

# **Lower Merrimack River Report to the General Court 1990**

## **I. Introduction**

The Merrimack River begins at the confluence of the Pemigewasset and Winnepesaukee Rivers in the town of Franklin, New Hampshire, and flows for 116 miles before running into the Atlantic Ocean in Newburyport, Massachusetts. The Merrimack River Watershed Council has nominated a 15 mile segment of the Merrimack River from the Merrimack-Bedford town line to the Massachusetts border for designation into the New Hampshire Rivers Management and Protection Program. This river segment has been evaluated by the Department of Environmental Services and found to qualify for designation.

The Rivers Management and Protection Program Act was passed by the General Court in 1988. The Act states in part: "it is the policy of the state to ensure the continued viability of New Hampshire rivers for the benefit of present and future generations. The state shall encourage and assist in the development of river corridor management plans and regulate the quantity and quality of in-stream flow along certain protected rivers or segments of rivers to conserve and protect outstanding characteristics including recreational, fisheries, wildlife, environmental, cultural, historical, archaeological, scientific, ecological, aesthetic, and community significance so that these valued characteristics shall endure as part of the river uses to be enjoyed by New Hampshire people."

The Act directs the Department of Environmental Services to receive and evaluate nominations for the designation of rivers or river segments to protect outstanding values and characteristics under the Rivers Management and Protection Program. The Commissioner must forward approved nominations to the General Court for review and approval.

In fulfillment of this statutory directive, the nomination of the Lower Merrimack River is hereby forwarded to the General Court. The Department of Environmental Services recommends that this river segment be designated into the Rivers Management and Protection Program and classified as a "Community River" under the provisions of the protection measure amendments to RSA Ch. 483. The outstanding statewide and local resource values and characteristics which qualify this river segment for designation are described in this report.

## **II. The Lower Merrimack River Nomination**

### **A. Description**

The Lower Merrimack River begins at the Merrimack-Bedford town line and flows for 15 miles through the communities of Merrimack, Litchfield, Hudson, and Nashua before entering the State of Massachusetts (see map). The segment is part of the larger Merrimack River system which bisects the lower third of New Hampshire and drains a 5,014 square mile watershed extending from the White Mountain region to east-central Massachusetts. Important tributaries to the Lower Merrimack River include the Souhegan and Nashua Rivers.

The Lower Merrimack River flows through a region of rapid population growth and development that is heavily influenced by the Boston metropolitan area. Land use along the river has developed in a manner that is markedly different among the four river communities. A railroad line west of the river has led to the use of the river corridor for industrial development in

Merrimack and Nashua, while land use near the river in Litchfield and Hudson has remained primarily agricultural and residential. The river shoreline itself is forested and remarkably undeveloped in all four communities, however, increasing pressure to develop the river corridor is evidenced by an increase in residential development proposals before local planning boards. In cooperation with all four river communities, the Nashua Regional Planning Commission has prepared a management plan to address the use and conservation of the river corridor and is working with all of the communities to implement the plan's recommendations.

## **B. River Values and Characteristics**

The Rivers Management and Protection Program Act (RSA Ch. 483) lists nine resource values and characteristics which may qualify a river for designation into the program. The Lower Merrimack River supports many of these natural, managed, cultural, and recreational resource values and characteristics at a level of either statewide or local significance. The resource values which qualify the Lower Merrimack River for designation include: wildlife, plant, and fish resources; scenic values; water withdrawals; wastewater discharges; historic and archaeological resources; community resources; and recreational resources.

### **1. Natural Resources**

a. **Wildlife and Plant Resources:** In a region of rapid land development, the Lower Merrimack River is a safe haven of critical habitat for a variety of plant and animal species, including the federally-endangered bald eagle. The river corridor provides the necessary elements of eagle wintering habitat: perch or roost sites and open waters for fishing. Perch sites - large open branched trees - on the river's bank provide the eagles with good viewing areas from which to locate food. At night, the eagles move to the more sheltered inland areas, usually conifer stands, that offer protection from the wind and cold temperatures. The Audubon Society records eagle sightings in New Hampshire and has found that the level of winter eagle activity on the Merrimack River is second only to that on the Great Bay. As one of New England's major north-south running rivers, the Lower Merrimack River also serves as an important migratory route for waterfowl and songbirds.

The New Hampshire Natural Heritage Inventory has identified one state endangered plant species, the Wild Lupine, and seven state threatened plant species within the river corridor. In addition, the river corridor supports three exemplary natural communities: the Southern New England lake sediment/river terrace forest, New England pitch pine/scrub oak barren, and the Northern New England level bog. One state threatened reptile, the eastern hognose snake, is also believed to live in the river corridor.

b. **Fishery Resources:** Anadromous fish species - fish that live in saltwater and return to freshwater to spawn - are beginning to return to the Lower Merrimack River as the result of a cooperative state-federal restoration program that began in 1969. The completion of a fish passage facility at the Pawtucket Dam in 1986 has allowed american shad to move upstream to Manchester after more than a century's absence. New and improved fish passage facilities and on-going research efforts are directed toward the return of the native Atlantic salmon as far north as the waters of the Pemigewasset River.

The New Hampshire Natural Heritage Inventory lists the state endangered banded sunfish as occurring in the Lower Merrimack River. The Department of Fish and Game stocks the river with rainbow and brook trout.

c. Scenic Values: The Lower Merrimack River offers beautiful views of one of New Hampshire's largest "working" rivers. From the river itself, the banks are forested and rise to a level sufficient to screen from view much of the development within the corridor. Panoramic views of the river **and its corridor are possible from bridge crossings and other public access points.**

## **2. Managed Resources**

a. Water Withdrawals: The Lower Merrimack River is an important surface water supply for both domestic and commercial purposes in the four river communities and the region. Five large water users have registered with the Water Resources Division of the Department of Environmental Services, including Pennichuck Water Works, a golf club, and three agricultural operations. Population growth in southern New Hampshire is expected to increase demand for water withdrawals from the Lower Merrimack River.

b. Wastewater Discharges: As an assimilator of municipal and industrial wastewater, the Lower Merrimack River serves a vital function. Ten permits to discharge wastewater to the river have been granted under the federal Clean Water Act and state water quality laws. Dischargers include three municipal wastewater treatment facilities, five industrial facilities, a shopping mall, and a fish hatchery. Again, population growth and development in this region of the state will likely lead to additional applications to discharge wastewater to the river.

## **3. Cultural Resources**

a. Historic/Archaeological Resources: The Merrimack River played a pivotal role in the settlement and subsequent development of the region. The river and its banks provided many resources for early inhabitants, including fish, migratory birds, and an important route for communication and transportation. Prehistoric and historic sites along the river include Indian sites, cellar holes, cemeteries and the remains of a canal navigation system. Two archaeological sites in the town of Litchfield have been deemed eligible for listing on the National Register of Historic Places: the Thebodeau site north of Chase Brook and the Danforth Archaeological District in south Litchfield. The American Canal Society believes that the lock at Cromwells Falls is the best remaining specimen of the Merrimack River Navigation System and should be stabilized and preserved.

b. Community Resources: The Lower Merrimack River provides many significant resources for the four river communities, including recreation, water supply, waste assimilation, and open space. The importance of the river has been formally recognized in the each community's master plan and recommendations for additional river protection through the use of zoning, subdivision and site plan review regulations. Recently, the Nashua Regional Planning Commission, with the assistance and cooperation of representatives from each of the four river communities, prepared a river corridor management plan for the Lower Merrimack River. The plan is designed to assist the communities in guiding and managing growth along the river.

## **4. Recreational Resources**

a. Boating: Current boating activities on the Lower Merrimack River include canoeing, kayaking, crewing, and power boating. Although a lack of public access has limited boating activities, the river has enormous potential to meet the increasing recreational needs of the growing region. The river provides both quickwater and flatwater experiences for canoeists and kayakers and is one of the only large surface water bodies in the region.

b. Fishing: Small and large mouth bass are important game species sought by anglers on the Lower Merrimack River. The restoration of anadromous salmon and additional public access sites will increase the use of the river for fishing.

c. Other Recreation Potential: The Lower Merrimack River has tremendous potential to support a variety of recreational activities, both on the water and on shore. Efforts are underway to obtain easements for a hiking trail that would become part of the New Hampshire Heritage Trail, stretching from the Massachusetts border, up the Merrimack, Pemigewasset, and Connecticut Rivers to the Canadian border. Improved access and water quality will lead to the increased use of the river for swimming and fishing.

### **III. Local Support**

Local support for the designation of the Lower Merrimack River into the Rivers Management and Protection Program is good. On December 7, 1989, over 35 people attended a public hearing on the nomination of the river at the Griffin Memorial School in Litchfield; a majority of those in attendance strongly supported the designation of the river segment. Members of the Litchfield and Hudson Conservation Commissions and the Hudson Planning Board spoke in favor of the designation. The Merrimack Planning Board, Merrimack Town Planner, and Nashua Regional Planning Commission have officially supported the designation.

### **IV. Summary and Recommendations**

The Lower Merrimack River supports a variety of significant state and local resources. To better protect and manage these resources, and to improve existing water quality, the Department of Environmental Services recommends the following actions:

Recommendation 1: The General Court should adopt legislation which designates the Lower Merrimack River from the Merrimack-Bedford town line to the Massachusetts border into the Rivers Management and Protection Program and classifies the segment as a "Community River."

Under the provisions of the protection measure amendments to RSA Ch. 483, a community designation will provide increased protection for the river against new dam construction, damaging channel alterations, water quality impairment, and the inappropriate use of motorboats. A designation will also require the establishment of protected instream flow levels to maintain the minimum amount of water in the river that is necessary to safeguard public trust resources, including fisheries, water quality, and recreation. A Local River Management Advisory Committee will be established to coordinate local issues related to the protection and management of the river and will provide local residents with a direct avenue for formal input to state decisions that affect the river. Finally, a designation will result in the development of a long-range management plan for the river that coordinates state planning and management of fisheries, water quality and quantity, and recreation.

A "Community River" classification is recommended for the Lower Merrimack River. Under the proposed amendments to RSA Ch. 483, community rivers are defined as "those rivers or river segments which flow through populated areas of the state and which possess actual or potential resource values. Such rivers have some residential or other building development near their shorelines, are readily accessible by road or railroad, and may include some impoundments or diversion." As the Lower Merrimack River flows through the heavily populated southern tier of New Hampshire, the river clearly meets the definition of a community river.

The designation of the Lower Merrimack River as a "Community River" under the Rivers Management and Protection Program will clearly express the intent of the General Court with regard to the protection and management of the river and will focus attention on the river as a natural resource of both statewide and local significance. This attention will help to insure greater scrutiny of plans and proposals which have the potential to significantly alter or destroy those river values and characteristics which qualify the river for designation.

Recommendation 2: The General Court should adopt legislation to upgrade the water quality classification of the Lower Merrimack River below the confluence of the Nashua River from "C" to "B".

Under RSA Ch. 485-A, the General Court has given every surface water body in New Hampshire a water quality classification of either A, B, or C. These classifications represent the legislature's water quality goals for these surface waters, rather than reflecting existing water quality levels. Legislative water quality classifications for the Lower Merrimack River are: Class B from the Merrimack-Bedford townline to the confluence of the Nashua River and Class C from the Nashua River to the Massachusetts border.

Current water quality in the Lower Merrimack River is poor. The segment from the Merrimack-Bedford town line to the confluence of the Nashua River does not support the Class B standards due to raw sewage discharges to the river in Manchester. The City of Manchester is under a court-ordered consent decree to cease all raw sewage discharges to the river by October 31, 1992, after which it is expected that the river will meet Class B standards except during storm events when combined sewer overflows (CSOs) impair water quality. The most recent sampling by the Water Supply and Pollution Control Division indicated that the segment of the river from the confluence of the Nashua River to the Massachusetts border was not supporting Class B standards due to discharges from the Nashua wastewater treatment facility and discharges into the Nashua River in Massachusetts. A new secondary treatment facility in Nashua that began operation in late 1989 and the cessation of raw discharges in Manchester should bring water quality in this segment up to Class B standards, except during storm events when CSO's from Nashua impair water quality.

It is appropriate for the General Court to upgrade the water quality classification of the Lower Merrimack River from the confluence of the Nashua River to the Massachusetts border given the importance of achieving and maintaining a high level of water quality in the river and because of the clear potential for the river to support Class B standards in the near future, at least during dry weather flows.

Recommendation 3: The General Court should require the Rivers Management Advisory Committee, in consultation with the Department of Environmental Services, to report on the water quality status of the Lower Merrimack River on or before January 1, 1993.

In order to monitor the progress of the Lower Merrimack River toward supporting Class B water quality standards, it is recommended that the General Court require the Rivers Management Advisory Committee, in consultation with the Department of Environmental Services, to report on the water quality status of the river on or before January 1, 1993.

Recommendation 4: The communities of Merrimack, Litchfield, Hudson, and Nashua should continue to work toward protection of the Lower Merrimack River through the adoption of the recommendations in the Merrimack River Corridor Management Plan prepared by the Nashua Regional Planning Commission.

While a state designation will improve the protection and management of the river itself, continuing local efforts will be needed to address the use and conservation of the river corridor. A growing recognition by local citizens of the Lower Merrimack River's valuable contribution to the overall quality of life in their communities is reflected in their desire to see it designated into the state program and by the preparation of the Merrimack River Corridor Management Plan by the Nashua Regional Planning Commission. The four river communities should work toward the adoption of the recommendations in the Lower Merrimack River Corridor Management Plan.

In summary, the establishment of a clear policy and specific instream protection measures by the General Court, and a continuing commitment on the part of local governments and residents to protect and manage the river corridor through sound land use decisions will ensure that the outstanding resources of the Lower Merrimack River will "endure as part of the river uses to be enjoyed by New Hampshire people."