopher Meder

This chapter provides an overview of the many laws, regulations, programs, agreements, and physical characteristics that currently affect the management and protection of the two study segments. There are two primary purposes: first, to give the reader an understanding of how the river and surrounding lands are managed; and second, to provide a foundation for evaluating whether there are adequate mechanisms in place to provide long-term protection for the Farmington's outstanding values without the need for federal land acquisition and land management. The actual determinations of the adequacy of the existing management and protection mechanisms for each segment are presented in Chapter 8: Suitability.

Three levels of laws and regulations are described in this chapter — local, state, and federal. While the federal laws affecting the two study segments are the same, the States of Massachusetts and Connecticut have distinct statutes and programs related to the various aspects of river management. Also, there are legal agreements that have an important effect on river management in one state but not the other (particularly with respect to instream flow management). As a result, the chapter is divided into separate sections for each state.

Recognizing that the condition of any river is a function of both instream/water resource management and adjacent land management, the chapter includes detailed discussions of each of these subjects in each state. The description of the management and conservation of riverfront lands is divided into sections on 1) private lands, and 2) public lands. For private lands, most of the discussion focuses on the local, state, and federal programs (laws, regulations, incentives, etc.) that exert the greatest influence on land use. Physical characteristics of the corridor (for instance, steep slopes, adjacent wetlands, lack of road access, etc.) that help to protect the river by limiting the amount of development that can occur also are identified. The sections on public land management describe the policies and programs of the relevant agencies that determine how these lands are used.

For instream/water resource management, the discussion is separated into the three main components of instream conditions: 1) water quality; 2) water quantity; and 3) the integrity of the river's channel, banks and associated wetlands. Summaries are provided of the relevant laws, regulations, and other agreements affecting each of those three components.

Much of the information presented in this chapter is derived from a comprehensive inventory and analysis of the effectiveness of existing management and protection mechanisms prepared by the National Park Service and the Farmington River Study Committee in the early stages of the Wild and Scenic River Study. The complete results of that analysis are included in a companion document to this report, the Draft Evaluation of Existing Protection (June, 1990), to which the reader should refer for additional details. Since the completion of that report, a number of significant actions have been taken at the local and state levels to provide additional protection to the river. The description that follows includes both the management and protection mechanisms in place at the outset of the Wild and Scenic River Study and those additional actions that occurred over the course of the project.

The reader also should note that the laws, regulations, programs and agreements summarized in this chapter formed the foundation of a comprehensive river management plan for the Connecticut Study Segment that was prepared and adopted during the latter stages of the Wild and Scenic River Study. That document, entitled the Upper Farmington River Management Plan, is summarized in Chapter 7; the full Management Plan is published separately as a companion to this report. The Management Plan binds together the many existing management and protection mechanisms affecting the Connecticut segment by establishing strong objectives and standards to guide their future implementation.

4.1 MASSACHUSETTS STUDY SEGMENT

4.1.1 LAND MANAGEMENT

Private Lands

As described in Chapter 2, more than 70 percent of the shorelands along the Massachusetts Study Segment is privately owned. The laws, regulations, and other programs governing the ways in which those lands may be used are therefore of critical importance to the health of the river.

In keeping with New England tradition, land use control along the Massachusetts segment is primarily under the jurisdiction of town governments through the implementation of state authorizing statutes and federal programs. The most important of these locally administered programs are described in the next part of this subsection.

In addition to the locally administered programs that are of primary importance, there are certain statutes and programs having a bearing on land use along the Massachusetts segment that are administered directly by state and federal agencies. These programs are summarized after the discussion of locally administered programs.

The section on private lands concludes with a brief description of the physical characteristics found along the Massachusetts segment that limit the potential for intensive development of the shorelands, which thereby further protect the river from degradation.

Locally Administered Programs

Following are summaries of the most important statutes and programs affecting land management that are implemented primarily at the local level.

- **Wetlands Protection Act (M.G.L. Chapter 131, Section 40):** The Massachusetts Wetlands Protection Act was the first of its kind in the country and is still one of the strongest state wetland acts in existence. The Act is intended to protect eight public interests related to wetlands, including: 1) flood control; 2) storm damage prevention; 3) protection of public and private water supply; 4) protection of ground water supply; 5) prevention of pollution; 6) protection of fisheries; 7) protection of land containing shellfish; and 8) protection of wildlife habitat. To achieve these goals, the statute empowers local conservation commissions to regulate any project that would alter the river, its floodplain, or land within 100 feet of the river or a bordering vegetated wetland. Any activity within those areas must be approved by the local conservation commission before it can proceed.

The Wetlands Protection Act is particularly effective in protecting the Farmington's water quality from non-point source pollution resulting from activities on adjacent lands. However, it is important to recognize that the Act does not directly protect the scenic or recreational values of river corridors. Under the Act, the natural integrity of riverfront land can only be protected to the extent that it coincides with protection of the river's water quality or wildlife habitat. Consistency of enforcement from town to town also can be a problem. Nonetheless, the Wetlands Protection Act is one of the strongest laws protecting the Massachusetts stretch of the Farmington River from adverse effects of riverfront development.

- **Title 5 of the State Environmental Code (M.G.L. Chapter 21A, Sec. 13; M.G.L. 111, Sec. 31 & 127):** Established in 1977, Title 5 provides a comprehensive set of minimum regulations for the siting and construction of septic systems in order to protect public health and the environment. The most important section of the regulations for the Farmington is that which prohibits the siting of any new septic system's leaching field within 50 feet of a watercourse. Title 5 also requires a minimum of two percolation tests per lot — one for the septic site and one for a reserve site — and two deep observation holes for determining the character of the soil. These provisions are enforced by each community's Board of Health, which is

authorized to pass more stringent regulations if deemed necessary. All three of the towns abutting the Massachusetts Study Segment have used this authority to establish a 100-foot setback from the river for new septic systems.

Title 5 is one of the most important regulatory programs for the upper Farmington Valley because all of the Massachusetts towns in the study area rely entirely on septic systems. Moreover, these towns have soil conditions that are exceptionally limiting for the placement of septic systems under Title 5 regulations. (In fact, local and regional land use officials claim that the difficulty in finding acceptable percolation sites is the most important factor limiting growth in these towns.) Thus, while the intent of Title 5 is to protect water quality from degradation by sewage disposal, it has the added practical effect of limiting development and thereby protecting the rural and scenic character of the Farmington Valley.

As with any state law relying on local enforcement, the key to the effectiveness of Title 5 is the ability of volunteer local health boards to enforce it. Enforcement of siting new septic systems appears to be very strong in all of the study area towns. However, there has been a problem with the failure of older systems established prior to the adoption of the regulations in 1977. The local boards have strong authority to deal with these problems, but they are often reluctant to use their full powers.

- **National Flood Insurance Program (NFIP) (P.L. 90-448):** The NFIP was established to provide homeowners in flood hazard areas with federally subsidized flood insurance as an alternative to the escalating cost of disaster relief. To be eligible for the insurance, however, the homeowner's community must first adopt official Federal Flood Insurance Rate Maps that delineate flood hazard areas, and then establish at least minimum floodplain regulations that place some restrictions on development in those areas. All development must conform to those regulations to qualify for flood insurance. The local board that administers the program (each town's planning board in Massachusetts) is encouraged to adopt floodplain regulations more stringent than the Program's minimum standards.

In general, the NFIP has been quite successful in motivating communities to voluntarily establish floodplain management ordinances. Three of the four Massachusetts towns (Becket, Otis, and Sandisfield) have chosen to participate in the program and adopt the necessary regulations. However, while the regulations established in those towns do restrict building in the floodplain to some extent, they do not fully protect the natural functions of the floodplain; building is still allowed as long as certain conditions are met.

- **Municipal Land Use Statutes:** The Massachusetts Zoning Act (M.G.L. 40A), the Subdivision Control Law (M.G.L. 41, Sec. 81A - 81GG), and other enabling laws give towns in the Commonwealth almost complete authority to regulate land use as they see reasonable for ensuring the general health, welfare, and safety of the public. These authorizing statutes will not be reviewed in this section; rather, the focus will be on the specific zoning and subdivision bylaws adopted by the study area towns pursuant to the enabling statutes.

Under the various authorizing statutes described above, all four of the Massachusetts towns in the study area have established regulations that provide protection either directly or indirectly for the Farmington River and its adjacent lands. These include ordinances regulating wetland disturbance, building in floodplain areas, septic system installation, density and type of development, subdivisions, erosion and sedimentation control, sand and gravel extraction, and forestry practices. More specifically, the three towns that directly abut the Massachusetts segment — Otis, Sandisfield, and Tolland — all have adopted restrictions on building in the 100-year floodplain,



Local land use regulations are the key to protecting the natural integrity of the Farmington River corridor. This view is looking upstream from the Route 57 bridge in New Boston, Massachusetts.

a 100-foot setback for new septic systems, and wetlands regulations that restrict activities within 100 feet of the river. The three towns also have relatively low-density zoning bylaws (2 acres in Tolland, and 1 acre in Otis and Sandisfield) that emphasize residential and agricultural land uses for lands along the river. The Town of Becket also has adopted local bylaws that help to protect the Farmington's headwater wetlands from detrimental land uses.

One local zoning action taken during the Wild and Scenic River Study is sufficiently important for protection of the river that it deserves to be highlighted. In 1991, the Town of Tolland adopted a "River Protection District" as an amendment to its zoning bylaws. The district prohibits new structures and sand and gravel operations in the river's 100-year floodplain or within 200 feet of the river. It also includes restrictions on vegetation removal (a 50-foot no-cut zone and limitations on cutting in the area from 50-200 feet from the river), and a prohibition of new septic facilities within 150 feet of the river. These features make Tolland's ordinance the strongest river conservation action implemented by any of the Massachusetts towns on the Farmington. A copy of Tolland's River Protection District is included in Appendix B.

Because the shorelands along the Massachusetts Study Segment are predominantly in private ownership, the local regulations are the primary mechanisms for protecting this stretch of the Farmington River from detrimental land uses. These regulations are, therefore, central to the evaluation of the adequacy of protection for the Massachusetts segment. That evaluation, which is the first component of the suitability analysis, is presented in Subsection 8.2.1: **Protection Mechanisms**. The relative strengths and weaknesses of the various local regulations in protecting the river are identified in that subsection. In addition, Figure 8-1 provides a town-by-town comparison of the local ordinances and other protection mechanisms affecting the segment. Further information and analysis are available in the 1990 Draft Evaluation of Existing Protection.

State Administered Programs

Several programs administered by the Commonwealth of Massachusetts also affect land management and provide significant protection for the Farmington River. The most notable are summarized below.

- **Forest Cutting Practices Act (M.G.L. Chapter 132, Sec. 40-46):** This statute provides important protection for the Farmington from adverse effects of large-scale commercial timber harvests. The Act requires that any landowner who intends to cut more than 50 cords or 25,000 board feet of wood for commercial purposes must first prepare a cutting plan and have it approved by the Massachusetts Department of Environmental Management. The Act's regulations limit cutting within 100 feet of water bodies to less than 50

percent of the forest. Although there is no requirement for a no-cut buffer, the DEM recommends leaving a 50-foot no-cut area along water bodies.

It is important to note that these regulations apply only to commercial logging operations exceeding 25,000 board feet of timber. Noncommercial cutting, clearing of public ways, cutting of less than 25,000 board feet per cut, and clearing of land for building or cultivation all are exempted from the Act. These activities are, however, still regulated by local conservation commissions under the Wetlands Protection Act, as described above in the discussion of **Locally Administered Programs**. In addition, towns can establish their own regulations limiting timber harvest, as Tolland does through its River Protection District, for instance.

- **Preferential Use Assessment (M.G.L. Chapters 61, 61A, & 61B):** Preferential or current use assessment allows for reduced taxation of lands that are committed to forestry, agriculture, or recreation/open space uses. If a landowner applies and his/her property meets the criteria for one of these categories, the land is assessed at a value reflecting its current use, rather than its full market value for a more intensive use. The landowner must commit to keeping the land in that same use for a ten year period; if the land is removed from the program or converted to another use during that time, the owner must pay penalty taxes to the town.

This program plays an important role in sustaining the largely rural and forested landscapes of the Farmington Valley by enabling owners of lands that are rapidly increasing in value to afford to hold onto those lands. As evidence of the attractiveness of the program, in 1990 roughly 7,840 acres in the Farmington River watershed had been enrolled in the "forest land" classification alone. However, enrollment in the program does not ensure guaranteed long-term conservation; the penalties for early withdrawal are not necessarily steep enough to prevent landowners from selling their property for development.

- **State Land Acquisition:** In 1983, the Massachusetts legislature authorized \$4 million for land acquisition to facilitate the "preservation and continuation of a wilderness corridor" along the Farmington River. The authorization was divided equally between the Department of Environmental Management and the Division of Fisheries and Wildlife. The latter share never became available for the Farmington, but the DEM has been able to move forward effectively with their part of the program. Thus far, DEM has acquired two important parcels along the study segment in Otis: a 16.9-acre parcel with over 2,000 feet of river frontage, almost all of which is located within the 100-year floodplain; and a 450-acre parcel encompassing an

undeveloped forested area with steep slopes and more than 6,000 feet of frontage on the river's east side, and a narrow section with about 600 feet of frontage on the west side. The total cost for these acquisitions was \$1.1 million.

- **Federal and State Clean Water Acts (P.L. 95-217; M.G.L. Chapter 131, Sec.40):** The Massachusetts DEP has a number of responsibilities under the state and federal water pollution control statutes that have a bearing on land use along the river. These include permitting of point source discharges, issuing water quality certifications on proposed discharges, and controlling non-point source pollution. These responsibilities are described in the "Water Quality" portion of **Subsection 4.1.2: Water Resources Management**.
- **Massachusetts Environmental Policy Act (MEPA) (M.G.L. Chapter 30, Sec. 61-62H):** This statute is modeled after the National Environmental Policy Act (NEPA), and requires all state agencies to review the environmental impact of major state actions and consider alternatives. As stated in the Act, "all agencies, departments, boards, commissions and authorities of the Commonwealth shall review, evaluate, and determine the impact on the natural environment of all works, projects or activities conducted by them and shall use all practicable means and measures to minimize damage to the environment." For any project covered by the Act, an "Environmental Notification Form" (ENF) describing the environmental impacts must be filed with the MEPA unit in the Executive Office of Environmental Affairs (EOEA). Following public comment, EOEA officials determine whether the project is of sufficient magnitude to require the preparation of a full "Environmental Impact Report" (EIR), which further evaluates the project's environmental consequences and adequacy of mitigation measures. The Act's associated regulations establish specific thresholds for different types and sizes of projects that automatically require preparation of an ENF or EIR.

It is important to note that any type of permit or license required for a project by any state agency is considered a state action and subject to the Act. However, permits granted by local boards (e.g., conservation commissions, boards of health, etc.) under state authorizing statute do not constitute state actions unless someone appeals the local decision to the MassDEP.

Federally Administered Programs

- **Clean Water Act/Section 404 (P.L. 95-217):** Section 404 affects land management along the river by requiring any project that would discharge dredged or fill material into the river or an adjacent wetland to receive a permit from the Army Corps of Engineers

(in consultation with the U.S. Environmental Protection Agency [EPA]). This program is described further in the "Channel, Banks, and Wetlands" portion of Subsection 4.1.2: Water Resources Management.

Physical Limitations to Development

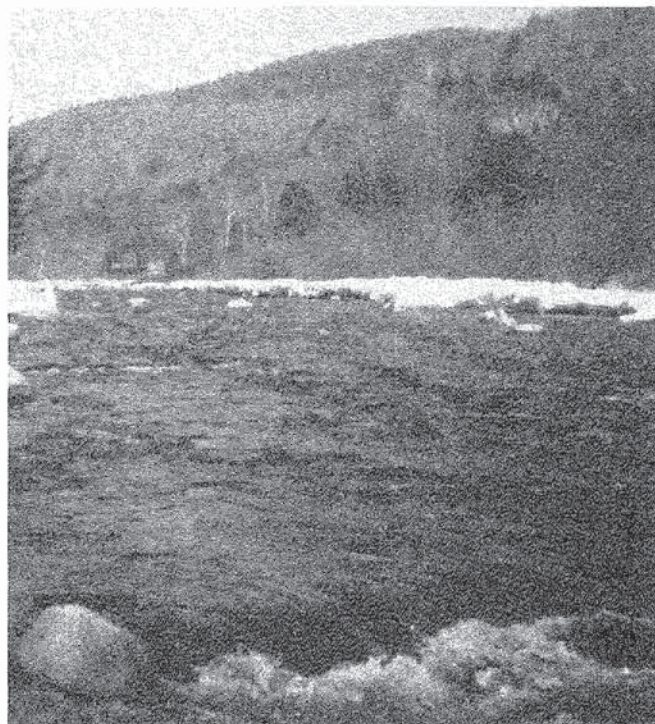
In addition to the protections provided by the programs described above, the Massachusetts section of the Farmington River receives an important measure of protection from physical characteristics that limit the development potential of the private lands in the river corridor.

Natural features, including wetlands, steep slopes, and soils that are unsuitable for individual septic systems, serve as a significant constraint to development in many locations along the segment. Wetlands surround the river for much of the uppermost one and one-half miles of the study area immediately below the Hayden Pond Dam. Steep slopes descend virtually to the river's edge along large sections of the segment. This is the case along much of the eastern shore in the lower half of the stretch in Otis, and is even more pronounced on both sides of the river through much of Sandisfield and Tolland. In fact, more than one-third of Sandisfield's 8.6 miles of total river frontage is bordered by slopes steeper than 25 percent. While these steep slopes do significantly limit the likelihood of construction, they are generally heavily forested; intensive logging, particularly along the immediate shorelands, could have serious impacts on the river.

Many areas along the segment, including those with steep slopes and near wetlands, have thin and/or poorly drained soils that are unsuitable for individual septic systems. Because none of the three towns abutting the study segment has a municipal sewage treatment system, these unsuitable soils have become the single factor preventing development of certain locations.

Road access also plays an important role in limiting potential development along parts of the segment. Although Route 8 does parallel the river along the west side for most of the study segment, the lack of road access along much of the east side has significantly reduced the development pressure on that shoreline. This is most noteworthy for much of the stretch in Otis, which otherwise could be vulnerable to a considerable amount of development, logging, and other activities that could have an impact on the river.

Conversely, the river also receives a form of protection in areas where Route 8 closely parallels the western shoreline. In many locations this has resulted in narrow parcels between the road and the river that are undevelopable, thereby ensuring that at least the immediate shoreline will retain a certain amount of natural character and buffering capacity. However, the proximity of Route 8 does create the potential for water quality problems resulting from runoff from the road surface.



Adjacent public lands are an important factor in maintaining the undeveloped character of the Massachusetts Study Segment.

Public Lands

The Massachusetts Study Segment receives significant protection from the public conservation lands located along it. As with private lands, the state and federal programs described above help to ensure the conservation of public lands along the Massachusetts segment. Physical limitations further constrain potential uses of public lands in some locations. However, the primary factors influencing the use of public lands are the policies and practices applied by the agencies charged with management of these lands.

As shown earlier in **Figure 2-2** and **Map 2-1**, roughly 27 percent of the frontage in Massachusetts is in public ownership; virtually all of those public holdings are dedicated for conservation-related purposes and are protected from development or intensive land uses. (The only exceptions are small parcels owned by the Towns of Otis and Sandisfield for municipal purposes and the Massachusetts Department of Public Works in Otis for salt and equipment storage. Together, these parcels only account for about 5.2 acres and 1,175 feet, or 0.9 percent, of the total frontage along the segment.)

The largest parcels of protected open space along the segment are in the Otis, Sandisfield and Tolland State Forests, all of which have substantial river frontage. These lands are managed for multiple uses, including the wildlife habitat, recreation, hunting, and the harvest of firewood, saw timber, and mountain laurel. These activities do not have an appreciable effect on the river. The state forest lands are considered well protected from future development because Article 97 of the

Massachusetts Constitution requires a two-thirds vote of the Legislature to sell any state forest.

The Hartford Metropolitan District Commission and the U.S. Army Corps of Engineers also own sizeable tracts at the downstream end of the Massachusetts segment. These lands, which were acquired in conjunction with the development of the West Branch Reservoirs, are also protected from intensive development. The land owned by the MDC is managed specifically for watershed protection and is restricted from sale by Connecticut state statutes.

Collectively, the extensive tracts of public conservation lands are the best-protected lands in the Massachusetts study area and have contributed significantly to the continued natural character of the river valley.

(Refer to Subsection 2.1.4: Land Ownership and Subsection 2.1.5: Land Use in for additional information on the public lands in the study area.)

4.1.2 WATER RESOURCES MANAGEMENT

While locally administered programs and regulations are of primary importance for land management along the Massachusetts segment, state and federally administered statutes and programs provide the foundation for management and protection of the Farmington's instream/water resources. Nonetheless, local land use regulations are significant for certain water resource issues, particularly the control of non-point source pollution and the protection of the riverbanks and adjacent wetlands.

The most noteworthy of the local, state, and federal authorities affecting water resource management on the Massachusetts segment are summarized below.

Water Quality

Locally Administered Programs

Several local land use programs provide important protection for the water quality of the Massachusetts segment, particularly from non-point source pollution. The most significant are those related to wetlands, septic systems, subdivisions, and floodplains. The state authorizing statutes and the specific regulations adopted by the individual towns are described above in the "Private Lands" portion of Subsection 4.1.1: Land Management; the strengths and weaknesses of those regulations are evaluated in the first part of the suitability analysis for the Massachusetts segment, presented in Subsection 8.2.1: Protection Mechanisms.

State Administered Programs

- **Federal and State Clean Water Acts (P.L. 95-217; M.G.L. Chapter 131, Sec. 40):** The federal and state water pollution control statutes provide substantial protection for the Farmington River's water quality by

regulating all discharges to the river through several different programs. The Massachusetts Department of Environmental Protection directly administers the state statute and, through delegation from the U.S. EPA, the federal law as well. The MassDEP's major responsibilities under these statutes include the following:

- (1) Establishment of statewide water quality standards: These standards designate water quality goals and designated uses for different classes of water bodies, and establish base level criteria that must be met to maintain the designated uses for each class. The standards form the basis from which a state's regulatory decisions on water quality are made.

As required under the statutes, the MassDEP has established a statewide anti-degradation policy that protects high quality waters from being degraded to the base level of their classification. The specific application of this standard to the Farmington River is discussed below.
- (2) Project review and certification under Sec. 401 of the federal Clean Water Act: Section 401 requires that any proposed discharge into the waters of a state must receive a water quality certificate from that state before any necessary federal permits or licenses can be granted. This requirement makes Section 401 certification a strong tool for the state because it ensures that federally-approved projects must meet the state's water quality standards. Certification must be related directly to impacts on water quality; however, a 1994 U.S. Supreme Court decision held that water quantity is inseparable from water quality, and therefore certifications can legally include requirements related to water quantity provided they have some connection to the state's water quality standards.
- (3) Point source discharge permits: Sec. 402 of the federal Clean Water Act establishes a permit system — the "National Pollution Discharge Elimination System" (NPDES) — for all point source discharges, such as new or expanded discharges from sewage treatment plants and industrial facilities. Storm water discharges also are regulated under Sec. 402. The NPDES permit system provides an additional mechanism for the state to ensure that a proposed point source discharge will not violate the specific water quality standards established for the river basin in question.
- (4) Non-point source pollution control: The federal and state statutes also establish limited regulatory authority and encourage planning efforts for the reduction of non-point source pollution.

The EPA oversees implementation of the Clean Water Act in Massachusetts. The agency maintains

approval/veto authority over the state's water quality standards and permitting of specific projects under Sec. 402, but not over state certifications under Sec. 401.

The MassDEP has classified the entire length of the Farmington River in Massachusetts as Class B, "fishable and swimmable." The agency's current anti-degradation policy for the river provides strong protection to its high quality waters, but does not guarantee protection from future discharges. The policy prohibits new discharges unless a variance is granted by the MassDEP. Variances can be granted if a proposed discharge meets three tests: (1) "socioeconomic" review, in which the agency determines that the social and economic benefits of the project to the public outweigh the impacts of the discharge; (2) "highest and best technology" review, in which the agency determines that the applicant will use the highest and best technology available (usually meaning secondary or tertiary treatment) and has evaluated alternatives; and (3) "water quality" review, in which the agency determines that the project will not lower the water quality of the river.²²

- **Other Authorities:** Certain other state administered programs (such as the Forest Cutting Practices Act, Preferential Use Assessment, State Land Acquisition, and Massachusetts Environmental Policy Act) also play a role in protecting water quality in the Massachusetts segment. These are described above in the "Private Lands" portion of Subsection 4.1.1: Land Management.

Federally Administered Programs

- **National Wild and Scenic Rivers Act (P.L. 90-542, as amended):** The protection of the Wild and Scenic Rivers Act (prohibiting any federally licensed, permitted, or funded water resource project that would have a direct and adverse effect on the river's outstanding resources) was in place for the duration of the study period for both the Massachusetts and the Connecticut study segments. As a designated Wild and Scenic River, the Connecticut segment will receive this protection permanently. Although the Massachusetts segment was not proposed for designation, the protection afforded to the Connecticut segment will extend to any federally assisted water resources project in Massachusetts that would have a significant effect on the river's outstanding values in Connecticut. Any project that would reduce the quality of water flowing into the designated segment downstream will be of particular concern.

²² Discussions are currently underway between the Massachusetts DEP and the Connecticut DEP to evaluate whether the existing anti-degradation standard in Massachusetts adequately protects the high water quality and designated uses of the river in Connecticut.

Specific provisions for implementing the permanent protection for the Connecticut segment are described later in this chapter in Subsection 4.2.2: **Water Resources Management**. Should the Massachusetts segment be designated at some point in the future, detailed provisions similar to those in effect for the Connecticut segment would be applied to the Massachusetts segment as well.

- **Clean Water Act/Section 404:** The authority and responsibilities of the U.S. Army Corps of Engineers and the U.S. EPA under Sec. 404 are described later in this Subsection under **Channel, Banks and Wetlands**.
- **National Environmental Policy Act (P.L. 91-190):** NEPA provides a limited amount of protection for the Farmington by requiring federal agencies to evaluate the environmental impact of proposed major federal actions, to consider less environmentally damaging alternatives, and to solicit public comment on the proposal. However, NEPA cannot guarantee protection of the river because it does not require agencies to pursue the most environmentally sensitive alternative or the one most favored by the public.

Water Quantity

Flows in the Massachusetts segment are not managed on a continual basis through deliberate releases from impoundments upstream of the segment or on its tributaries. However, as described in Subsection 2.2.3: **Hydrology**, the Farmington's flows are influenced to varying degrees by the following: the largely unmanaged releases from Hayden Pond in Otis; autumn releases from Otis Reservoir into the Fall River, which have a brief but substantial effect on the lower half of the study segment; and the management of dry flood control dams on a number of tributaries by the U.S. Soil Conservation Service, which results in short-term reductions of flow in the West Branch during very wet periods.

Otis Reservoir is managed by the Massachusetts Department of Environmental Management primarily to serve reservoir recreation, fisheries, flood control, and the reservoir's shorefront property owners. The reservoir is drawn down annually during two fall weekends to create storage capacity for spring runoff and to prevent winter damage to private docks from ice movement. The resulting releases into the Fall River average roughly 220 cfs, and substantially increase flows in the Farmington at a time when the river is usually running at very low levels. The releases, which the DEM coordinates with recreational groups, provide enough water in the West Branch for intensive white water recreation during a period when other rivers in the region are too low for boating.

In addition to these direct influences on river flows, there are a number of state and federal laws and regulations that have a bearing on water quantity in the Massachusetts segment. These programs are summarized below.



Occasional releases from Otis Reservoir into the Fall River, shown here, provide a substantial contribution to flows in the Massachusetts segment.

State Administered Programs

- **Interbasin Transfer Act (M.G.L. Chapter 21, Sec. 8B-D)** regulates any proposal to withdraw more than 1 million gallons per day from a river for an out-of-basin use. Permits are granted only if all efforts have been made to develop local water sources within the "receiving basin," all practical water conservation measures have been taken, and reasonable minimum stream flows will be protected. In essence, interbasin transfers are treated as a "last resort" possibility; very few have been permitted in the Commonwealth since the enactment of this law in 1983.
- **Water Resources Management Planning Regulations (313 CMR 2.00)** require the development of river basin plans that are to be considered in all state agency decisions relating to water resources management in each watershed. Among other components, each plan must establish a minimum stream flow threshold to protect fish, wildlife, and related uses. Withdrawals that would reduce flows below the minimum threshold would not be allowed.

Because there are no existing or proposed withdrawals or discharges affecting the Farmington River in

Massachusetts, the Department of Environmental Management has determined that a full-fledged basin plan is not needed at this time. However, the agency has gathered information that provides a hydrological baseline of current conditions in the Farmington River basin.

- **Water Management Act (M.G.L. Chapter 21G)** regulates the allocation of water within a river basin. Permits for withdrawals are issued depending upon the availability of water in the basin, and new withdrawals are precluded if they would exceed the "safe yield" for the river. Thus, the process protects minimum instream flows by ensuring that the river will not be overallocated.
- **Clean Water Act/Section 401:** The state's authority under Sec. 401 to require a water quality certification for any proposed discharge is described earlier in this Subsection under **Water Quality**. The recent Supreme Court decision referred to in that section has affirmed states' authority to deny certification to projects affecting water quantity if the flow levels (discharges) released from such projects would impinge upon the designated uses and water quality criteria established in the state's water quality standards. This is potentially a powerful new tool for states to use in regulating projects that have significant effects on water quantity.
- **Massachusetts Environmental Policy Act:** See the description provided above in the "Private Lands" portion of **Subsection 4.1.1: Land Management**.

Federally Administered Programs

- **National Wild and Scenic Rivers Act:** See the description provided earlier in this Subsection under **Water Quality**. With designation of the Connecticut segment as a *Wild and Scenic River*, any federally assisted water resources project in Massachusetts that would reduce the quantity of water flowing into the designated area downstream will be of particular concern.
- **Clean Water Act/Section 404:** The authority and responsibilities of the U.S. Army Corps of Engineers and the U.S. EPA under Sec. 404 are described immediately below under **Channel, Banks and Wetlands**. The jurisdiction of those agencies would extend to cover any project affecting water quantity in the Farmington if that project involved the discharge of dredged or filled material into the segment or an adjacent wetland.
- **National Environmental Policy Act:** The responsibilities of federal agencies under NEPA are described earlier in this Subsection under **Water Quality**.

Channel, Banks and Wetlands

Locally Administered Programs

The natural appearance and function of the river's channel, banks, and adjacent wetlands receive important protection through several local land use programs. The most noteworthy include municipal floodplain, wetland, subdivision and zoning regulations. The specific regulations adopted by each of the study area towns are summarized in the "Private Lands" portion of Subsection 4.1.1: **Land Management**; the strengths and weaknesses of those regulations are evaluated in the first part of the suitability analysis for the Massachusetts segment, presented in Subsection 8.2.1: **Protection Mechanisms**.

State Administered Programs

- **Clean Water Act/Section 401:** The state's water quality certification authority under Sec. 401 provides an additional measure of protection to the Farmington's channel, banks and adjacent wetlands for any proposed project potentially affecting them that would require a federal permit or license (such as a Section 404 permit, as described below). The specific provisions of the state's Section 401 jurisdiction are described earlier in this Subsection under **Water Quality**.
- **Waterways Act (M.G.L. Chapter 91):** This law enables the MassDEP to regulate construction within the high water area of the Farmington and other rivers in the Commonwealth.²³ Before building in the river, a project proponent must obtain a license from the MassDEP. Issuance of the license is dependent upon the project's impacts on navigation and public access, and whether a water quality certification has been received.

The Waterways Act provides an important mechanism to regulate the construction of bridges and other structures in and over the Farmington. A plausible example would be private bridges that might be proposed to reach currently inaccessible areas along much of the east side of the river.

- **Massachusetts Environmental Policy Act:** See the description provided above in the "Private Lands" portion of Subsection 4.1.1: **Land Management**.

Federally Administered Programs

- **Clean Water Act/Section 404:** Section 404 provides protection to the physical character of the Farmington River by requiring any project that would discharge dredged or fill material into the river or an adjacent wetland to receive a permit from the Army Corps of Engineers (in consultation with the U.S. EPA). This permitting requirement affects both temporary and permanent projects. In the permitting process, the project's potential impacts to aquatic resources and its ability to serve the public interest are evaluated according to EPA guidelines. The guidelines prohibit fill discharges when less environmentally damaging and practicable alternatives exist.

Most construction activities affecting the river or adjacent wetlands would be subject to a Sec. 404 permit because they typically involve what would be considered a "discharge of dredged or fill material." Examples include: placement of fill (rock, sand, dirt or other material) needed for the construction of a structure, impoundment, intake or discharge pipe, etc.; site development fill for industrial or recreational uses; dams and dikes; riprap; and subaqueous utility lines.

Because Section 404 authority is so encompassing, the Army Corps has developed "regional," "nationwide," and "programmatic general" permits for minor projects that meet specified criteria. These projects do not need to go through the more rigorous individual permitting process. However, the Corps' guidelines require individual permits for all projects that would be located "in a component of the Wild and Scenic Rivers System." With designation of the Connecticut segment, the Corps will apply a screening procedure for projects on tributaries to the designated area — including the Massachusetts segment — that would otherwise qualify for a nationwide permit but that could adversely affect the designated stretch.

- **National Wild and Scenic Rivers Act:** See the description provided earlier in this Subsection under **Water Quality**. With designation of the Connecticut segment as a Wild and Scenic River, any federally assisted water resources project that would affect the Massachusetts segment's channel, banks, or wetlands and reduce the quality or quantity of water flowing into the designated area downstream will be of particular concern.
- **National Environmental Policy Act:** The responsibilities of federal agencies under NEPA are described earlier in this Subsection under **Water Quality**.

²³ The MassDEP has asserted its authority under the Waterways Act on the Farmington River from the confluence with Dimmock Brook in Otis downstream. The agency chose Dimmock Brook as the cutoff point because the river upstream was considered too small for navigation (one of the fundamental criteria for application of the Act) and there was no history of licenses having been issued above that location.

4.2 CONNECTICUT STUDY SEGMENT

4.2.1 LAND MANAGEMENT

Private Lands

As in Massachusetts, the majority of the shorelands along the Connecticut Study Segment (approximately 51.5 percent) are in private ownership. Thus, the laws and regulations that govern the use of private lands are critical to the management and protection of the river in Connecticut. As is the case in Massachusetts (as well as in most of New England), the primary responsibility for regulating land use in Connecticut rests with the local communities through their implementation of a number of state and federal statutes. The most important of these programs are described in the next part of this Subsection.

In addition to the locally administered programs that are of primary importance, there are certain statutes and programs having a bearing on land use along the Connecticut segment that are administered directly by state and federal agencies. These programs are summarized after the description of locally administered programs.

The private lands section concludes with a brief description of the physical characteristics found along the Connecticut segment that limit the potential for intensive development of the shorelands, which thereby further protect the river from degradation.

Locally Administered Programs

Following are summaries of the most important statutes and programs affecting land management that are implemented primarily at the local level.

- **Inland Wetlands and Watercourses Act (C.G.S. 22a-36 *et seq.*):** This statute provides significant protection for Connecticut's rivers by prohibiting most activities involving dredging, filling, altering or polluting of a wetland or watercourse without the issuance of a permit from the local inland wetlands commission.²⁴ Each local inland wetland commission is required to adopt boundary maps delineating "regulated areas," which must include all wetlands and watercourses in the town. A commission may expand its regulated areas beyond actual wetlands and watercourses to include buffers of adjacent non-wetland areas. These buffer areas are not protected by the Act, but rather represent areas of expanded regulation in which activities are evaluated only for their impact on an actual wetland or watercourse.

²⁴ In Connecticut, wetlands are defined on the basis of soil types, and include those designated as "poorly drained, very poorly drained, alluvial, and floodplain," while watercourses are defined as any body of water, standing or flowing, natural or artificial. (C.G.S. Sec. 22a-38(15) & (16))

The level of scrutiny a project receives can vary substantially depending on the inland wetlands commission's decision of whether the proposed project constitutes a "significant activity;" i.e., one that could have a potentially significant impact on a wetland or watercourse. All "significant activities" must have a public hearing, and generally receive a much higher level of review for potential environmental impacts.

The Act gives strong enforcement powers to the local commissions by allowing them to issue cease and desist orders, to order that violations be corrected, and to levy substantial fines. The Connecticut DEP can enforce the Act if a local commission fails to do so, but it cannot override a commission's regulatory decisions.

If properly enforced, the Act has the ability to provide thorough protection for wetlands. The Act's strong points include: one of the most comprehensive wetland definitions in the country (based on soils); mapping of all wetlands, watercourses and regulated areas; the ability to regulate projects beyond the actual wetland boundary; and a strong technical assistance program for local commissions.

Implementation of the Act has presented certain challenges in the study area towns. Several of the volunteer commissions do not have paid enforcement staff nor sufficient time and expertise to thoroughly evaluate many of the detailed engineering studies produced by developers; this has resulted in some enforcement problems. Also, many small projects that are determined not to be a "significant activity" do not receive a full environmental review, and are permitted as is or perhaps with conditions. Thus, although the Act is strong in not generically exempting projects below a certain threshold, the local determination on the significance of a project can have much the same effect. The Act also has limitations in the extent to which it can be used to restrict vegetation cutting in regulated areas. Anything short of a total clear cut is not automatically a regulated activity, and therefore may be beyond the jurisdiction of the local commission. In addition, the Act is rarely used to protect the recreational and aesthetic values of wetlands or watercourses. Rather, the focus is usually limited to evaluating the impacts of proposed projects on the hydraulics or water quality of the wetland or watercourse in question.

Overall, the Inland Wetlands and Watercourses Act provides significant protection for the Farmington's water quality, but is more limited in its ability to protect the natural character of the shorelands.

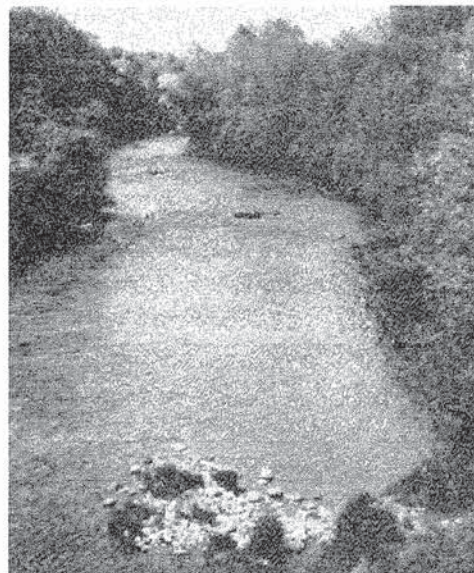
- **Connecticut Public Health Code (Sections 19-13-B100 to 19-13-B104):** The Public Health Code establishes minimum standards for the siting and

design of septic systems. The most important standard for the protection of the Farmington River is the requirement that new septic facilities and leach fields must be set back at least 50 feet from all open watercourses. In addition, requirements for percolation tests, deep observation holes, and construction specifications all must be satisfied and inspected by a sanitary agent of the Farmington Valley Health District (FVHD) before a “permit to discharge” will be granted by the District. Implementation of the program by professional staff of the Health District is an important distinction between Connecticut’s septic regulations and the “Title V” regulations in Massachusetts, which are implemented by volunteer local health boards.

- **Soil Erosion and Sediment Control Act (C.G.S. 22a-325 et seq.):** This program protects the Farmington from erosion and sedimentation impacts associated with construction and new developments. Any project that will disturb more than one-half acre of soil must receive town certification (typically from the planning and zoning commission or inland wetlands commission) of a soil erosion and sediment control plan before construction. Such plans must conform to specific performance standards and techniques that are intended to “result in a development that minimizes erosion and sedimentation during construction; is stabilized and protected from erosion when completed; and does not cause off-site erosion and/or sedimentation.” Also, towns are encouraged to develop standards for storm water management, but are not required to do so under the Act.
- **Public Act 490 (C.G.S. 12-107a-e):** This is similar to “current use assessment” programs in other states (for instance, the Chapter 61 program in Massachusetts), although that name is not formally applied to the program in Connecticut. Landowners who participate in the program receive reduced tax assessments in return for committing to keep undeveloped lands in that condition. Lands are classified as “forestland,” “farmland,” or “open space” under the Act, and are assessed based on the “use value” in that condition rather than on the full fair market value as if they were to be developed. The landowner must commit to keeping the land in its present use for a ten year period; if the land is sold or converted to a more intensive use during that time, the landowner must pay considerable conveyance taxes.

This program provides an important financial incentive to encourage landowners to keep land from being developed. It has been widely used in the Farmington Valley: as of 1990, more than 500 acres in the immediate corridor along the Connecticut Study Segment were enrolled in the program.²⁵ These open lands contribute significantly to the natural character of the area.

- **National Flood Insurance Program:** All five of the study area towns in Connecticut have established floodplain regulations pursuant to the NFIP.²⁶ In addition, the Town of Hartland has gone substantially beyond the minimum requirements of the NFIP to prohibit all building in the 100-year floodplain. See the description of this program in the “Private Lands” portion of Subsection 4.1.1: Land Management for the Massachusetts Study Segment for additional details.
- **Municipal Land Use Statutes:** The Connecticut Zoning Act (C.G.S. 8-1 et seq.), the Subdivision Control Law (C.G.S. 8-25), and other enabling laws give towns almost complete authority to regulate land use as they see reasonable for ensuring the general health, welfare, and safety of the public. These authorizing statutes will not be reviewed in this section; rather, the focus will be on the specific zoning and subdivision regulations adopted by the study area towns pursuant to the enabling statutes.



New shorelands zoning ordinances adopted by the Connecticut study towns provide strong protection for the river corridor. This view is looking upstream from the Route 20 bridge in Riverton.

Under the various authorizing statutes described above, all of the Connecticut towns in the study area have established regulations that provide protection either directly or indirectly for the Farmington River and its adjacent lands. These include ordinances regulating wetland disturbance, building in floodplain areas,

²⁵ This figure only includes parcels enrolled in the Public Act 490 program near the river in Hartland, Barkhamsted, and Canton. Statistics on the amount of riparian land enrolled in the program in New Hartford were not available.

²⁶ In Connecticut, the local planning and zoning commissions are responsible for implementing the National Flood Insurance Program.

septic system installation, density and type of development, subdivisions, erosion and sedimentation control, sand and gravel extraction, and forestry practices.

In addition to their underlying regulations, each of the towns abutting the Connecticut segment adopted specific zoning improvements during the Wild and Scenic River Study that are sufficiently important in protecting the river that they deserve special recognition. In 1991 and 1992, the four towns — Hartland, Barkhamsted, New Hartford, and Canton — each adopted a “River Protection Overlay District” as an overlay to its zoning regulations. These districts prohibit new structures, new septic systems, and sand and gravel operations within a 100-foot buffer on both sides of the river, and establish strict limitations on vegetation removal in that area. The districts provide strong, uniform protection along the entire length of the segment for the immediate shorelands, which are the most critical to the health of the river itself. Copies of the four towns’ River Protection Overlay Districts are included in **Appendix B**.

Because the majority of the shorelands along the Connecticut Study Segment are in private ownership, the local regulations are the most important mechanisms for protecting this stretch of the Farmington River from detrimental land uses. They are, therefore, central to the evaluation of the adequacy of protection for the Connecticut segment. That evaluation, which is the first component of the suitability analysis, is presented in **Subsection 8.3.1: Protection Mechanisms**. The relative strengths and weaknesses of the various local regulations in protecting the river are identified in that subsection. In addition, **Figure 8-2** provides a town-by-town comparison of the local ordinances and other protection mechanisms affecting the segment. Further information and analysis are available in the 1990 Draft Evaluation of Existing Protection.

State Administered Programs

Several programs administered by the State of Connecticut also affect land management and provide significant protection for the Farmington River. The most notable are summarized below.

- **Federal and State Water Pollution Control Statutes (P.L. 95-217; C.G.S. 22a-416 et seq.):** The Connecticut DEP has a number of responsibilities under the state and federal water pollution control statutes that have a bearing on land use along the river. These include permitting of point source discharges, issuing water quality certifications on proposed discharges, and controlling non-point source pollution. These responsibilities are described below in the “Water Quality” portion of **Subsection 4.2.2: Water Resources Management**.
- **Inland Wetlands and Watercourses Act (22a-36 et seq.):** This statute authorizes the DEP to regulate activities conducted by any state agency on riverfront lands that would affect the watercourse or associated wetlands. In such instances, the DEP solicits input from the local inland wetlands commission.
- **Flood Management Act (C.G.S. 25-68b et seq.):** This statute authorizes the DEP to regulate state agency activities within or affecting floodplains. The program is described below in the “Channel, Banks and Wetlands” portion of **Subsection 4.2.2: Water Resources Management**.
- **State Land Acquisition:** In 1987, the Connecticut General Assembly established the “Recreation and Natural Heritage Trust Program” (C.G.S. 23-73 et seq.) to ensure the long-term protection of important natural resources through state land acquisition. The program, administered by the DEP, has been used to protect two adjacent parcels of important riverfront land in Hartland. These parcels, which were acquired for a total of \$325,000, cover 123 acres and approximately 3,000 feet of frontage on the West Branch. In addition to setting aside valuable pieces of riparian land, the acquisitions have provided additional public access and a potential site for an educational center and a trout and salmon rearing facility.
- **Connecticut Environmental Policy Act (CEPA) (C.G.S. 22a-1 et seq.):** CEPA is largely modeled after its federal counterpart, NEPA, and requires all state agencies to review the environmental impacts of major state actions and to consider alternatives. For projects covered under the Act, the agency in question must prepare an environmental assessment (EA); if the EA concludes that the project “may significantly affect the environment,” then the agency is required to conduct a more full-blown environmental impact evaluation (EIE). The EIE must document potential impacts of the activity, alternatives, and mitigating measures. The EIE must be made available for public review and receive approval from the Office of Policy and Management before the project can occur.

While CEPA is a good tool for increasing public and agency awareness about the potential impacts of major state activities, it does have certain limitations. Much like NEPA, the Act requires agencies to evaluate impacts and alternatives and provide for public participation; however, it does not compel agencies to pursue the most environmentally sensitive alternatives. Unlike its Massachusetts equivalent (MEPA), CEPA does not consider state permits to constitute state actions. As a result, only projects conducted directly by a state agency or receiving state funding trigger CEPA review. Also, many state projects are generically excluded from CEPA review.

- **Other Authorities:** Certain other state administered programs also could have an effect on land use along the Connecticut segment. These include the DEP's responsibilities for the regulation of hazardous waste storage under the *Storage of Hazardous Wastes Near Watercourses Act* (C.G.S. 22a-134p(a) *et seq.*), and the State Siting Council's jurisdiction regarding the location of hazardous waste/low-level radioactive waste storage, energy plants, and telecommunications facilities pursuant to C.G.S. 22a-114 *et seq.*, 22a-163 *et seq.*, and 16-50g *et seq.*

Federally Administered Programs

- **Clean Water Act/Section 404 (P.L. 95-217):** Section 404 affects land management along the river by requiring any project that would discharge dredged or fill material into the river or an adjacent wetland to receive a permit from the Army Corps of Engineers

(in consultation with the U.S. EPA). This program is described above under "Channel, Banks, and Wetlands" in Subsection 4.1.2: *Water Resources Management* for the Massachusetts segment.

Physical Limitations to Development

In addition to the protection provided by the programs described above, the Connecticut study segment receives an important measure of protection from certain physical characteristics of the river corridor that limit the development potential of privately owned shorelands.

In Hartland, there is essentially no developable private land immediately adjacent to the river. Along most of the west side, the lack of road access and steep slopes render the shorelands undevelopable. On the east side, Hogback Road parallels the river at a short distance, and the land in between is either in the 100-year floodplain (which is precluded from development under Hartland's regulations) or a classified wetland (riverwash soils).

Natural features play less of a role in limiting potential development along the river in Barkhamsted, but there are few opportunities for new development in that town for other reasons. As discussed further in the next part of this Subsection, only 38 percent of Barkhamsted's 12 miles of river frontage is privately owned. Those private lands are located in or near the villages of Riverton and Pleasant Valley, and most have already been developed. Thus, the potential for future subdivision and development is severely limited.

Physical limitations provide the least amount of protection for the river as it flows through New Hartford, but much of the private land in the town has already been developed. In one important undeveloped area on the eastern shoreline extending for about three-quarters of a mile below the confluence with the East Branch, steep slopes descend to the riverbank. A small local road also closely parallels the river in this area, isolating the immediate shorelands from any development that might occur on the hillside. In the heart of the scenic and heavily used Satan's Kingdom gorge, extremely steep slopes provide an important natural barrier to roads, structures, or essentially any other potential activity. The physical conditions in the area effectively isolate the shorelands downstream of the gorge for another half-mile as well.

Little development potential also exists along Canton's 1.16 miles of shoreline on the east side of the river. Seventy-six percent of the developable lots in this area already have structures on them. These are small (1-2 acre) lots and, in accordance with the town's zoning regulations, cannot be further subdivided and developed.



Physical limitations to development — such as the steep-sided walls of Satan's Kingdom — provide an important measure of protection to the Connecticut segment.

Public Lands

The extensive public lands along the Connecticut segment that are dedicated for conservation purposes are crucial to the long-term protection of the river and the maintenance of the rural character of the upper Farmington Valley. These lands, which cover approximately 48.5 percent of the shorelands along the segment, are the best protected of any lands in the study area from development or intensive land uses.

As is the case in Massachusetts, state and federal programs affecting private land management also help to ensure the conservation of public lands in Connecticut. Physical features of the river corridor also limit the potential uses of these lands. But clearly the most important factors influencing the use of public lands are the policies and practices applied by the agencies charged with management of those lands.

The three state forests in the area (American Legion, Peoples, and Nepaug) combine to form the largest public holdings, accounting for more than 27 percent of the entire frontage on the segment. The state forests are managed by the Connecticut DEP for multiple uses, including wildlife habitat, water quality, a variety of recreational activities, and the harvest of firewood, saw timber, and mountain laurel. Transfer of these lands to another agency or sale to private owners is highly unlikely because they have been dedicated specifically for conservation purposes.

The Hartford Metropolitan District Commission also owns several large parcels that encompass more than 20 percent of the shorelands along the segment. The largest of the MDC's parcels on the segment, the Greenwoods parcel located in Barkhamsted and New Hartford, includes an important floodplain area and provides extensive access to the river. The MDC leases this land to the DEP for fishing, hunting, and other public recreational uses. The MDC also owns three large riparian parcels near the beginning of the segment in Hartland.

The MDC's lands are managed for multiple uses, including water quality protection, recreational access, timber harvest, and sand and gravel removal. The more intensive of these uses have been managed so as to avoid detrimental effects on the river. Transfers of the utility's lands are governed by state statute and its charter according to the following provisions:

1. Most of the MDC land on the segment is Class I watershed land. Under C.G.S. 25-32(a)-(e) and 25-37c,d, these lands are precluded from sale except to another water company or a municipality, unless the classification of the land is changed.
2. Even if the classification of these lands is changed to a less stringent level, the MDC's Charter restricts the sale of any parcel greater than 10 acres in its existing reservoir system unless it is for "continued public use" or approved by referendum in the MDC's eight member towns.

The last piece of public land on the segment — a small parcel owned by the Town of New Hartford that is managed as a

local park — provides important public access to the east side of the river.

(Refer to Subsection 2.1.4: Land Ownership and Subsection 2.1.5: Land Use in for additional information on the public lands in the study area.)

4.2.2 WATER RESOURCES MANAGEMENT

As is the case in Massachusetts, state and federally administered statutes and programs are of greater importance for the management and protection of the Farmington River's instream/water resources in Connecticut than are locally administered programs. Nonetheless, local land use regulations are significant for certain water resource issues, particularly the control of non-point source pollution and the protection of the riverbanks and adjacent wetlands.

The most noteworthy of the local, state, and federal authorities affecting water resource management on the Connecticut Study Segment are summarized below.

Water Quality

Locally Administered Programs

- **Municipal Land Use Regulations:** Several local land use programs provide important protection for the water quality of the Connecticut segment, particularly from non-point source pollution. The most significant include the River Protection Overlay Districts and regulations related to wetlands, septic systems, subdivisions, and floodplains. The state authorizing statutes and specific regulations adopted by the individual towns are described above in the "Private Lands" portion of Subsection 4.2.1: Land Management; the strengths and weaknesses of those regulations are evaluated in the first part of the suitability analysis for the Connecticut segment, presented in Subsection 8.3.1: Protection Mechanisms.
- **Municipal Sewerage Systems Statute (C.G.S. 7-245 et seq.):** Under this law, each town is empowered to establish a local water pollution control authority. This board is responsible for preparing a local water pollution control plan, and for managing the town's sewage treatment plant if one exists. In carrying out these responsibilities, the board can take strong steps to protect riparian water quality through such actions as developing and implementing a sewer avoidance program for specific areas and ensuring effective management of on-site facilities — including requirements for periodic inspection and maintenance of on-site sewage disposal systems.

Of the four towns abutting the segment, only New Hartford and Canton have established local water pollution control authorities, and New Hartford has the only municipal sewage treatment plant that

directly affects the segment. (Canton's facility is located downstream of the segment.) As with all municipal facilities, the New Hartford plant must comply with the DEP's water quality standards, regulations, and permitting requirements.

State Administered Programs

- **Federal and State Water Pollution Control Statutes** (P.L. 95-217; C.G.S. 22a-416 *et seq.*): Two laws govern the protection of water quality in Connecticut: the federal Clean Water Act, and the state's Water Pollution Control Statutes. The Connecticut DEP directly administers the state statutes and, through delegation from the U.S. EPA, the federal law as well.

The federal and state laws provide substantial protection for the Farmington River's water quality by regulating all discharges to the river through several different programs. Much as described in the "Water Quality" portion of **Subsection 4.1.2: Water Resources Management** for the Massachusetts segment, the Connecticut DEP has four primary responsibilities under the statutes:

- (1) Establishment of statewide water quality standards;
- (2) Project review and certification under Sec. 401 of the Clean Water Act;
- (3) Permitting of point source discharges and storm water discharges;
- (4) Non-point source pollution control.²⁷

The upper Farmington River in Connecticut is currently designated as Class A (suitable for drinking water supply) from the Goodwin Dam downstream to the confluence with the Still River, and as Class B (suitable for fishing and swimming) for the remainder of the study segment. For Class A waters, the DEP's general anti-degradation policy prohibits point source discharges "unless a temporary discharge is necessary to remediate an existing surface or groundwater pollution problem" or "the discharge consists of clean water, treated backwash waters from public or private drinking water treatment systems or dredging and dredged material dewatering operations and does not result in violation of Class A standards." The policy requires that Class B waters be maintained at their existing high quality unless a lowering of water quality "is necessary to accommodate overriding economic and social development which the Commissioner

[of the DEP] has determined is clearly in the public interest, and...existing uses will be protected fully."

However, during the development of the Upper Farmington River Management Plan, the DEP committed to amend the Connecticut Water Quality Standards, including the anti-degradation policy, with a special provision for the upper Farmington (see **Chapter 7**). This new provision will prohibit new discharges from sewage treatment plants or industrial sites into the segment or its tributaries, and will allow increases in the volume of existing discharges only if they are accompanied by improved treatment so that pollutant loading to the river is not increased.²⁸

With respect to storm water discharges; the DEP has established general permits for projects associated with two types of activities: (1) construction projects that involve the disturbance of greater than five acres of land; and (2) industrial facilities, as defined by the Standard Industrial Classification (SIC) Codes. Applicants are covered by these general permits if they register with the DEP, but they must be able to demonstrate that they are in compliance with the general permit requirements. The permits require, among other things, that the permittee develop a pollution prevention plan and monitor the discharge. The DEP cannot deny a registration; however, the agency can enforce the permit requirements if the permittee is found to be in violation.

In the Upper Farmington River Management Plan, the DEP also agreed to establish a new standard for storm water discharges and other activities regulated under Section 402 of the Clean Water Act. This standard establishes "Best Management Practices" as a condition for the registration of any new activities of this nature that would discharge directly into the segment.

To address non-point source pollution problems, the DEP developed a statewide program described in Non-Point Source Pollution: An Assessment and Management Plan (February 1989). In that document, the agency identified 65 recommendations specific to national non-point source categories, and 25 actions designed to enhance non-point source management in Connecticut's statewide water quality management programs. The Plan emphasizes existing regulatory mechanisms, and focuses on water quality and water resource management, potable water supplies, management of hazardous materials and solid wastes, and local land use management.

²⁷ The EPA oversees implementation of the Clean Water Act in Connecticut and maintains approval/veto authority over the state's water quality standards and permitting of specific projects, but not over Sec. 401 certifications.

²⁸ Implementation of this new provision may require a change in state statute. Also, the provision includes an exception that allows for minor increases in the concentration of innocuous water quality parameters that are not detrimental to the aquatic environment. See the Upper Farmington River Management Plan for details.

The DEP has supplemented this program for the Farmington by pledging to establish Best Management Practices as a condition for applicable permits for projects involving non-point source pollution within 100 feet on both sides of the segment.

Collectively, the special provisions applied to the Connecticut segment by the DEP provide very strong protection from potential water quality degradation, and clearly demonstrate the agency's commitment to protecting the river.

- **Other Authorities:** The state has certain other regulatory responsibilities that could affect water quality in the Connecticut segment. Two such programs are the DEP's regulation of the storage of hazardous substances near the river under the Storage of Hazardous Wastes Near Watercourses Act (C.G.S. 221-134p(a) et seq.), and the State Siting Council's jurisdiction regarding the location of hazardous waste/low-level radioactive waste storage, energy plants, and telecommunications facilities pursuant to C.G.S. 22a-114 et seq., 22a-163 et seq., and 16-50g et seq.

Also, any proposed project affecting water quality that would be conducted by a state agency or receive state funding could trigger the requirements of the Connecticut Environmental Policy Act. This statute is described above in the "Private Lands" portion of Subsection 4.2.1: Land Management.



Flows in the Connecticut Study Segment are largely controlled by releases from the West Branch Reservoirs in accordance with a complicated set of legal and statutory requirements.

Federally Administered Programs

- **National Wild and Scenic Rivers Act:** As a designated Wild and Scenic River, the Connecticut segment will receive permanent protection under the Act from any federally assisted water resources project that would have a direct and adverse effect on its outstanding values. The Upper Farmington River Management Plan contains detailed provisions describing how the protections of the Act will be implemented for proposed projects that could affect water quality in the designated segment. These provisions are summarized in the synopsis of the Management Plan presented in Chapter 7.
- **Clean Water Act/Section 404:** The authority and responsibilities of the U.S. Army Corps of Engineers and the U.S. EPA under Sec. 404 are described in the "Channel, Banks and Wetlands" portion of Subsection 4.1.2: Water Resources Management for the

Massachusetts segment. The jurisdiction of those agencies would extend to cover any project affecting the Farmington's water quality through the discharge of dredged or filled material into the river itself or an adjacent wetland.

- **National Environmental Policy Act:** The responsibilities of federal agencies under NEPA are described under "Water Quality" in Subsection 4.1.2: Water Resources Management for the Massachusetts segment.

Water Quantity

River flows in the Connecticut Study Segment are largely controlled by releases from the West Branch Reservoirs. These releases are regulated in accordance with a complicated set of legal agreements and statutory requirements, as summarized below.

Goodwin Dam. Constructed between 1955 and 1960 by the Hartford MDC for future water supply purposes, the Goodwin (or "Hogback") Dam releases water directly into the Connecticut Study Segment. The MDC is required to release water from this dam in accordance with Connecticut General Statutes, a riparian agreement with the Farmington River Power Company (which operates a hydroelectric facility downstream at Rainbow Dam),²⁹ and an agreement with the "Allied Connecticut Towns" (a group of communities located downstream of the dam). The MDC also operates a hydroelectric facility in the dam, and must comply with associated regulatory requirements of the Federal Energy Regulatory Commission. The instantaneous releases required under these arrangements these include the following:

²⁹The riparian agreement between the MDC and the Farmington River Power Company was last revised on July 13, 1961. The original agreement dates from 1911 and 1925.



- * minimum release of 50 cfs at all times, as required by state statute;
- * additional release of all natural inflow up to 150 cfs;
- * additional release of all waters released from Otis Reservoir; and
- * additional release of up to 300 cfs upon request by the Farmington River Power Company.³⁰

Of these requirements, the one with the greatest impact on flows in the Connecticut segment is the riparian agreement with the Farmington River Power Company. In conjunction with the instantaneous flow provisions listed above, this agreement requires the MDC to release up to 21.7 billion gallons of water per year upon request, or to pay the company for whatever water is not provided up to that total. The riparian releases can be made from the West Branch, Barkhamsted, East Branch Compensating,³¹ or Nepaug Reservoirs, and are delivered according to the following general schedule:

May 15 - October 31:	17.4 billion gallons
November 1 - March 15:	4.3 billion gallons plus deficit from preceding period up to 3 billion gallons
March 16 - May 14:	no riparian releases

To illustrate the contribution the riparian releases make to flows in the river, during the four-year period from 1987-1990, riparian requests averaged roughly 190 cfs/month from May 15 to October 31, and 70 cfs/month from November 1 to March 15. Excluding the months during those periods when no requests for water were made, the actual requests ranged from 100 to 300 cfs, with an average request of 210 cfs in the summer interval and 184 cfs in the winter interval.

Colebrook Dam. Located immediately upstream of the Goodwin Dam and Reservoir, the Colebrook (or "Colebrook River") Dam was constructed by the U.S. Army Corps of Engineers for flood control and water supply purposes, and began operation in 1969. The dam is operated jointly by the Corps and the MDC, which has established a hydroelectric facility in the structure. While the Colebrook Dam discharges into the Goodwin Reservoir rather than directly into the Farmington River, it does influence flows in the river downstream. Extra capacity was built into the Colebrook Reservoir to provide fishery flows for the river in April and May (to enhance the shad fishery) and in August, September and October (to enhance the sea run brown trout fishery). These flows, which are passed through the Goodwin Dam, are dictated by the Connecticut DEP and coordinated with the Corps.

³⁰ The MDC also provides special recreational releases, if possible, when requested by canoeing and kayaking groups.

³¹ The East Branch Compensating Reservoir is also referred to as "Lake McDonough."

In addition to these flow management requirements, there are a number of other laws and regulations affecting water quantity in the Connecticut Study Segment. These are described below.

State Administered Programs

- **Connecticut Plan for Public Water Supply Coordination (C.G.S. 25-33 et seq.):** In 1985, the Connecticut General Assembly established a long-range, statewide water supply planning process under the administration of the Department of Health Services. This is the state's official process that will be used to evaluate whether withdrawals from the West Branch of the Farmington may be needed to meet future water supply needs. The overall program and the relevant documents that have been produced for the Farmington basin are described in detail in **Section 5.1: Water Supply Issues.**
- **Water Diversion Policy Act (C.G.S. 22a-365 et seq.):** This statute, adopted by the Connecticut General Assembly in 1982, was designed to protect the state's water resources and to ensure the balancing of different needs in the allocation of water within any particular basin. The Act establishes that any water diversion must be "necessary" and compatible with the state's long range water resource planning for the basin, and must reflect a balance among the needs for public water supply, water quality, waste assimilation, flood management, water-based recreation, wildlife habitat, agriculture, fish and wildlife, and low flow requirements. The law requires a permit from the DEP for any withdrawal of surface or ground water greater than 50,000 gallons per day, or for any construction (such as a dam) that would change the instantaneous flow of any water of the state. In addition to evaluating the factors listed above, the DEP considers whether the applicant has adequately addressed the following: thorough exploration of alternatives, including conservation; implementation of conservation measures; and initiation of public information programs on conservation techniques. In general, the DEP's review emphasizes the following sequence: (1) avoid adverse effects of any diversion; (2) minimize any unavoidable effects; and (3) pursue mitigation of unavoidable effects.
- **Clean Water Act/Section 401:** The states' authority under Sec. 401 to require a water quality certification for any proposed discharge is described in the discussion of "Water Quality" for the Massachusetts segment in **Subsection 4.1.2: Water Resources Management.** The recent Supreme Court decision referred to in that section has affirmed states' authority to deny certification to projects affecting water quantity if the flow levels (discharges) released from such projects would impinge upon the designated uses and water quality