

# **THE LOWER EXETER AND SQUAMSCOTT RIVERS**

**A Report to the General Court**

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**New Hampshire Rivers Management and Protection Program  
Department of Environmental Services  
Office of the Commissioner  
February 2011**





# **The Lower Exeter and Squamscott Rivers**

## **A Report to the General Court**

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## TABLE OF CONTENTS

I. INTRODUCTION .....	1
II. THE LOWER EXETER AND SQUAMSCOTT RIVERS NOMINATION.....	3
A. DESCRIPTION.....	3
B. RIVER VALUES AND CHARACTERISTICS .....	3
1. Natural Resources .....	3
a. Geologic Resources.....	3
b. Wildlife Resources.....	4
c. Vegetation and Natural Communities.....	4
d. Fish Resources .....	4
e. Water Quality .....	5
f. Natural Flow Characteristics .....	5
g. Open Space .....	6
2. Managed Resources .....	6
a. Impoundments.....	6
b. Water Withdrawals and Discharges.....	6
c. Hydroelectric Resources .....	6
3. Cultural Resources.....	6
a. Historic and Archaeological Resources .....	6
b. Community River Resources .....	7
4. Recreational Resources.....	7
a. Fishery.....	7
b. Boating.....	7
c. Other Recreation .....	7
d. Public Access.....	8
5. Other Resources .....	8
a. Scenery.....	8
b. Land Use .....	8
c. Land Use Controls .....	8
d. Water Quantity.....	8
e. Riparian Interests/Flowage Rights .....	9
III. CONSIDERATIONS FOR THE PROTECTION OF INSTREAM FLOW.....	10
IV. LOCAL SUPPORT .....	12
V. SUMMARY AND RECOMMENDATIONS.....	13
VI. MAPS .....	15

## I. INTRODUCTION

The Exeter and Squamscott Rivers are one river system with two names; the Exeter River is the freshwater portion of the river and the Squamscott River is the saltwater portion. This Exeter/Squamscott river system, a tributary of the Piscataqua River and the Great Bay Estuary in New Hampshire, begins in western Rockingham County and runs eastward through the towns of Chester, Fremont, Brentwood, Exeter, Newfields and Stratham. The upper portion of the Exeter River was designated in 1995 under the Rivers Management and Protection Program (RMPP) from its headwaters at the Route 102 Bridge in Chester to its confluence with Great Brook in Exeter, a distance of over 38 miles. This nomination seeks to designate the lower 2.2 miles of the Exeter River and the entire 6.3 miles of the Squamscott River. The entire Exeter/Squamscott River is approximately 47 miles long and a 8.5 mile segment has been nominated for designation into the RMPP. As proposed by the nominating organization, the Exeter River Local Advisory Committee (ERLAC) with assistance by Rockingham Planning Commission (RPC), the designation would begin from the end of the current designation at the confluence of Great Brook in Exeter to the river's confluence with Great Bay Estuary at the upstream side of the railroad trestle in Newfields and Stratham. The Department of Environmental Services (DES) has reviewed the nomination and is recommending the lower Exeter River and Squamscott River for designation into the RMPP.

The Rivers Management and Protection Act (RSA 483) was enacted in 1988. The act states in part that:

*It is the policy of the state to ensure the continued viability of New Hampshire rivers as valued economic and social assets 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 instream flow along certain protected rivers or segments of rivers to conserve and protect outstanding characteristics including recreational, fisheries, wildlife, environmental, cultural, historical, archeological, scientific, ecological, aesthetic, community significance, agricultural and public water supply so that these valued characteristics shall endure as part of the river uses to be enjoyed by New Hampshire people.*

The act directs DES to receive and evaluate nominations for the designation of rivers or river segments into the RMPP to protect outstanding values and characteristics. Nominations approved by the DES commissioner must be forwarded to the next session of the General Court for review and approval. In fulfillment of this statutory directive, the nomination of the lower Exeter River and Squamscott River is hereby forwarded to the General Court.

DES recommends that the lower Exeter River and Squamscott River be designated as a protected river under the RMPP. DES further recommends that segments of it be variously classified as a

“rural” or “community” rivers as described in the recommendations contained in this report, thereby affording it the full benefit of the applicable protection measures outlined in RSA 483. The outstanding statewide and local resource values and characteristics that qualify the lower Exeter River and Squamscott River for designation are described herein.

## II. THE LOWER EXETER RIVER AND SQUAMSCOTT RIVER NOMINATION

### A. DESCRIPTION

The lower Exeter River and Squamscott River are part of the Piscataqua River drainage basin flowing near the boundary between Maine and New Hampshire. The entire Exeter/Squamscott River watershed is located entirely within New Hampshire. The river system is actually one river with two names, the Exeter River being the freshwater portion and the Squamscott River being the tidal, saltwater portion. The currently designated portion of the Exeter River originates in the towns of Chester, Sandown and Raymond, and flows through Fremont, Brentwood and Exeter. The current designation ends at the Exeter River's confluence with Great Brook in Exeter and the nominated section is proposed to begin immediately downstream of this point. The nominated lower Exeter River and Squamscott River continues to flow through Exeter, Stratham and Newfields where the Squamscott River meets the Great Bay Estuary.

### B. RIVER VALUES AND CHARACTERISTICS

The Rivers Management and Protection Program identifies a number of river-related values and characteristics that may qualify a river for designation. The lower Exeter River and Squamscott River support many of these, including a variety of natural, managed, cultural, recreational and other resource values. Some are significant at the local level; others are significant at either the state or national level. The resource values that qualify the lower Exeter River and Squamscott River for designation include geology, wildlife, vegetation and natural communities, fish, water quality, natural flow, open space, impoundments, water withdrawals, wastewater discharges, hydroelectric, historic and archeological, community river resources, boating, other recreation, public access, scenery, land use and land use controls.

#### 1. Natural Resources

**a. Geologic Resources:** The geology of the lower Exeter River and Squamscott River corridor ranges from freshwater wetlands, vernal pools, and slow moving freshwater in the lower Exeter, to the waterfall created by the Great Dam and rock ledges just underneath and below the dam, and on to the tidal river and tidal marshes in the Squamscott River. In southeastern New Hampshire, the predominant bedrock was formed from layers of sea bottom sediments deposited and compacted over millions of years into formations of sedimentary rock. According to the *Geologic Map of New Hampshire*, prepared by the US Geologic Survey (USGS) and the NH State Geologist in 1986, there are three major bedrock types along the lower Exeter/Squamscott River corridor. These types include the Ordovician Plutons Formation (igneous), the Kittery Formation (metamorphic), and the Elliot Formation (metamorphic). Stratified drift aquifers lying within the lower Exeter/Squamscott River corridor include a large aquifer encompassing the entire corridor of the lower Exeter River in Exeter. No aquifer exists in Stratham and only a low-yield aquifer exists in the river corridor in Newfields.

**b. Wildlife Resources:** The lower Exeter River and Squamscott River corridor provides critical wildlife habitat to a wide variety of species that depend on the habitat connectivity provided by the river and forested shoreland along the lower Exeter and tidal marshes of the Squamscott River. Diadromous fish species migrate between the salt water of the Squamscott River and fresh water of the Exeter River through the fish ladder located alongside the Great Dam in downtown Exeter.

Wildlife habitat along the lower Exeter River and Squamscott River corridor is so critical that the *Land Conservation Plan for New Hampshire's Coastal Watersheds* (2006) by The Nature Conservancy and other partners identified the entire Squamscott River corridor as a Conservation Focus Area. The plan describes the focus area as containing 410 acres of saltmarsh, two plants of conservation concern, five animals of conservation concern, significant floodplain forest, grassland, marsh and peatland habitats, and five exemplary natural communities and systems. A wide variety of animal species occur in the river corridor, including 11 species listed by the state as either threatened or endangered. The New Hampshire *Wildlife Action Plan* (2006) by the New Hampshire Fish and Game Department reports that the river corridor contains over 1,000 acres of Tier 1 wildlife habitat in New Hampshire, the highest quality level.

**c. Vegetation and Natural Communities:** Within the lower Exeter River and Squamscott River corridor are several exemplary natural ecological communities that have been identified by the New Hampshire Natural Heritage Bureau, including brackish marsh, low brackish tidal riverbank marsh, high brackish tidal riverbank marsh, saline/brackish subtidal channel bottom, Mesic Appalachian oak-hickory forest, tall graminoid emergent marsh, swamp white oak floodplain forest and hemlock cinnamon fern forest. A total of 78 plant species have been identified in the river corridor, including eight rare plants known to occur in the river corridor.

**d. Fish Resources:** The lower Exeter River and Squamscott Rivers provide critical and diverse habitat for fish spawning and juvenile fish. Both anadromous and freshwater fish species use the significant spawning habitat in the freshwater and saltwater. Twenty-six species of fish are known to use the river including the federally endangered shortnose sturgeon, and state species of concern alewife, rainbow smelt and blueback herring.

The lower Exeter River and Squamscott Rivers are a statewide fishery (freshwater and anadromous) resource and as a result the NH Fish and Game Department has maintained stocking programs for several species. Beginning in 1982, the NH Fish and Game Department began stocking the Exeter River with American shad and in 2009 stocked the river with Brook trout, Eastern brook trout, and Rainbow trout. The NH Fish and Game Department monitors the fish ladder at the Great Dam in downtown Exeter year round. The following species migrate up and down the ladder and dam throughout the year: alewives, blueback herring, American shad, sea lamprey, rainbow smelt, and American eel.

The NH Fish and Game Department had maintained a fish restoration program for river herring and shad since the fish ladder was built alongside the Great Dam in the early 1970's. The fish return numbers collected by the NH Fish and Game Department at the ladder at the Great Dam are far below average, indicating a restoration problem. The number of returning fish has decreased steadily

since 2000. For example, 513 adult river herring passed through the fish ladder in Exeter in 2009, as compared to 42,425 at the Lamprey River fish ladder in Newmarket. The fish ladder at the Great Dam and water quality in the lower Exeter River, above the impoundment, do not provide optimal conditions for anadromous fish. There are many variables impacting successful fish migration upstream and downstream, as well as spawning. Water levels in and around the fish ladder, dissolved oxygen levels above the Great Dam, and water flow during downstream migration all contribute to fish passage. The NH Fish and Game Department records show a decline in river herring, American shad, rainbow smelt and American eel in the past decade in the river corridor.

**e. Water Quality:** The lower Exeter River and Squamscott River have been designated as Class B water by the New Hampshire General Court. The 2008 assessments from the *Section 305(b) and 303(d) Surface Water Quality Report* show that one of the three assessment units (AU) for the lower Exeter River and Squamscott River are impaired (not including mercury) and the Squamscott River AU requires maximum daily load monitoring for pollutants that can cause poor water quality. Data about the water quality in the lower Exeter/Squamscott River corridor is, or has been, collected by a number of organizations, including the town of Exeter, the NH Department of Environmental Services, volunteers in Exeter as part of the state's Volunteer River Assessment Program, the Great Bay National Estuarine Research Reserve, the Piscataqua Region Estuaries Partnership, and the University of New Hampshire.

**f. Natural Flow Characteristics:** The lower Exeter River is free flowing from the intersection with Great Brook to the Great Dam, a distance of just over two miles. From Great Brook, the lower Exeter River flows in a meandering fashion through forested woodlands and residential neighborhoods, past the athletic fields of Phillips Exeter Academy and into downtown Exeter. The Squamscott River is free flowing from the Great Dam to Great Bay, a distance of 8.5 miles. This tidal river begins flowing over rock cobble riffles just below the dam, past forests, fields, two wastewater treatment plants, low density residential neighborhoods, and on to Great Bay.

The longest record of daily streamflow in the Exeter River is derived from the U.S. Geological Survey gage located on Haigh Road in Brentwood, above the confluence of the Exeter River and Great Brook. The average daily discharge measured at the gage between 1999 and 2009 was 125 cubic feet per second (cfs). The annual peak discharge for the same period ranged from 462 cfs in March 1999 to 3,520 cfs in May of 2006. Flooding from storm events has been significant along the lower Exeter River, with storm events in October 1996, May 2006, April 2007, and two events in March 2010.

A geomorphic fluvial assessment of the lower Exeter River channel was completed in 2009 by the NH Department of Environmental Services. The *Exeter River Geomorphic Assessment and Watershed Based Plan* provides information to help watershed managers understand how the river responds to land over which it flows. The plan provides information on biotic conditions, identifies projects that will protect or restore important river reaches, makes recommendations on how to address and mitigate stressors leading to impairments, and assists towns in the river corridor with the development of fluvial erosion hazard zones and planning tools. The plan identifies three projects in

the lower Exeter River corridor, ranging from bank stabilization, stormwater management originating from abutting residential neighborhoods, to streamside plantings.

**g. Open Space:** Within the lower Exeter River and Squamscott River corridor there is a total of 1,133 acres of conserved, open space. Protection of open space along the river corridor is a high priority of the towns of Exeter, Stratham, and Newfields, and a high priority for several land conservation organization working in the region, including the Southeast Land Trust of New Hampshire and the Great Bay Resource Protection Partnership. The protected areas include shoreland, forest, floodplains, salt marshes, fields and tidal wetlands.

## 2. Managed Resources

**a. Impoundments:** The only impoundment located in the lower Exeter River and Squamscott River corridor is the Great Dam in Exeter which is the visual divide of the freshwater and tidal portions of the river. The dam was originally built in 1828 to provide water power for the Exeter Manufacturing Company's cotton mill. The reservoir currently serves as the town of Exeter's water supply; however the dam currently does not meet state requirements and, as the dam's owner, the town of Exeter is exploring options of redesigning or removing the dam.

**b. Water Withdrawals and Wastewater Discharges:** There are four registered water withdrawals from the lower Exeter River and none along the Squamscott River. These withdrawals include the town of Exeter's public water supply, two withdrawals for irrigation, cooling and fire suppression, and one for supplying a dry fire hydrant. The largest withdrawal is the Exeter water supply which typically pumps 1.5 million gallons per day which serves 3,300 accounts. There are no point source discharges along the lower Exeter River, and two municipal wastewater discharges to the Squamscott River (Exeter and Newfields) and one cooling system discharge from the Exeter Mills. The Exeter Wastewater Treatment Plant discharges approximately 1.72 million gallons per day and the Newfields Wastewater Treatment Plant discharges approximately 50,000 gallons per day.

**c. Hydroelectric Resources:** There are no known or potential sites of hydroelectric power production along the lower Exeter/Squamscott River corridor.

## 3. Cultural Resources

**a. Historic and Archaeological Resources:** The lower Exeter and Squamscott River corridor have an extensive history starting with the use of the corridor by Native Americans as sites for semi-permanent villages and seasonal camps. European settlement of the area began with the purchase of the land from the Squamscott tribe, a sub-tribe of the Penacook and Algonquin people, in 1638 by Reverend John Wheelwright. The original town of Exeter was thirty square miles, with a significant waterfall in the center, now the site of the Great Dam in downtown Exeter. The original town of Exeter included the current towns of Stratham, Newfields, Newmarket and Epping, and Exeter served as the capital of New Hampshire from 1774 to 1788. The lower Exeter and Squamscott Rivers have played an important role in the development of the region, including fostering agriculture (particularly in Stratham), a shipbuilding industry in the mid to late 1700s, and the use of the river's

power for textile mills, the largest being the Exeter Mill complex built in 1828 which has since been converted to residential units. The town of Exeter has an extensive historic district with 125 structures listed or eligible for listing by the National Register of Historic Places. The towns of Stratham and Newfields do not have historic districts, but do contain locally significant historic resources such as the houses along Main Street in Newfields, the prehistoric sites in Stratham, and the swinging bridge structure at Chapman's Landing in Stratham.

**b. Community River Resources:** The importance of the lower Exeter River and Squamscott Rivers as a community resource is reflected in the local planning and protection efforts of the communities along the river. The river is discussed in each municipality's master plan and is recognized as a significant community resource in the most recent master plan update for each community. All three riverfront communities have identified the Exeter/Squamscott River system as a priority for protection efforts for their communities.

#### **4. Recreational Resources**

**a. Fishery:** The lower Exeter River and Squamscott Rivers provide diverse habitat for both freshwater and anadromous fish species. Recreational fishing is a very popular activity along the lower Exeter and Squamscott River corridor. Popular fishing spots in along the lower Exeter River can be found in Exeter at Gilman Park and from the shoreland alongside the Phillips Exeter Academy forest and athletic fields. Fishing along the Squamscott River takes place from String Bridge in downtown Exeter and Swasey Parkway. The Exeter River Local Advisory Committee (ERLAC) partners with the Great Bay Chapter of Trout Unlimited to hold a day of fly-fishing instruction on the Exeter River for youth. The NH Fish and Game Department considers the lower Exeter River and Squamscott Rivers a significant fishery, and has maintained stocking programs for several species. Beginning in 1982, the NH Fish and Game Department began stocking the Exeter River with American shad. In 2009, NH Fish and Game stocked the Exeter River with Brook trout, Eastern brook trout, and Rainbow trout. In 2008 and 2009, ERLAC stocked the river with Brook trout and Rainbow trout.

**b. Boating:** Boating is a popular pastime along the lower Exeter and Squamscott Rivers. The town of Exeter's Gilman Park provides access for canoes and kayaks along the lower Exeter River. The town of Exeter maintains a boat ramp on the Squamscott River along Water Street, which provides public boat access, motorized and non-motorized. The Phillips Exeter Academy boathouse abuts the town's ramp. Access to the Squamscott River is available at the Stratham Town Landing on River Road and the boat ramp maintained by the NH Fish and Game Department at Chapman's Landing adjacent to NH Route 108. Access to the Squamscott River is available in Newfields from the Town Landing off River Road. Great Bay Campground, located at the mouth of the Squamscott River, provides access to the Squamscott River and Great Bay.

**c. Other Recreation:** The Exeter's Gilman Park along the lower Exeter River is a popular spot for walking, fishing, bird watching, and picnicking. On the opposite side of the river, the Phillips Exeter Academy forest offers an extensive trail network along the river corridor. The Exeter's Founders Park provides benches from which people can view the falls at Great Dam and the NH Fish and

Game fish ladder. The Exeter's Swasey Parkway is also popular for walking, fishing, picnicking and bird watching. The Parkway has a pavilion which is used for open air concerts and other performances. There is also a popular walking trail along the Squamscott River beside the Exeter Mills complex. Bird watchers from near and far travel to the town of Exeter's sewage lagoons for bird watching; the lagoons often appear on birding alert lists in the region. Additionally, there is a campground located at the mouth of the Squamscott River in Newfields.

**d. Public Access:** Public access for walking trails, fishing, kayaking and canoeing can be found along the lower Exeter River and Squamscott Rivers in Exeter, Newfields and Stratham. There are state and/or town-owned public access sites and boat launches in all three towns. In Exeter, the Phillips Exeter Academy maintains an area of trails within the river corridor.

## 5. Other Resources

**a. Scenery:** There are several scenic vistas along the lower Exeter/Squamscott River corridor. Most notable are the views of the lower Exeter River from Exeter's Gilman Park, which include a forested canopy along the river and several backwater eddies. The views of the falls over the Great Dam, the visual divide of the freshwater Exeter River and the tidal Squamscott River, from the Exeter's Founder's Park and from String Bridge are a unique viewshed. These views provide a glimpse into the town's history and development from early settlement along the river in the 1600's, through the shipbuilding of the 1700s and 1800s and into the mills and manufacturing period of the 1800 and 1900's. Swasey Parkway, which lies along the Squamscott River, provides beautiful views of the historical streetscape of downtown Exeter. Drivers traveling along NH Route 101 are afforded a beautiful view of the tidal Squamscott River and its salt marshes. Scenic views are also available from the bridge crossing on NH Route 108 and the abutting boat ramp known as Chapman's Landing.

**b. Land Use:** Land use in the river corridor starting at its upstream extent is a mixture of low density residential development and conservation land along the lower Exeter River moving into Exeter's downtown commercial district. The downtown area where the Squamscott River begins includes residential units, small businesses, the town boat ramp, open/conservation areas, and the Exeter Wastewater Treatment Plant. As the Squamscott River flows through Stratham the land use is a mixture of low density residential areas, conservation areas, a dairy farm and minimal road crossings. In Newfields, the river is paralleled by railroad tracks, and has low density residential, one parcel of light industrial, the Newfields Wastewater Treatment Plant, and a campground located at the mouth of the river as it enters the Great Bay Estuary.

**c. Land Use Controls:** All corridor communities have master plans, overlay districts and zoning ordinances that apply to the lower Exeter/Squamscott River corridor. Ordinances and regulations vary from community to community, however, all three riverfront communities have regulations regarding wetlands, shorelands, aquifer protection, stormwater management, wildlife habitat protection, and impervious surface coverage limits. It should be noted that all three communities have shoreland protection ordinances which are more protective of riparian areas than the New Hampshire Comprehensive Shoreline Protection Act.

**d. Water Quantity:** The U.S. Geological Survey estimates that there are 65.3 square miles of drainage basin upstream from the discharge monitoring station on the Exeter/Squamscott River in Brentwood (located upstream of the nominated river section). The Brentwood gage has been collecting discharge measurements since June 1996.

**e. Riparian Interests/Flowage Rights:** The Exeter Mills Apartment complex has water rights reserved and conveyed in the deed of the Great Dam to the town of Exeter in 1981. The town acquired the Great Dam and other land, and the water rights, in a quitclaim deed dated October 7, 1981. The current owner of the Exeter Mill apartments, as successor in title, claims a right to a flow of water through the penstock that ensures the apartment complex's fire protection needs; it currently exercises a right to water from the penstock for its fire protection system and also for cooling and irrigation purposes. There are no other significant flowage rights along the proposed designated reach.

### **III. CONSIDERATION FOR PROTECTION OF INSTREAM FLOW**

#### **A. INSTREAM FLOW RULE STATUS**

RSA 483 directs DES to implement instream flow protection on all designated rivers, and to adopt administrative rules for this purpose. In 2002, additional legislation authorized a pilot project to be developed on the currently designated sections of the Lamprey River and Souhegan River. Rules were promulgated for these two rivers in 2003. No protected instream flows can be developed on other designated rivers until these pilot assessments are completed and the results assessed by the legislature, currently scheduled to be completed by 2012. Although excluded from instream flow protection by existing rules, future rules will include other designated rivers and additional river segments in the development and implementation of protected instream flows. The result will be water management plans for each affected water user and dam owner in a designated river watershed. These water management plans describe specific actions to be taken under certain river flow conditions so that the protected instream flows are maintained. Water management plans have three main components to protect flow: 1) conservation, 2) water use changes, and 3) operation of impoundments.

#### **B. INSTREAM FLOW ASSESSMENT**

As an indicator of instream flow conditions for this nomination, an existing tracking tool was used to assess water use versus stream flow. The existing instream flow rules include a requirement for assessing monthly water use in relation to mean monthly stream flow for all designated rivers. The method uses a general standard to compare the water use uniformly between all the designated rivers. The general standard is determined from the monthly stream flow and sets a standard for aggregate water use depending on that flow. The general standard is not a protected flow, but instead is a means for comparing the level of water use and identifying the locations of intense water use within a watershed and between the designated river watersheds.

(Please note that the nominated tidal section of the lower Exeter and Squamscott Rivers, from Great Dam and the falls to the head of tide in Exeter River, and then the Squamscott River to the boundary of Great Bay as defined by the upstream side of the railroad trestle in Stratham and Newfields, was not included in this assessment as no method for determining the general standard on tidal waters currently exists. There are currently two active, registered water discharges; the Exeter and Newfields Waste Water Treatment facilities. Though no method currently exists for assessing flows for tidal waters, the impact of these water users would likely result in similar or better instream flow conditions compared to the overall river assessment.)

The water use assessment for 2009 of the freshwater portion of the lower Exeter River water use assessment identified two registered sources reporting water withdrawals (the town of Exeter and Phillips Exeter Academy) and no registered discharges reporting returns of water to the environment in 2009. There are no hydroelectric power facilities on the lower Exeter River. During 2009, water use exceeded the general standard on the lower Exeter River only during the month of September.

The general standard is not a limitation. Although the apparent exceedance of the general standard understandably raises concerns in the respective communities, an important point to understand is that the general standard only provides a framework for prioritizing watersheds through which designated rivers flow that are in need of additional study for establishing watershed-specific instream flow standards and development of a water use management plan.

Based on the analysis completed for the nomination, it is apparent that the freshwater portion of the lower Exeter would be one of many designated rivers watersheds that does not meet the general standard. Any changes in water usage by the lower Exeter and Squamscott Rivers corridor communities would not occur immediately upon designation, but in the future after full study and public input.

#### **IV. LOCAL SUPPORT**

The communities of the lower Exeter River and Squamscott River watershed have expressed strong support of the rivers' ecological functions and services in their master plans as well as in ordinances and regulations that require river setbacks and buffers, limited uses and development disturbance near the river, and water quality standards. There is unanimous local support for the designation of the lower Exeter River and Squamscott River into the Rivers Management and Protection Program (RMPP). The Exeter River Local Advisory Committee (ERLAC), with the help of the Rockingham Planning Commission (RPC), initiated the effort to designate the lower Exeter and Squamscott Rivers into the RMPP. It has long been the wish of ERLAC to seek designation of the remaining portions of the Exeter River and the Squamscott River and ERLAC initiated legislative efforts to clarify that tidal rivers could be designated under RSA 483, the RMPP statute. The RPC and ERLAC notified and met with all of the municipal officials of the river communities to discuss the merits and intent to nominate the lower Exeter River and Squamscott River as a designated river in the RMPP. These efforts culminated in May 2010, when the RPC and ERLAC submitted the nomination to the Department of Environmental Services. Throughout the process all public testimony and letters have supported the nomination. At the public hearing on the nomination, which was held in Stratham on July 14, 2010, the testimony was overwhelmingly supportive.

## V. SUMMARY AND RECOMMENDATIONS

The lower Exeter River and Squamscott River support a variety of significant state and local resources. To better protect and manage these resources, the Department of Environmental Services recommends the following actions.

***Recommendation 1: The General Court should adopt legislation that designates the lower Exeter River and Squamscott River for inclusion in the Rivers Management and Protection Program and designates the Exeter River and Squamscott River as follows:***

1. As a community river from the Exeter River confluence with Great Brook in Exeter, past the Great Dam and the falls to the head of tide in Exeter (2.19 miles);
2. As a rural river from past the Great Dam and the falls to the head of tide in Exeter, and then the Squamscott River to the boundary of Great Bay as defined by the upstream side of the railroad trestle in Stratham and Newfields (6.29 miles).

Under the provisions of RSA 483, designation of the river will provide increased protection with respect to the construction of new dams, damaging channel alterations, interbasin transfers of water and land application of sludge in the river corridor. Designation will also require the establishment of a protected instream flow to maintain water for instream public uses including water quality, fisheries, recreation and scenic values. The Exeter River Local Advisory Committee (ERLAC) will be expanded to coordinate management and protection of the river, for both the currently designated Exeter River and the nominated lower Exeter River and Squamscott Rivers, at the local and regional levels. ERLAC will continue to provide the residents in the riverfront communities with a direct avenue for formal input into state decisions affecting the river. Finally, 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.

The lower Exeter River is being recommended for the “community river” classification. Community rivers are defined under RSA 483 as “... those rivers or segments which flow through developed or populated areas of the state and which possess existing or potential community resource values, such as those identified in official municipal plans or land use controls. Such rivers have mixed land uses in the corridor reflecting some combination of open space, agriculture, residential, commercial and industrial land uses. Such rivers are readily accessible by road or railroad, may include existing impoundments or diversions, or potential sites for new impoundments or diversions for hydropower, flood control or water supply purposes, and may include the urban centers of municipalities.” As the Exeter River flows through the neighborhoods of Exeter, the recreational areas of Philips Exeter Academy and into the historic district downtown it exemplifies the mixed land use and values associated with a community river.

The Squamscott River is being recommended for "rural river" classification. Rural rivers are defined under RSA 483 as “...those rivers or segments adjacent to lands which are partially or predominantly used for agriculture, forest management and dispersed or clustered residential development. Some

instream structures may exist, including low dams, diversion works and other minor modifications.” The Squamscott River as it flows through the forests, salt marshes, scattered housing, agricultural fields and open space of the river corridor, and the largely undeveloped tidal wetland areas typifies the definition of a rural river. The Exeter River Local Advisory Committee, the Rivers Management Advisory Committee and the Department of Environmental Services have all determined that the river segments recommended above for “rural river” classification meets the definition of a rural river and should be so designated.

Designation of the lower Exeter River and the Squamscott River under the Rivers Management and Protection Program will express the intent of the General Court regarding its future management and protection, and will focus attention on the river as a natural resource of both statewide and local significance. This attention will help to ensure greater scrutiny of plans or proposals that have the potential to significantly alter or destroy those river values and characteristics that qualify the lower Exeter River and Squamscott River for designation.

***Recommendation 2: The towns of Exeter, Newfields and Stratham should continue to work together with the upstream towns of Brentwood, Chester, Danville, Fremont, Raymond and Sandown towards the protection of the lower Exeter River and Squamscott River through the adoption and implementation of a local river corridor management plan.***

While legislative designation of the lower Exeter River and Squamscott River will improve the protection and management of the rivers itself, continuing efforts at the local level will be needed to address the use and conservation of the river corridor (the river and the land area located within a distance of 1,320 feet, a quarter mile, of the normal high water mark or to the landward extent of the 100 year floodplain as designated by the Federal Emergency Management Agency, whichever distance is greater). A growing recognition by local citizens and officials of the lower Exeter River and Squamscott Rivers’ valuable contribution to the overall quality of life in their communities is evidenced by their desire to see them designated into the Rivers Management and Protection Program. Citizen appreciation and concern for the river should be reflected in the decisions and actions of local officials. The Department of Environmental Services will provide technical assistance to the local river management advisory committee and to the local officials in the riverfront communities on the development and implementation of a local 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 Exeter River and Squamscott River will endure to be enjoyed by the people of New Hampshire for many years to come.

## VI. MAPS

### EXETER RIVER WATERSHED LOCUS MAP

#### Designated River Classification

#### Quarter Mile Buffer

-  Rural Classification
-  Community Classification

#### Waterbodies

-  Ocean, Lakes, Ponds
-  Exeter River Watershed
-  Designated Rivers
-  County
-  Town Boundaries

0 3.5 7 14 21 28  
Miles



The coverages presented in this map are under constant revision. They may not contain all of the potential or existing data available. NHDES is not responsible for the use or interpretation of this information. Not intended for legal purposes. October 2010  
H:\RMPP\GIS\Designated Rivers\Lower\_Exeter\_Squamscott

## LOWER EXETER RIVER & SQUAMSCOTT RIVER WATERSHED BASE MAP

