Exeter-Squamscott River Local Advisory Committee

Exeter-Squamscott River Watershed Management Plan - Update 2022

December 31, 2022

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Prepared by the Exeter-Squamscott River Local Advisory Committee with assistance from the Rockingham Planning Commission

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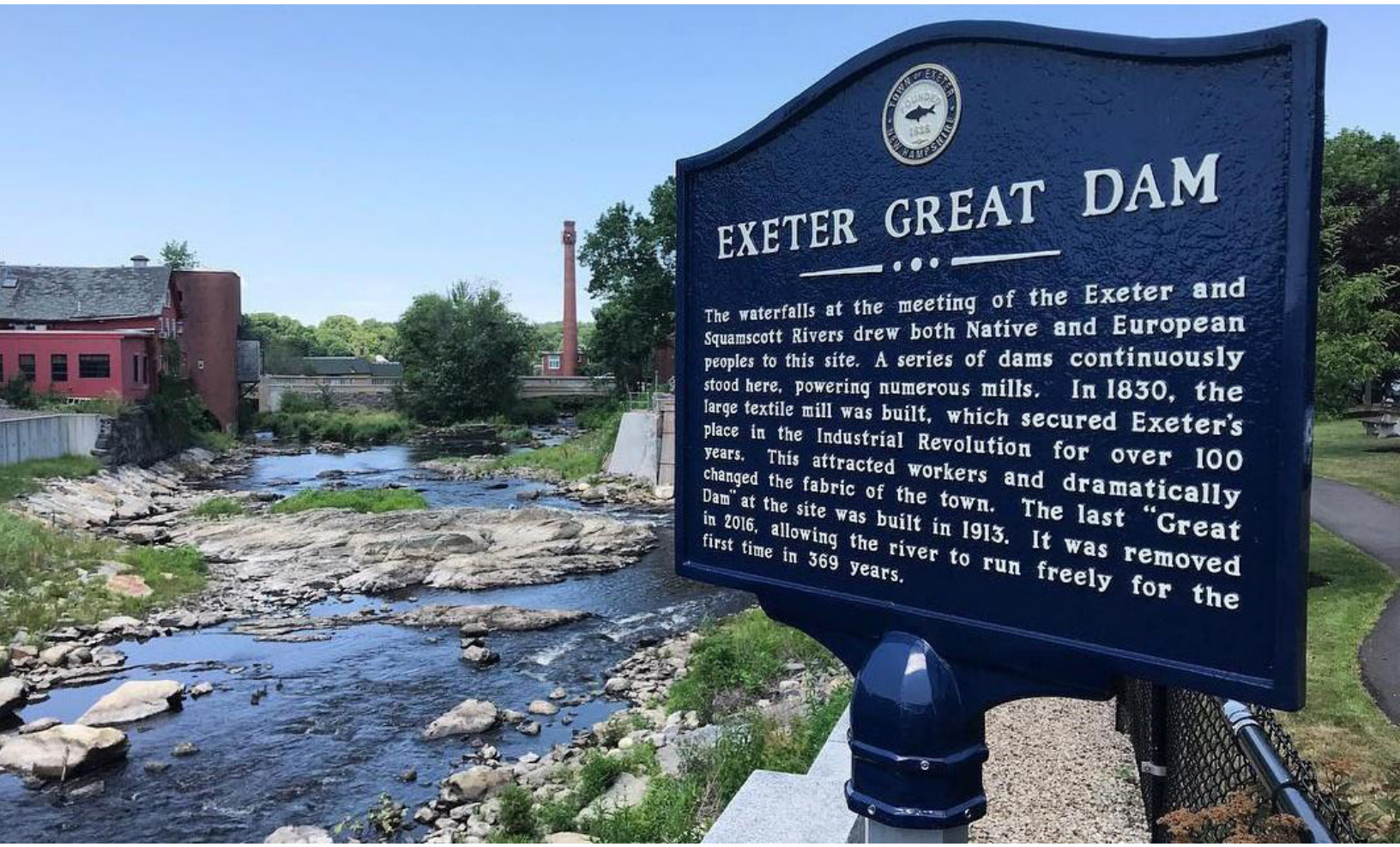
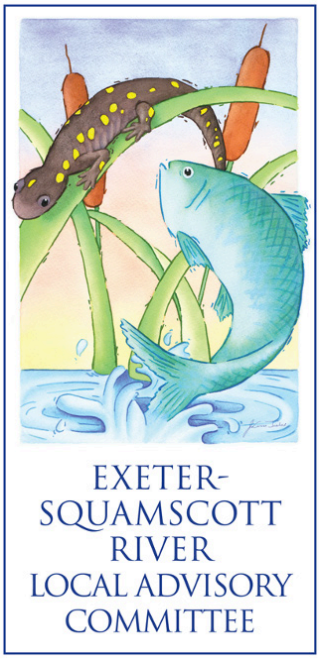


Exeter-Squamscott River, Exeter, NH.

The Exeter-Squamscott River Watershed Management and Plan was produced by the Exeter-Squamscott River Local Advisory Committee with assistance from the Rockingham Planning Commission and was funded by the New Hampshire Department of Environmental Services under Section 604(b) of the Clean Water Act.



Exeter-Squamscott River Local Advisory Committee Membership 2022

William Meserve, Chair – Newfields
Jessica Balukas - Brentwood
Eric Bahr – Stratham
Donald Clement – Exeter
Ellen Douglas – Fremont
Elizabeth Mello - Kingston
Nathan Merrill – Stratham
Donald Picard, Sandown
John Roderick – Fremont
Eric Turer - Brentwood

For more information, please contact ESRLAC via the Rockingham Planning Commission, 603-778-0885, email@rpc-nh.org.

For more information on the Rivers Management and Protection Program, visit the program's website.

Table of Contents

I. Purpose of the Management Plan Update 2022

The Exeter-Squamscott River Watershed Management Plan Update 2022 (Plan) was developed by members of the Exeter-Squamscott River Local Advisory Committee (ESRLAC) with assistance from the Rockingham Planning Commission with funds provided by the New Hampshire Department of Environmental Services. The purpose of the Plan is to describe the priorities for ESRLAC in the coming decade and provide an overview of current conditions in the watershed, which comprises twelve towns in southeastern New Hampshire – Chester, Sandown, Danville, Raymond, Fremont, Kingston, Brentwood, East Kingston, Kensington, Exeter, Newfields, and Stratham.

II. Exeter-Squamscott River Local Advisory Committee

In 1995, several Exeter River watershed residents were successful in enrolling the Exeter River in New Hampshire's Rivers Management and Protection Program (RMPP). The Exeter River Local Advisory Committee, known as ERLAC, was established in 1996 to oversee the development and implementation of a river management plan. This first watershed management plan was completed in 1999 and ERLAC members continued to meet monthly to discuss land use activity in the watershed and design and implement many public education programs in cooperation with landowners, local Conservation Commissions, the Rockingham Planning Commission, state agencies, and organizations interested in protecting water quality and wildlife habitat in the river and promoting public recreation.

In 2011, ERLAC and the Rockingham Planning Commission worked with the towns of Newfields and Stratham and staff from the New Hampshire Department of Environmental Services (NHDES) to enroll the Squamscott River into the RMPP. It had been a goal of ERLAC for several years to have the tidal portion of the river enrolled into the RMPP and to have towns within the entire watershed, fresh water, and salt water, working together to advocate for the river. The Squamscott River was enrolled in the RMPP in June 2011 and ERLAC changed its name to the Exeter-Squamscott River Local Advisory Committee, referred to as ESRLAC. Biographical information about ESRLAC members is included in the Appendix.

III. Mission of the Exeter-Squamscott River Local Advisory Committee, 2022 – 2032

- Improve water quality to meet federal and state standards.
- Advocate for preservation and enhancement of aquatic, riparian, and upland habitats.
- Promote responsible recreational use of the river and disseminate information about historical, cultural, and environmental resources in the watershed.
- Incorporate climate change science into ESRLAC's work.
- Highlight the priorities of ESRLAC and promote best management practices within the watershed.
- Encourage the adoption and enforcement of model land use regulations to protect water quality.

IV. Overview of the Exeter-Squamscott River Watershed - The Exeter-Squamscott River: One River, Two Names

The Exeter River rises from a group of spring-fed ponds in Chester, New Hampshire and flows 33 miles to downtown Exeter where its name changes to the Squamscott River and becomes a tidal river and primary tributary to the Great Bay estuary. From Chester to Exeter, the freshwater of the Exeter River meanders through broad wetland complexes in Fremont and Danville, several short stretches of rapids in Brentwood, and through the forested canopy of the Phillips Exeter Academy forest in downtown Exeter. At Great Falls in downtown Exeter the river becomes tidal and its name changes to the Squamscott River. Flowing for nine miles, the Squamscott River makes a gradual transition from a freshwater ecosystem to a salty, estuarine ecosystem. The river enters the Great Bay Estuary nine miles from Great Falls, passing saltwater marshes in Stratham and Newfields. The tidal influence of Great Bay brings a different rhythm to the river, changing the river's character greatly from the small spring at the headwaters.

The Exeter-Squamscott River watershed drains an area of approximately 128 square miles (81,726 acres) and includes portions of 12 towns in southeastern New Hampshire. Watershed communities

Exeter River at Scribner Road bridge. Photo credit Nancy J Murray.

include Chester, Raymond, Fremont, Danville, Sandown, Kingston, East Kingston, Kensington, Brentwood, Exeter, Newfields and Stratham. The total population for watershed communities in 2020 was 72,479.

Relationship of the Exeter-Squamscott River to Great Bay - The Exeter-Squamscott River is a primary tributary to the Great Bay Estuary, a tidal estuary encompassing over 6,000 acres. Great Bay lies at the confluence of tidally driven salt water from the Gulf of Maine and fresh water from the Salmon Falls, Cocheco, Bellamy, Oyster, Lamprey, Squamscott, and Winnicut rivers. Before reaching Great Bay, seawater travels 15 miles inland through the Piscataqua River and Little Bay. This geographic configuration makes Great Bay one of the nation's most recessed estuaries. The large quantities of water that move in and out of the Great Bay Estuary create some of the strongest tidal currents in North America. This tidal exchange structures the Great Bay ecosystem by affecting water quality, habitat extent, and species distributions. The rivers that flow into the Great Bay, including the Exeter-Squamscott River, drain a watershed that extends more than 1,000 square miles. The quantity and quality of freshwater flowing from the Exeter River into the Squamscott River and into Great Bay plays a critical role in the health of the Great Bay Estuary ecosystem.

The Exeter-Squamscott River is one of two rivers that bring most of the fresh water into Great Bay. Water quality in the rivers impacts water quality in Great Bay. Pollution entering the Exeter-Squamscott River and Great Bay from sources such as municipal wastewater treatment plants,

septic systems, fertilized lawns, roadways, and parking lots has negative impacts on fish, shellfish, and eelgrass. Eelgrass in Great Bay and at the mouth of the Exeter-Squamscott River provides critical habitat for fish, shellfish, and migratory birds. Because waters in Great Bay are calmer than in the ocean and food such as plankton is plentiful, fish use the estuary as a nursery. Water quality in Great Bay directly impacts habitat for fish and shellfish and the food on which they rely.

In addition to ESRLAC, there are four additional river Local Advisory Committees working in the Great Bay watershed – Isinglass River Local Advisory Committee, Lamprey River Advisory Committee, Oyster River Local Advisory Committee, and the Cocheco River Local Advisory Committee.

V. Existing Conditions in the Exeter-Squamscott River Watershed

Exeter River at Pickpocket Dam, Brentwood. Photo credit Don Clement.

A. Description of the Exeter-Squamscott River

The Exeter-Squamscott River watershed is characteristic of a "dendritic" or branching, tree-like drainage pattern, with smaller streams and tributaries feeding into the river's main channel. These tributary streams are critically important to the river's water quality and quantity. The watershed features several tributary streams, including Wason Brook and Towle Brook in Chester, Fordway Brook in Raymond, the Phillips/Lily Pond drainage in Sandown, the Little River in Brentwood and Exeter, another Little River in Kingston, Dudley/Bloody Brook in Exeter and Brentwood, and Great Brook in Kensington and Exeter. Important freshwater tributaries to the tidal Squamscott River include Sloan's Brook, Rocky Brook, Norris Brook, Dearborn Brook, and Wheelwright Creek in Exeter, Parting Brook in Newfields, and Mill Brook and Jewell Hill Brook in Stratham. Ponds are not a dominant feature of the landscape in the Exeter-Squamscott River watershed. Phillips Pond in Sandown is the largest pond at 85 acres. The remaining 12 named ponds are relatively small and scattered throughout the watershed, each having acreages of 20 acres or less.

B. Population and Land Use

The Exeter-Squamscott River watershed includes some of the fastest growing communities in New Hampshire. Land use in the watershed has changed since the first watershed management plan was completed in 1999, with more homes and retail and industrial sites constructed, resulting in an increase in impervious surfaces and wildlife habitat fragmentation as well as more septic systems and drinking water wells.

Table 1 illustrates population growth in watershed municipalities from 1970 to 2020. Many towns in the watershed have seen dramatic rises in population during this time, a reflection of growth and development that occurred across southern New Hampshire in the second half of the last century. Exeter leads the percentage increase in population growth in the watershed over the past decade, with a 12.2% increase.

Table 1
Municipal Populations 1970-2020
Exeter-Squamscott River Local Advisory Committee Municipalities

Source: US Census Bureau

Town	1970	1980	1990	2000	2010	2020	% Change 1970-2010	% Change 2000-2010	% Change 2010-2020
Chester	1,382	2,006	2,691	3,792	4,768	5,232	245.0%	25.7%	9.7%
Raymond	3,003	5,453	8,713	9,674	10,138	10,684	237.5%	4.8%	5.4%
Fremont	993	1,333	2,576	3,510	4,283	4,712	331.3%	22.0%	10.0%
Danville	974	1,318	2,534	4,023	4,387	4,588	350.4%	9.5%	4.6%
Sandown	741	2,057	4,060	5,143	5,986	6,548	695.7%	16.4%	9.4%
East Kingston	838	1,135	1,352	1,784	2,357	2,441	181.3%	32.1%	3.6%
Kingston	2,882	4,111	5,591	5,862	6,025	6,202	109.0%	2.8%	2.9%
Kensington	1,044	1,322	1,631	1,893	2,124	2,095	103.4%	12.2%	-1.4%
Brentwood	1,468	2,004	2,590	3,197	4,486	4,490	205.6%	40.3%	.08%
Exeter	8,892	11,024	12,481	14,058	14,306	16,049	60.9%	1.8%	12.2%
Stratham	1,512	2,507	4,955	6,355	7,255	7,669	379.8%	14.2	5.7%
Newfields	843	817	888	1,551	1,680	1,769	99.3%	8.3%	5.3%
TOTAL	31,665	35,087	50,062	60,842	67,795	72,479	114.1%	11.4%	6.9%
Rockingham County	138,951	190,345	245,845	277,359	295,223	314,176	112.5%	6.4%	6.4%
New Hampshire	737,681	920,610	1,109,252	1,235,786	1,316,470	1,377,529	78.5%	6.5%	4.6%

Impervious Surface - With population growth and development comes an increase in impervious surfaces in the watershed. Impervious surfaces such as paved roads, parking lots, and buildings prevent snowmelt and rainwater from soaking into the ground, sending pollutants from these surfaces into streams and rivers. Studies conducted in other regions of the country have demonstrated water quality deterioration when impervious surfaces cover greater than 10% of the watershed area (Center for Watershed Protection, 2003). In 2005, a study in New Hampshire demonstrated the percent of impervious surface in a watershed can be used as indicators of water quality and aquatic life health (Deacon et al., 2005). Sampling sites in the Exeter-Squamscott River watershed were used in this study.

Table 2 depicts the percentage of imperious surface in towns in the watershed, as reported by the Piscataqua Region Estuaries Partnership (PREP). Exeter and Stratham have the highest estimated percentages of impervious surface in the watershed, with 9.8% and 9.1%, respectively. Land use in the watershed is primarily residential, with commercial and industrial centered in Exeter.

Table 2
Percentage of Impervious Surface

Source: Piscataqua Region Estuaries Partnership (PREP)

Town	2010	2015
Chester	3.2%	3.4%
Raymond	6.1%	6.3%
Fremont	3.7%	3.9%
Danville	5.3%	5.4%
Sandown	5.3%	5.6%
East Kingston	4.2%	4.3%
Kingston	6.1%	6.3%
Kensington	3.7%	3.8%
Brentwood	5.9%	6.3%
Exeter	9.6%	9.8%
Stratham	8.8%	9.1%
Newfields	4.6%	4.7%
Watershed	5.0%	5.1%

Land Use Regulations - Municipalities in the watershed have enacted many different types of land use regulations designed to protect water quality and maintain water quantity. These regulations include stormwater management requirements for erosion control and drainage, aquifer protection ordinances regulating the types of land use activities that can occur over groundwater aquifers, wellhead protection regulations to protect areas around municipal and community wells, prohibition of development in wetlands and floodplains, septic system requirements more stringent than state standards, standards for excavation and reclamation, and regulations establishing development setbacks from wetlands and surface waters. ESRLAC is interested in working with municipalities to strengthen stormwater management and wetland and shoreland buffer regulations.

In 2020, the Piscataqua Region Estuaries Partnership (PREP) completed an assessment of land use regulations and policies in the 52 communities in PREP's coastal watershed region, including the 12 towns in the Exeter-Squamscott River watershed. The assessment highlighted the need to increase protection of water quality and natural resources and to assess threats from climate change. PREP has drafted recommended actions for every community in the watershed. The assessments, recommended actions, and supporting data may be found at PREP's website.

ESRLAC supports the following municipal actions recommended by PREP:

- Increase naturally vegetated buffers along surface waters to a minimum of 100 feet – NH Drinking Water Quality Buffer Model Ordinance
- Increase setback requirements for septic systems and primary structures to at least 100 feet from surface waters
- Adopt regulations preventing the application of fertilizers within 100 feet of all surface waters
- Adopt model stormwater management regulations – Model Stormwater Standards for Coastal Watershed Communities
- Adopt model floodplain management regulations – NH Model Floodplain Ordinance
- Complete a climate vulnerability assessment
- Incorporate climate science into decision making (resilient land use guide, coming soon)
- Conserve land

C. Water Quality

Research and data on water quality in the Exeter-Squamscott River is, or has been, collected by several organizations, including the Town of Exeter, NHDES, ESRLAC members and other volunteers participating in 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. Since 1991, the surface waters of New Hampshire have been classified by the state legislature (RSA 485-A:8) as either Class A or Class B. Class A waters are of the highest quality and considered optimal for use as water supplies after adequate treatment. Sewage discharges are prohibited in these waterbodies. Class B waters are considered acceptable for fishing, swimming, and other recreational purposes, and for use as water supplies after adequate treatment has been applied. The State has designated the Exeter-Squamscott River as Class B.

The NHDES Surface Water Quality Assessment Program produces two surface water quality documents every two years, the "305(b) Report" and the "303(d) List". As the two documents use the same data, the 305(b) Report and 303(d) List were combined into one Integrated Report starting in 2002. The Integrated Report describes the quality of New Hampshire's surface waters and an analysis of the extent to which all such waters provide for the protection and propagation of a balanced population of shellfish, fish, and wildlife, and allow recreational activities in and on the water.

NHDES has identified several issues impacting water quality in the Exeter-Squamscott River, resulting in the river being placed on the State's listing of impaired waters. Impairments include:

- Low dissolved oxygen levels
- Mercury from atmospheric deposition and sources unknown
- Polychlorinated biphenyls (PCBs) from sources unknown
- Chlorophyll-a from sources unknown
- Enterococcus and Escherichia coli (E. coli) from combined sewer overflows, nonpoint sources, and wet weather discharges
- Nitrogen from sources unknown
- Dioxin from sources unknown

The NHDES Surface Water Quality Assessment Viewer is a mapping tool that enables users to access water quality assessment data and reports, see where sampling data has been collected, and view impaired waters. ESRLAC recommends municipal officials use the mapping tool to identify water quality improvement and protection projects.

The Town of Exeter participates in the State's Volunteer River Assessment Program (VRAP). VRAP is administered by NHDES and relies on volunteers trained to conduct on-site water quality testing. NHDES issues annual water quality reports based on testing results. Water quality data for the Exeter River in 2021 was collected at several locations and indicates water quality is meeting the state's surface water quality standards. Reports are available on the Program website.

One of the greatest changes to the river since ESRLAC's 2015 Management Plan Update was the removal of the Great Dam on the Exeter River in downtown Exeter in 2016. The former dam presented an obstacle to fish passage and had been identified as structurally deficient by the NHDES Dam Bureau. Following the completion of a feasibility study in 2013, voters in the Town of Exeter determined that the complete removal of the Great Dam was the preferred option for many reasons, including reducing upstream flooding, eliminating a barrier to fish passage, and improving water quality by restoring natural river flow. The project involved the removal of the existing dam structure and associated fish ladder and weir, restoration, and enhancement of approximately 200 linear feet of stream channel upstream of the former dam location, and accessory work to mitigate impacts to nearby structures and water intakes. Restoration of the river's natural flow conditions has been deemed successful by many stakeholders. A list of the eighty-one active dams in the watershed is included in the Appendix.

D. Water Use and Water Quantity

The Exeter River and its watershed serve as a water supply for the Town of Exeter's municipal water system. The Town's withdraws approximately 1.5 million gallons per day from the Exeter River and also relies on Dearborn Brook and four groundwater wells. The Town of Newfields also operates a

municipal water system, relying on a groundwater well. Most watershed residents rely on private groundwater wells for drinking water.

At the present time the water supply in the watershed appears to be adequate for consumptive use and to provide adequate wildlife habitat. However, the region experienced severe drought conditions during late summer 2022, and for 90 weeks, beginning on June 23, 2020, and ending on March 8, 2022. In response to drought, several towns in the watershed enact either mandatory or voluntary water use restrictions. NHDES Dam Bureau records identify 212 dams along the river and its tributaries, with 82 of those dams listed as active. A list of active dams is included in the Appendix.

NHDES has informed ESRLAC that the Exeter River is on the list for an Instream Flow Study. The NHDES Instream Flow Program develops river-specific criteria for protecting stream flow and water management plans to implement the criteria. The purpose of the Program is to ensure rivers continue to flow freely despite human influences such as irrigation, drinking water, or land use changes. Registered water users will be required to take steps to prevent water loss and waste, and during periods of low flow users will be required to reduce water withdrawals. An Instream Flow Study of the Exeter River will include calculations of river flow conditions which protect aquatic organisms. The management plan will describe how water users will operate to satisfy their water needs while maintaining the protected flow conditions. ESRLAC will be active participants in the Instream Flow Study.

Exeter River, Exeter, NH.

E. Aquatic Organism Passage

Aquatic organism passage identifies whether aquatic animals such as fish, turtles, or amphibians can move through culverts and other forms of stream crossings without restrictions. Restrictions to passage include a large vertical drop between the outlet and the stream (known as a perched culvert), water in the crossing that is either too shallow or too fast, physical barriers that block the crossing inlet or outlet, and a lack of natural substrate in the crossing. Development proposals within the river corridor that require NHDES approval are reviewed by ESRLAC, and the Committee continues to assess the impacts of these proposals on aquatic organism passage.

Table 3 lists the aquatic connectivity scores for passages along the river. Reduced passage is the predominant score, with 45.5%. Passages are found throughout the watershed and are identified on the Aquatic Organism Passage Map in the Appendix.

Table 3
Aquatic Organism Passage

Source: NHDES

Aquatic Connectivity Score	Number of sites	Percentage
Full Passage	65	17.2%
Passage Only for Adult Trout	0	0.0%
Reduced Passage	172	45.5%
No Passage	89	23.6%
Unable to Score	52	13.7%
Total Passages	**378**	**100%**

F. Wetlands, Floodplains, and Meander Belts

Wetlands are defined by local, state, and federal regulations as areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support vegetation adapted for life in saturated soil conditions. Most wetlands in the watershed are present because the soil is poorly drained, or the water table is close to the surface.

The Exeter-Squamscott River watershed includes several types of wetlands, including forested wetlands, scrub-shrub wetlands, bogs, and marshes. Wetlands encompass 12,075 acres (13.7%) in the watershed and their protection is a priority for ESRLAC as wetlands protect water quality by acting as filters for pollutants, provide erosion control, floodwater storage, wildlife habitat, and other benefits. Towns in the watershed that have identified and designated high quality wetlands as prime wetlands per NH RSA 482-A:15 include Brentwood, Chester, Exeter, Fremont, Kingston, Newfields, and Sandown.

Floodplains are areas of low-lying ground adjacent to rivers and streams that are inundated with water during and after periods of heavy precipitation. Retaining a floodplain in its natural state is the most cost-effective way of reducing flood damage. Undeveloped, vegetated floodplains trap sediments and pollution, reduce erosion, and store floodwaters. There are 10,013 (12.2%) acres of floodplain in the Exeter-Squamscott River watershed. Storage of floodwater becomes increasingly important as the climate changes and produces more intense precipitation events. Wetland and floodplain locations for every community in the watershed are included in maps on the Rockingham Planning Commission website.

A meander belt is the zone within a river or stream periodically shifts its channel. A meander is a series of sinuous curves in a river channel that is produced as the river erodes the sediments of an outer bank and deposits sediments on an inner bank. The result of this coupled erosion and sedimentation is the formation of a sinuous course as the river channel migrates back and forth across the axis of a floodplain. Preventing development in the floodplain enables a river to meander naturally, managing the energy of the water and improving resiliency to flooding. ESRLAC monitors proposed development along the river channel to assess threats to the meander belt.

G. Fluvial Geomorphic Assessment

In 2010, NHDES worked with ESRLAC to complete the Exeter River Geomorphic Assessment and Watershed-Based Plans to document how the river and adjacent land interact over time through different climate conditions. The Plan provides site-specific management recommendations for protecting water quality and wildlife habitat by reducing threats from flooding, erosion, and river channel adjustments. Land use activities such as dredging, filling, mining, and earth moving adjacent to the river channel prose threats to channel integrity. ESRLAC is not aware of any of these activities, historical or current, in the river corridor that could cause a disturbance to the river system.

Several projects identified in the Plan have been used successfully by NHDES and watershed municipalities to secure grant funding for infrastructure projects in the watershed, including replacing undersized culverts in in Sandown, replacing the Danville-Sandown bridge, and restoring riparian buffers in Brentwood. ESRLAC recommends municipal officials consult the Plan to identify climate resilience and hazard mitigation projects. The Plans are on file with the NHDES Watershed Assistance Section and are available on request.

H. Stormwater Management

Working with landowners, developers, and watershed communities to manage stormwater and other nonpoint sources of pollution is a priority for ESRLAC. The Committee reviews all shoreland, wetland, and alteration of terrain permit applications submitted for dredging, filling, and earth moving in the river corridor and provides comments to NHDES. As it flows over the landscape,

stormwater runoff collects and transports pollutants including sediment and organic matter, pet waste, automotive fluids, road salt, pesticides and fertilizers, and litter. An essential part of stormwater management is maintaining the natural hydrology of a site to the maximum extent possible. This is accomplished by slowing down the flow of stormwater to increase infiltration into the ground and treating stormwater on site rather than sending it off site to rivers and streams. Buffers of natural vegetation around rivers, streams, wetlands, lakes, and ponds are considered among the most effective stormwater management practices. Stormwater management is necessary during all stages of site development including site planning and design, design review, construction, and post-construction permanent controls. Approval of stormwater management plans by local officials should include requirements for regular monitoring of stormwater infrastructure post construction.

Polluted stormwater runoff is frequently transported through municipal separate storm sewer systems (MS4) to where it is discharged, untreated, into local water bodies. In response, the US EPA has created the MS4 General Permit Program to reduce pollution caused by stormwater. MS4 permits apply to several different areas – municipalities in urbanized areas, as defined by the Census Bureau; larger federal and state-owned properties; and institutions such as hospitals and universities. The most recent MS4 permit for New Hampshire communities was issued in January 2017. All communities in the Exeter-Squamscott River watershed except Newfields and Kensington are obligated to meet the 2017 MS4 permit requirements. These requirements include developing a Stormwater Management Program, submitting annual reports, annual training for town staff, public education and more. ESRLAC is interested in partnering with municipalities.

I. Nutrient Pollution

Nutrient pollution is the process where too many nutrients, mainly nitrogen and phosphorus, enter waterbodies and can act like fertilizer, causing excessive growth of plants and algae. Nutrients can come from a variety of different sources. They can occur naturally because of weathering of rocks and soil in the watershed and degradation of plant material, and they can come from the ocean due to the mixing of water currents. Of greatest concern are the nutrients related to human activity, including wastewater treatment plants, septic systems, farmland, lawns and gardens, and pet and wildlife waste. Pollution from nutrients, referred to as nutrient loading, leads to ecological changes that decrease the biotic diversity of the ecosystem.

Projects and plans researching and documenting nutrient loading include:

- Great Bay Nitrogen Nonpoint Source Study – Prepared by NHDES in 2014. The Study found 68% of the nitrogen that ends up in the Great Bay Estuary originates from nonpoint sources spread across the Great Bay watershed; the remainder derives from direct discharges of municipal wastewater treatment facilities. Nonpoint sources of nitrogen consist of atmospheric

disposition, fertilizers, human waste disposed into septic systems, and animal waste.

- Water Integration for Squamscott-Exeter Preliminary Integrate Plan (WISE) – Prepared by Geosyntec Consultants in 2015. The Plan provides recommendations to the towns of Exeter, Stratham, and Newfields for managing permits for wastewater and stormwater using EPA's Integrated Planning approach. Integrated Planning allows towns to work together to reduce nutrient loading. An important finding of the Plan is the estimation that 48% of the total nitrogen load entering Great Bay from the Exeter-Squamscott River originates from towns upstream of Exeter.

- Lincoln Street Subwatershed (Exeter) Nutrient Control Strategies – Prepared by Rockingham Planning Commission and Waterstone Engineering in 2018. This study builds off WISE and identifies nitrogen loads in the subwatershed and makes recommendations for nutrient management and climate change adaptation infrastructure.

- NH Nonpoint Source Management Program Plan 2020-2024 – Prepared by NHDES in 2019. Nonpoint pollution contributes to 90% of the water pollution in New Hampshire. The Plan sets priorities for addressing nonpoint source pollution and identifies long-term goals, specific actions, and measurable milestones for protecting and restoring waters and watersheds.

- Pollutant Tracking and Accounting Project (PTAP) – Coordinated by NHDES and the UNH Stormwater Center, PTAP is a regional database designed for communities that are subject to the Great Bay Total Nitrogen Permit issued by EPA. Communities in the watershed subject to this permit are Epping, Exeter, Newfields, and Newmarket. PTAP enables these communities to track reductions and additions of pollutants such as nitrogen, phosphorus, and sediment as required by regulations or through non-regulatory pollution management activities. Exeter and Newfields are participating in PTAP because they operate wastewater treatment plants.

J. Municipal Water and Wastewater Systems

The Exeter River serves as the primary water supply source for the Town of Exeter's municipal water system. Water from the Exeter River is pumped to the Town's water treatment plant. The Town of Exeter also uses water from the Exeter Reservoir, which holds water flowing from Dearborn Brook in Exeter and Skinner Springs in Stratham, and three groundwater wells. The Town of Newfields also operates a municipal water system, relying on a groundwater well. Most watershed residents rely on private groundwater wells for drinking water.

The towns of Exeter and Newfields operate wastewater treatment plants that discharge effluent to the Squamscott River. Exeter's treatment plant discharges up to 4 million gallons of treated effluent per day. In 2020, the Exeter wastewater treatment plant was upgraded from a lagoon treatment

facility to a 4-stage process that removes nitrogen. The Town is subject to a National Pollutant Discharge Elimination System (NPDES) Permit that regulates what can be discharged into the Squamscott River. The Town of Newfields operates a small wastewater treatment plant discharging approximately 50,000 gallons of treated effluent per day into the Squamscott River. The plant has a treatment capacity of 117,000 gallons per day.

It is important to note that most watershed residences and businesses rely on individual septic systems for on-site treatment of wastewater. Educating septic system users about proper maintenance of septic systems is needed to help improve and protect water quality in the watershed.

K. Climate Change, Adaptation, and Resiliency

ESRLAC communities are addressing the impacts of climate change in a variety of ways, particularly the increase in flooding and storm intensity. Preparations to make communities more resilient include climate vulnerability and risk assessments, prioritization of infrastructure projects, and funding and allocation of both financial and human resources. Mitigation and adaptation will require creativity, compromise, and collaboration across all levels of government, the private sector, and residents. Climate change, adaptation, and resiliency planning in ESRLAC communities include:

- New Hampshire Climate Assessment – Prepared in 2022. Provides a statewide update to the 2014 NH Climate Assessment, including new analysis of historical records, drought, and projected climate change between 2010-2099.

- Climate Risk in the Seacoast (C-RiSe) Reports for the Towns of Exeter, Stratham, and Newfields – Prepared by the Rockingham Planning Commission in 2015, the reports provide municipalities with maps and assessments of flood impacts to road and transportation assets, critical facilities, infrastructure, and natural resources associated with projected increases in storm surge, sea levels, and precipitation. The reports make recommendations for regulatory standards, planning and policy, and community outreach.

- Climate Adaptation Plan for Exeter (CAPE) – Prepared in 2015. The project modeled potential future flooding impacts for 10-, 25-, and 100-year storm events, with and without storm surge, on roadways, stormwater management infrastructure, and tidal marshes in the Squamscott River.

- NH Coastal Flood Risk Summary Part I – Prepared by NHDES in 2018. The summary provides the latest science related to coastal flood risks and includes updated projections of relative sea-level rise, coastal storms, groundwater rise, and precipitation and freshwater flooding.

- NH Coastal Flood Risk Summary Part II – Prepared by NHDES in 2020. The summary provides guidance on how to incorporate updated coastal flood risk projections into land use and land development planning, regulations, and other decision-making projects.

- Resilient Land Use Guide for NH – Prepared by the Rockingham Planning Commission in 2022. The Guide provides coastal municipalities with innovative regulations and land development standards, natural resource protection measures and planning tools, and examples of implementation options and strategies to improve resiliency to climate change.

- **Municipal Natural Hazard Mitigation Plans** – FEMA requires every municipality in the country to develop and maintain natural hazard mitigation plans. These plans identify natural hazards that impact communities, including flooding, drought, and climate change, and include prioritized actions plans for mitigating the impacts of these hazards. Plans are available on municipal websites.

L. Wildlife Habitat

The Exeter-Squamscott River watershed supports a variety of landscapes including wetlands, forests, ponds, streams, vernal pools, tidal marshes, and tidal mud flats. These different environments provide habitat for many species of flora and fauna. The watershed falls within the Gulf of Maine Coastal Plain biophysical region which is dominated by hardwood and transitional forests. Large tracts of undeveloped land provide important habitat for bobcat, black bear, and forest dwelling birds. The watershed also provides habitat for several species of concern in New Hampshire including Blanding's turtles, New England cottontail, and the blue spotted salamander. The Exeter-Squamscott River is both a cold and warm water fishery that provides habitat for over seventeen resident species including brook trout, small and large mouth bass, yellow perch, and chain pickerel. The river also serves as a spawning area for alewife and blueback herring.

Egrets on the Little River, a tributary of the Exeter River. Photo credit Donna Jensen.

Conservation planning to assess and protect wildlife habitat in the watershed relies on local and regional planning efforts, including:

- New Hampshire Wildlife Action Plan – Prepared by NH Fish and Game in 2015. The Plan is a blueprint for conserving Species of Greatest Conservation Need (SGCN) and their habitats. New Hampshire's Plan identifies 169 SGCN and focuses on the 27 habitats that support these species. The Exeter-Squamscott River watershed includes many different habitats, including salt marsh, peatland, marsh and shrub wetland, many types of forests, and grassland. These habitats are home to many species of wildlife. The Plan provides town-specific maps of habitat locations and lists of wildlife species.

- New Hampshire's Coastal Watershed Conservation Plan, 2021 Update – Prepared by The Nature Conservancy. The Plan identifies key conservation priorities across the lands in New Hampshire, Maine, and Massachusetts that drain to the Atlantic Ocean via the Piscataqua River and through the Hampton-Seabrook Estuary. Maps identify Coastal Conservation Focus Areas and Coastal Priority Agricultural Resources, including conservation for climate change mitigation. Data is included at the sub-watershed scale, including the Exeter-Squamscott River watershed, with 39% of the Exeter-Squamscott River watershed included in the Coastal Conservation Focus Area. Twelve percent of these focus area lands are conserved. Coastal Priority Agricultural Resources represent 6% of the sub-watershed, and 2% of these lands are conserved.

M. Land Conservation

Protection of open space along the Exeter-Squamscott River corridor is a high priority for communities in the watershed and ESRLAC, and a high priority for several land conservation organizations working in the region, including the Southeast Land Trust of New Hampshire and the Great Bay Resource Protection Partnership. Several watershed communities created bonds in the early 2000s to fund land conservation and ESRLAC believes there is a need for this funding to be restored to ensure additional conservation. Municipal Conservation Commissions and Open Space Committees have worked with many land conservation organizations and hundreds of landowners in ESRLAC member communities.

Table 4 highlights the three percent increase in conserved land between 2012 and 2021, with an increase of over four percent in acres conserved in the watershed during this period, conserving approximately 15,333 acres from development, approximately 19.57% of the land in the watershed.

Table 4
Conservation Land in the Exeter-Squamscott River Local Advisory Committee Municipalities

Source: GRANIT, 2012 and 2021

Town	Acres Conserved in Watershed 2012	Acres Conserved In Watershed 2021	Acres in Watershed
Brentwood	2,725	3,183	10,051
Chester	850	1,188	12,561
Danville	141	226	1,995
East Kingston	551	548	3,237
Exeter	2,855	3,215	10,977
Fremont	599	1,080	8,143
Kensington	1,378	1,713	4,645
Kingston	651	839	3,706
Newfields	238	246	2,034
Raymond	545	766	6,666
Sandown	680	912	7,617
Stratham	1,222	1,462	6,704
Total Acres in Watershed			78,336
Total Acres Conserved	12,435	15,333	
Percent Conserved Land	15.2%	19.57%	

N. Recreational Opportunities

Recreational opportunities abound access the Exeter-Squamscott River watershed but public access points to the river are very limited. Recreational activities include fresh and saltwater fishing, hunting, boating, walking, and running, biking, cross country skiing, snowmobiling, and bird and wildlife watching. A list of access sites is included in the Appendix and on the Public Recreation Access map.

Kayak event on the Exeter River.

O. Historical and Cultural Resources

The watershed is rich in American history, dating to the original European settlement of Exeter in 1638 and extending back into pre-history with the earliest Native American sites dating back 9,000 years. Among these resources are building, sites, documents, and institutions that trace the history of the region and nation. A definitive history of land use on and along the Exeter-Squamscott River was written by author and Exeter native Olive Tardiff. ESRLAC partnered with the Southeast Land Trust of New Hampshire to republish the book and add additional photos. Copies of the book are available from ESRLAC. Additional information is available in the Historic Resources Chapter of the Regional Master Plan, developed by the Rockingham Planning Commission in 2015.

P. State Owned Land

The NH Department of Transportation (DOT) holds most of the state-owned land in the Exeter-Squamscott River watershed, including highways and bridges. DOT also owns patrol sheds in Chester, Epping, Kingston, and Newfields. DOT and the NH Department of Natural and Cultural Resources own the Rockingham Recreational Trail, which runs through the watershed communities of Raymond, Sandown, Danville, Fremont, and Newfields. The NH Department of Agriculture, Markets, and Food holds an agricultural conservation easement on the Stevens property located in Brentwood and Kingston. The Rockingham Recreational Trail and the Stevens property provide important passive recreational opportunities, including walking, hiking, hunting, and wildlife watching, and enhance the rural characteristics of the watershed. A list of state-owned lands in the watershed is included in the Appendix.

VI. Issues of Concern

Since 1996, ESRLAC has acted as a volunteer steward of the river, working with landowners, developers, and regulatory agencies to protect the river from the impacts of development and a changing climate. The Committee has developed the following list of issues of concern for the river:

- Manage stormwater and minimize impervious surfaces to protect water quality.
- Reduce nutrient pollution from lawn fertilizer, septic systems, and wastewater treatment plants.
- Incorporate the projected impacts of climate change into the design of land development proposals.

ESRLAC's action plan and priorities reflect these issues of concern.

VII. Action Plan

The Exeter-Squamscott River Local Advisory Committee (ESRLAC) supports the sustainable management of the Exeter-Squamscott River watershed. We define sustainable watershed management as actions that restore natural hydrologic variability and riverine and riparian habitats, maintain acceptable water quality and quantity, and advance land stewardship and low impact development practices.

To that end, ESRLAC will conduct the following work:

- Communicate with watershed Planning Boards and Conservation Commissions to review this Management Plan Update, discuss ESRLAC priorities, and identify opportunities for partnership.
- Continue to review NHDES permit applications related to proposed development within the river corridor and provide comments on the permit applications to NHDES, permit applicants, and Conservation Commissions.
- Continue to recruit Committee members from all twelve watershed communities.
- Share the Management Plan with legislators in the watershed.
- Communicate with neighboring River Advisory Committees to identify opportunities for collaboration.
- Continue to use social media and river-related events to promote ESRLAC priorities.
- Develop and promote a checklist of best management practices for the watershed to be shared with developers and watershed communities.
- Review our priorities annually to identify additional work.

VIII. Priorities of the Exeter-Squamscott River Local Advisory

In addition to the work listed above, ESRLAC will work with landowners, towns, public agencies, organizations, and businesses that advance the following priorities and activities:

Priority: Improve water quality and water quantity to meet federal and state standards. Activities that advance this priority include:

- Support traditional land uses and stewardship such as farming and forestry following Best Management Practices.
- Promote participation in the New Hampshire Department of Environmental Services Volunteer River Assessment Program (VRAP).
- Promote and support permanent conservation of land in the watershed, with priority on shoreline properties, and strong adherence to easement restrictions and purposes.

Squamscott River, Exeter, NH.

- Work with watershed communities to minimize impacts of nonpoint source pollution, especially stormwater.
- Promote the responsible use of residential fertilizer.
- Work with watershed communities to promote proper wastewater disposal and septic system inspection and maintenance.
- Advocate for the identification and protection of prime wetlands in the watershed.
- Support identification of culvert locations and culvert repair, replacement, and maintenance.
- Encourage watershed communities to practice DES best management practices to reduce road salt application and participate in training programs for chloride application and other road treatment alternatives.
- Promote innovative septic system design that improves wastewater treatment.
- Advocate for local land use regulations that reduce creation of impervious surface.
- Participate in the pending instream flow study proposed by NHDES.
- Support sustainable practices throughout the watershed.

Priority: Preserve and enhance aquatic, riparian, and upland habitats. Activities that advance this priority include:

- Advocate for proper stream channel integrity to minimize flooding and erosion.
- Support remediation of eroded shoreland and washouts.
- Support replacements of culverts and other impediments that restrict aquatic connectivity.

- Advocate for land conservation projects and the protection of wildlife corridors.
- Support public information programs about wildlife habitat.
- Promote education, identification, and removal of invasive species along the river corridor.
- Collaborate with NH Fish and Game when appropriate.

Priority: Promote responsible recreational use of the river and support protection of historical, cultural, and environmental resources in the watershed. Actions that support this priority include:

- Work with communities to increase public access points to the river.
- Develop a map of public access points and public spaces.
- Engage youth in educational and recreational activities.
- Advocate for responsible boating speed on the river.

Priority: Incorporate climate change science into watershed management. Activities that support this priority include:

- Consult climate change data and reports when reviewing and commenting on NHDES permit applications.
- Advocate for land use regulations that incorporate climate adaptation planning.

IX. Conclusion and Plan Implementation

ESRLAC is committed to partnering with landowners, Select Boards, Planning Boards, Conservation Commissions, and with the many organizations and agencies vested in protecting water quality, wildlife habitat, and cultural resources in the Exeter-Squamscott River watershed. Productive partnerships are the foundation for successful implementation of the priorities stated in this Plan.

For more information, please contact ESRLAC via the Rockingham Planning Commission at 603-778-0885, email@rpc-nh.org.

Appendices

Exeter-Squamscott River Local Advisory Committee Members Biographies

Jessica Balukas, Brentwood Representative

Jessica has a background in ecology and natural resource economics. She works in private consulting, performing economic analyses for federal rulemakings and developing new valuation methodologies. In addition to serving as a Brentwood representative for ESRLAC, she also serves as an alternate on the Brentwood Conservation Commission. Her hobbies include dancing, hiking, biking, and reading.

Donald Clement, Exeter Representative

Don has served on ESRLAC for over twenty years, including fifteen years as the Committee Chair. He has also served on the Exeter River Study Committee regarding the removal of the Great Dam in downtown Exeter. He is a member of the Exeter Conservation Commission and a former Select Board member. Don was an active contributor to many studies and reports about the river, including Project WISE, CAPE, and the fluvial geomorphic assessment.

Ellen Douglas, Fremont Representative

Dr. Ellen Douglas is a hydrologist and engineer with broad expertise in the analysis of water-related issues. She earned a BS in Hydrology and an MS in Civil Engineering from the University of New Hampshire and a PhD in Water Resources Engineering from Tuft University in 2002. Ellen's research interests include evaluating the impacts of climate change on New England hydrology, assessing the vulnerability of coastal communities to flooding, improving methods for sustainable water resource management and monitoring the performance of river restoration through dam removal. She has authored or co-authored over 50 peer-reviewed publications, book chapters, and technical reports. She was a contributing author for the 2013 U.S. National Climate Assessment and the IPCC Fifth and Sixth Assessment Reports. Dr. Douglas was awarded a 2013-14 Fulbright Scholarship to work in Australia with the CSIRO on the Water Values and Benefits project.

Ellen had dreamed of being a scientist since she read a book in fourth grade entitled "How a jet flies" but did not have the confidence or resources to start her college education until she was 31. Ellen is now a first-generation college graduate and one of only two members of a large extended family to earn a PhD. Since her promotion to full professor, Ellen has put a lot of effort into mentoring young undergraduate and graduate women in science. She started Growing Women in Science (GWIS, pronounced Gee-whiz) in spring 2018 which is still going strong!

Nathan Merrill, Stratham Representative

Nathan Merrill is a fourth-generation dairy farmer who has lived and worked his whole life on the banks of the Squamscott River – along with millions of saltmarsh mosquitoes and "greenhead" biting flies! Together with his family, he owns the Stuart Farm, consisting of 270 acres of land on the Squamscott in Stratham and 100 acres on the Lamprey River in Lee. They milk 200 cows and grow forage crops on numerous other parcels of land in Stratham as well. Sound environmental stewardship and natural resource conservation has been a multi-generational commitment in the Stuart and Merrill families. Nathan's other civic involvement includes longtime service on the Stratham Heritage Commission, and past service on the town's land conservation bond committee, budget committee, and various planning committees.

Eric Turer, Brentwood Representative

I have lived on the Exeter River (above Pickpocket Dam) since 2000, with 1800 feet of river frontage.

I frequently canoe/kayak and swim in the river, as well as hiking/biking the trails along it's banks. We have occasionally done SCUBA diving in the river to explore below the surface. We keep a game camera by the river and enjoy monitoring the many species that make the protected land along the river corridor their home. I revived Brentwood's Exeter River Fall Paddle through town in 2018 and continue to work with our town's Recreation Department annually to organize and promote the event. We collect trash from the river annually when the town does its spring cleanup. I have been trained in the VRAP program and have begun to collect sample data for the DES.

I have a BS in Biology and an MBA in Health Systems Administration. My career is in public health and access to health care for underserved communities. I have served on ESRLAC since 2014. In 2022 I was elected to represent Brentwood in the NH House of Representatives.

Elizabeth Mello, Kingston Representative

I am a New Englander through and through. I grew up splashing in the streams and creeks, the lakes, and rivers, and I first learned to swim and row a boat in the ocean. I ran and played through hayfields, apple, orchards, cow pastures, and what seems like endless woods. Growing up, we knew who was growing what vegetables, what fruit trees, and when they were ready to harvest. We met a lot of the neighbors in this way, I still remember an older couple well into their 80s, that had an amazing rhubarb patch, and we would visit them often.

As many other people do, I highly value clean air to breathe, clean water to drink, and lots of open space to roam and play it. This is my motivation to help conserve and preserve the environment. I enjoy interacting with people and outreach efforts to help connect them with the environment.

William Meserve, Newfields Representative

Inspired by the environmental movement of the 1970's, Bill received a degree in Environmental Engineering and later studied Environmental Law. Over the years he has served on local planning boards and several environmentally related groups. He had a 40-year career as a Professional Engineering involved in the construction phase engineering of numerous clean water and wastewater projects.

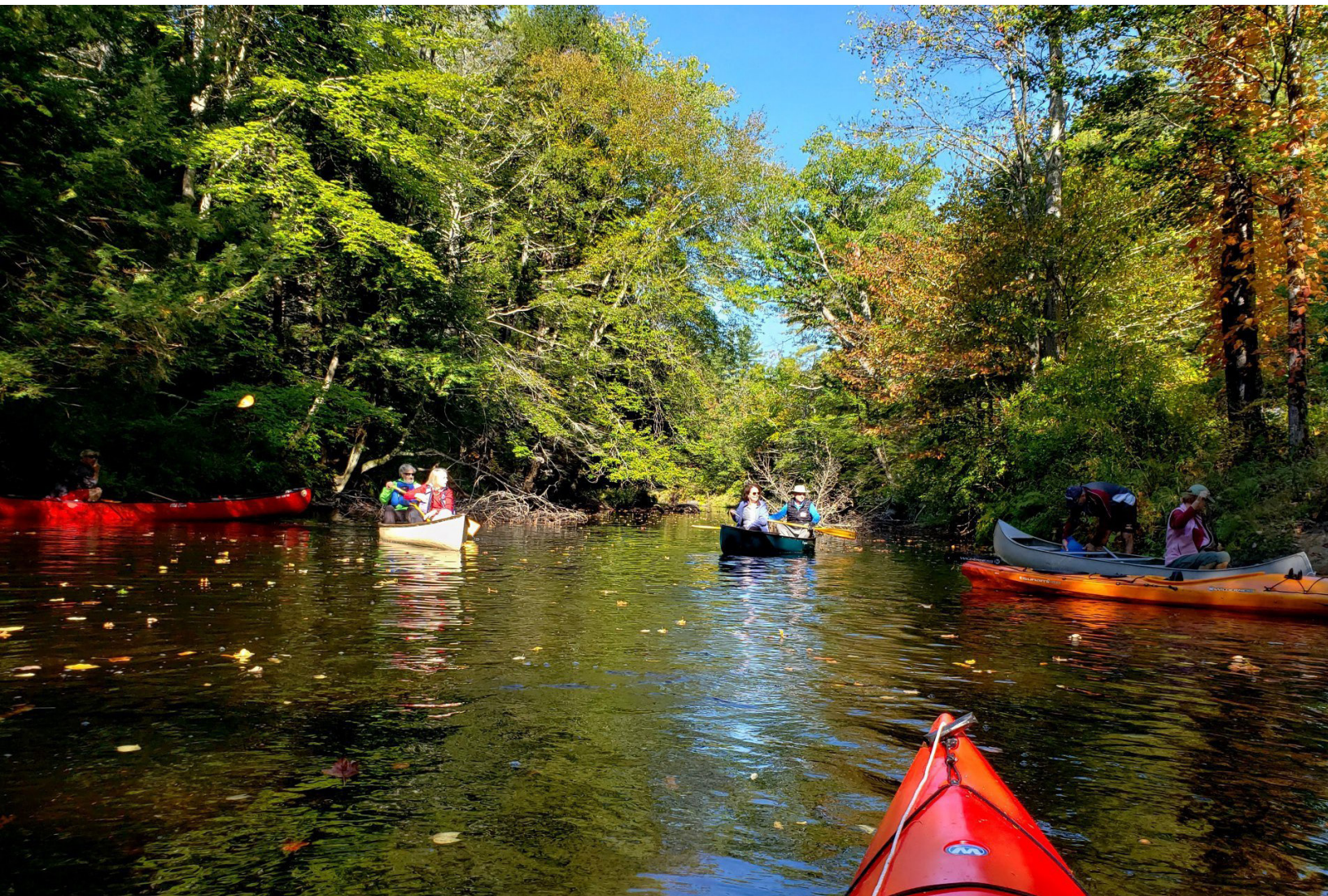
Donald Picard, Sandown Representative

Don is a New Hampshire native and has lived in Sandown since 1985. He was active for many years on the Sandown Planning Board, serving as alternate, member, vice-chair, and chair. Don joined ESRLAC in 2022 to give Sandown added representation to protect the watershed for Sandown residents, and all member communities.

John Roderick, -- Representative

I'm John Roderick have been a volunteer for watershed projects for the past 30 years. My interest in clean water relates to my passion of fishing and other natural habitats the river continues to support a healthy ecosystem.

Kayak event on the Exeter River.



Public Recreation Sites

Town	Site Name	Operator	Owner Type	Primary Use	Waterbody
Brentwood	Dow Conservation Area Easement	Peter Dow	Private	Natural Area	Exeter RIver
Brentwood	Peabody Drive Lot	Town of Brentwood	Municipal	Natural Area	Exeter River
Brentwood	Riverside Drive Access	Town of Brentwood	Municipal	Water Sports Area	Exeter River
Brentwood	Rowell Road		Private	Fishing, access pt	Exeter RIver
Brentwood	Peabody Drive		Private	Fishing, access pt	Exeter RIver
Chester	Silver Sands Camping Area		Private	Campground	Wason Pond
Chester	Chester Rod & Gun Club	Chester Rod & Gun Club	Private	Shooting Preserve	
Exeter	Colcord Pond Park	Exeter Parks & Recreation Dept	Municipal	Natural Area	Colcord Pond
Exeter	Exeter Sportmens Club		Private	Field Sports	Exeter Reservoir
Exeter	Stewart Waterfront Park	Exeter Parks & Recreation Dept	Municipal	Water Sports Area	Squamscott River
Exeter	Phillips Exeter Academy	Trustees of Phillips Academy	Private	Field Sports	
Exeter	Exeter Area Jr. High School	Town of Exeter	School	Field Sports	
Exeter	Pickpocket Dam	Town of Exeter	Municipal	Natural Area	
Fremont	Exeter River Camping Area		Priv NP	Campground	Exeter River
Newfields	Newfields Landing	Town of Newfields	Municipal	Boat Launch Ramp	Squamscott River
Sandown	Seeley Park	Town of Sandown	Municipal	Water Sports Area	Phillips Pond
Sandown	Town Forest	Town of Sandown	Municipal	Fishing, access pt	Exeter River
Stratham	River Road Landing	Town of Stratham	Municipal	Picnic Area	Squamscott River
Stratham	Chapman's Landing	NH Dept of Fish & Game	Federal	Boat Launch Ramp	Squamscott River

Active Dams

Town	Dam Name	River	Height Ft	Impoundment Acreage	Owner	Location
Brentwood	Exeter River Dam	Exeter River	15	16.4	Brentwood Dam Ventures Llc	Mill Road
Brentwood	Pickpocket Dam	Exeter River	15	22	Town Of Exeter Public Works	Pickpocket And Cross Rd
Brentwood	Three Ponds Campground Dam	Dudley Brook	14	3.9	Three Ponds Campground	
Brentwood	Three Ponds Farm Pond Dam	Dudley Brook	8	0.29	Three Ponds Campground	
Brentwood	Ice Pond Dam And Dike	Dudley Brook	8.4	3	Rockingham County Complex	Rockingham County Complex
Brentwood	Rockingham Cnty Wastewtr Lagoon Dam	Na	13	5.24	Rockingham County Complex	Rockingham County Complex
Brentwood	Lambert Fire Pond Dam	Unnamed Stream	12	0.32	Mr Norman Lambert	
Brentwood	County Courthouse Fire Pond Dam	Unnamed Stream	12	0.47	Rockingham County	
Chester	Pandolphin Dam	Towle Brook	9	5	Mrs Suzanne Fumarola	
Chester	Wason Pond Dam	Ray Brook	18	8.4	Town Of Chester	Rte 102
Chester	Edwards Mill Pond Dam	Towle Brook	16	1.5	Town Of Chester	Route 102
Chester	Healey Dam - Towle Brook	Towle Brook	13	1.5	Ms Judith Vance	
Chester	Harantis Lake Dam	Beaver Brook	13.5	15.4	Harantis Lake Property Owners Assoc	Harantis Lake Rd
Chester	Deep Hole Pond Dam	Exeter River	15	16.29	Mr Dan Gillen	
Chester	Chester Village Beaver Pond Dam	Beaver Pond	11.5	3.05	The Village At Chester Assoc	

Active Dams (Continued)

Chester	Jenkins Farm Rd Det Pond Dam	Runoff	16.9	0	Mr Kenneth W Yameen	
Danville	Little Cub Pond Dam	Colby Brook	11	13.3	Town Of Danville	Mill Road To Cub Road
Danville	Diamond Pond Dam	Colby Brook	12	13.18	Weston Realty Trust	Cub Pond Rd - Stay Left
Danville	Iron Wheel Pond 1 Dam	Runoff	9	2.07	Iron Wheel Inc	
East Kingston	Powwow Pond Dam	Powwow River	12	353	Nh Des Water Division	Route 108
East Kingston	Blunt Pond Dam	Brickyard Brook	18	1.27	Mr Mrs Matt Blunt	
East Kingston	East Kingston Golf Course Pond Dam	Unnamed Stream	6.5	1.2	East Kingston Golf Club	
East Kingston	Flynn Family Trust Basin 1 Dam	Runoff	12.7	0.06	Town Of East Kingston	Behind 18 Greystone Road
East Kingston	Brentwood Commons Det Pond 3 Dam	Runoff	10	0.03	Brentwood Commons Llc	
East Kingston	Monaham Farm Pond Dam	Runoff	13.7	0.28	Mr Charles Walker	
East Kingston	Bodwell Septage Facility Dam	Na	8.5	0.7	Biological Recycling Company Llc	79 North Rd, In Field Behind Barn
Exeter	Exeter Reservoir Dam	Dearborn Brook	15	26	Town Of Exeter Public Works	Exeter Wtp - Route 108
Exeter	Colcord Pond Dam	Little River	7	8	Town Of Exeter Public Works	Brentwood Road
Exeter	Fort Rock Farm Pond Dam	Tr Norris Brook	8	0.63	Ms Phyllis Carey	
Exeter	Raynes Farm Pond Dam	Unnamed Stream	13	0.5	Mr Bruce Norton	
Exeter	Exeter Country Club Dam	Wheelwright Creek	11	0.38	Exeter Country Club	
Exeter	Exeter Sewage Holding Pond Dam	Na	10	7	Town Of Exeter Public Works	Swazey Parkway

Active Dams (Continued)

Exeter	Exeter Sewage Lagoon Dam	Na	12	8.53	Town Of Exeter Public Works	Wwtp - Route 85
Exeter	Exeter Falls Estates Det Pond Dam	Runoff	6.5	0.87	Tfg And Exeter Falls Assoc	
Exeter	Stone Recreation Pond Dam	Unnamed Stream	9.8	1.68	Helen Stone	
Exeter	Apollo Comp Det Pond Dam	Runoff	6.1	1.6	Unknown	
Exeter	Sloans Brook Dam	Sloans Brook	10	0.02	Town Of Exeter Public Works	Sloan Brook Drive
Exeter	Farmington Estates Det Pond Dam	Runoff	10	0.14	Morgan Ryan Realty Trust	
Exeter	Forest Ridge Det Pond 51 Dam	Runoff	12	0.25	Oaklands Forest Ridge Homeowners	
Exeter	Dellacroce Det Pond Dam	Runoff	14	0	Robert Macomber And Cynthia Frye Macomber	
Exeter	Exeter Backwash Ponds Dam	Na	10	0.09	Town Of Exeter	
Fremont	Spaulding And Frost Co Dam	Exeter River	7	1.5	Unknown	Near Candia Island
Fremont	Scribner Road Dam	Exeter River	12	16	Mr Dale Turner	116 Scribner Road
Kensington	Philbrick Pond Dam	Branch Great Brook	9	1.43	Melvin And Susan Armstrong Iii	
Kensington	Farm Pond Dam	Unnamed Stream	8	0.15	Hilda And Wesley Rosencrantz	
Kensington	Wildlife Pond Dam	Unnamed Stream	11	0.4	Winston And Beatrice Allen	
Kensington	Fire Pond Dam	Unnamed Stream	9	0.25	Mr George Gavutis Jr	

Active Dams (Continued)

Kensington	Dingman Dam	Unnamed Stream	10	1.7	Mr Michael Dingman	
Kensington	Carpenter Dam	Unnamed Stream	7.2	1	Mr Harlow Carpenter	
Kensington	Dow Pond Dam	Runoff	11.5	0.6	Mr Charles Mabardy	South Road
Kingston	Little River Dam	Little River	8	0.7	Kellogg American Inc	
Kingston	Little River Dam	Little River	10	2	Douglas And Katherine Houghton	51 Little River Road
Kingston	Long Pond Dam	Powwow River	6	100	Ler Realty Co Inc	Cheney Road
Kingston	Cheney Mill Dam	Long Pond Brook	11	2	Ler Realty Co Inc	Mill Road To Cheney Road
Kingston	Colby Brook Dam	Colby Brook	11	16.4	Berkshire Dominion Holdings Llc	Route 125 & Mill Road
Kingston	Great Pond Dam	Powwow River	5	204	Nh Des Water Division	
Newfields	Piscassic Ice Pond Dam	Piscassic River	12	13.7	The Estate Of Gilbert Lang	Nh Rte 85/ Piscassic Road
Newfields	Newfields Sewage Lagoon Dam	Na	19	1.6	Newfields Village Sewer District	
Raymond	Onway Lake Dam	Tr Lamprey River	8.5	194	J And D Realty Trust	
Raymond	Jones Brook I Dam	Jones Brook	14	0.37	Mr Michael Melanson	37 Scribner Road
Raymond	Fire Pond Dam	Unnamed Stream	7	2.6	Walnut Hill Corp	
Raymond	Coastal Materials Pond Dam	Runoff	9	0.36	Coastal Materials Inc	
Raymond	Fire Pond Dam	Unnamed Stream	7	0.14	Pawtuckaway Farm Owners Assoc	
Raymond	Walmart Dist Pond B Dam	Runoff	11	1.27	Walmart Stores Inc	

Active Dams (Continued)

Raymond	Walmart Dist Det Pond G Dam	Runoff	17.5	0.5	Walmart Stores Inc	
Sandown	Densen Pond Dam	Exeter River	10	3.79	Mr Mark Traeger	
Sandown	Angle Pond Dam	Bartlett Brook	5	160	Nh Des Water Division	
Sandown	Celeste Farm Pond Dam	Unnamed Stream	7	0.37	Mr Vincent J Celeste	
Stratham	Mill Brook Pond Dam	Mill Brook	6	2	Mr Grayson Kirtland	
Stratham	Wiggin Farm Pond	Unnamed Stream	6	0.5	Mr Robert Wiggins	
Stratham	Highwind Farm Fire Pond Dam	Springs	6	0.4	Fred And Joanne Schottler	55 Winnicutt Road
Stratham	Farm Pond Dam	Springs	6	0.25	Mr Bradley Jones	
Stratham	Farm Pond Dam	Unnamed Brook	8	3	Mr Nelson Barker	
Stratham	Wildlife Pond Dam	Unnamed Brook	10	0.25	Ms Helen Gallant	
Stratham	Winding Brook Condo Det Pond	Runoff	8	2.05	Bay Region Enterprises	
Stratham	Fire Pond	Unnamed Stream	7	0.5	Jewett Hill Associates Ltd	
Stratham	Windlestraw Condo Pond	Runoff	6	1	Mr Ronald Maclaren	
Stratham	Stuart Farm Pond	Unnamed Stream	14	0.82	Mr John C Merrill	
Stratham	Hills At Crockett Farm Det 1	Runoff	10.5	0.86	The Hills At Crockett Farm Condo Assoc	
Stratham	Hills At Crockett Det 2	Runoff	8.5	0.51	The Hills At Crockett Farm Condo Assoc	
Stratham	Lindt Det Pond Dam	Runoff	6.6	1.23	Lindt And Sprungli Usa	

Public Recreation Sites

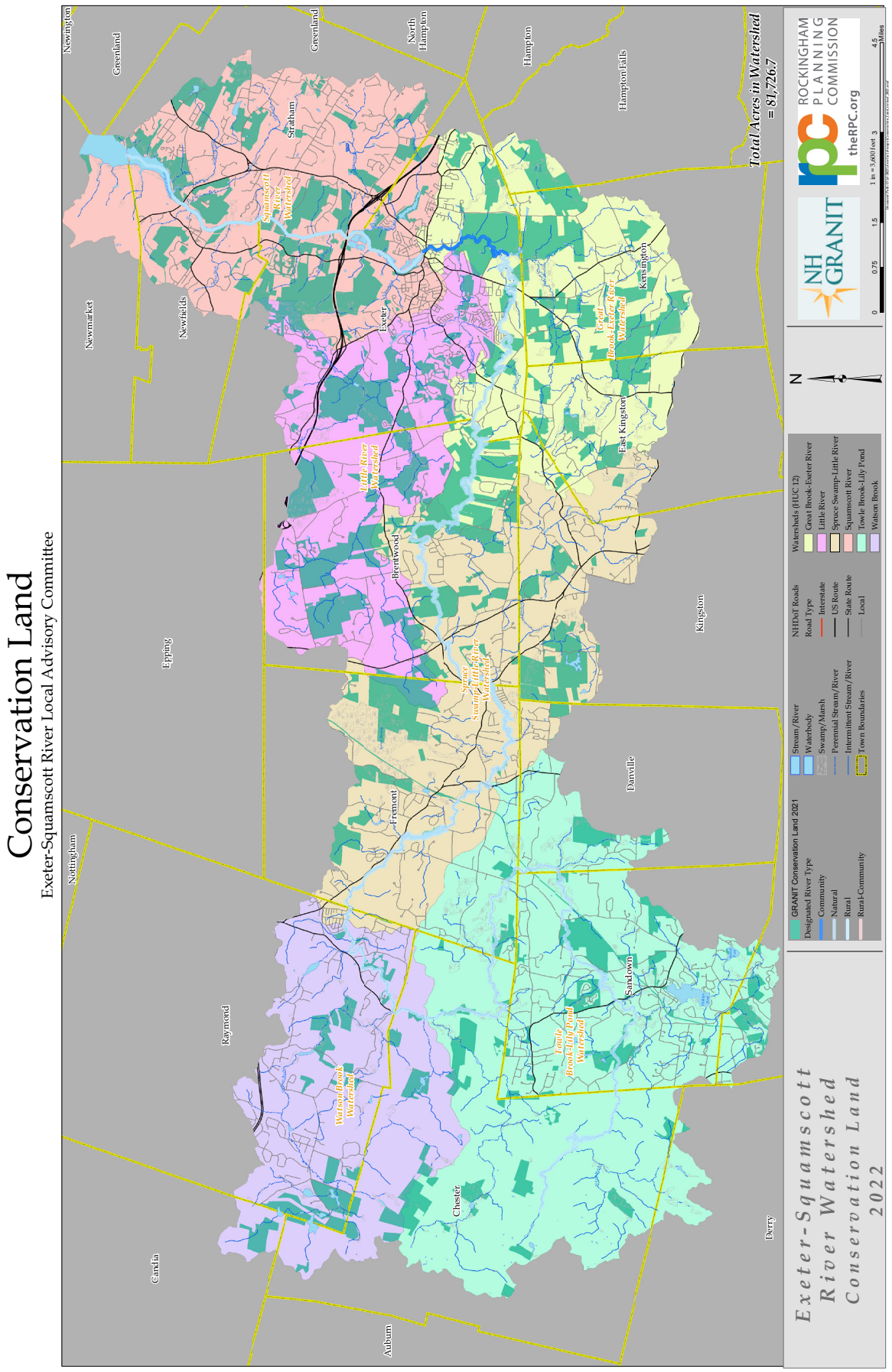
Town	Street Address	Acres
Brentwood	10 Rt 125	23.00
Brentwood	Rt 101	330.00
Brentwood	Pine Rd	0.26
Brentwood	154 Pine Rd	1.50
Brentwood	Rt 27	3.30
Brentwood	Rt 27	17.00
Brentwood	Pine Rd	0.68
Brentwood	Pine Rd	1.20
Brentwood	Pine Rd	8.30
Brentwood	Deer Hill Rd	2.10
Chester	Raymond Rd	2.54
Chester	825 Raymond Rd	3.02
Danville	Sandown Road	4.00
Epping	Route 101	29.25
Exeter	292 Epping Rd	4.51
Exeter	Pine Rd	1.76
Exeter	Jubal Martin Rd	0.04
Exeter	Epping Rd	1.80
Exeter	Epping Rd	9.40
Exeter	Epping Rd	23.00
Exeter	252 Epping Rd	0.00
Exeter	250 Epping Rd	1.30
Exeter	Off Epping Rd	1.12
Exeter	260 Epping Rd	0.21
Exeter	262 Epping Rd	0.15
Exeter	Off Epping Rd	0.88
Exeter	264 Epping Rd	0.08
Exeter	266 Epping Rd	0.20
Exeter	253 Epping Rd	10.29
Exeter	249 Epping Rd	0.53
Exeter	245 Epping Rd	0.14
Exeter	241 Epping Rd	0.31
Exeter	222 Epping Rd	0.54
Exeter	0 Route 101	7.10
Exeter	8 Watson Rd	1.60
Exeter	7 Watson Rd	0.50
Exeter	5 Watson Rd	1.30
Exeter	1 Watson Rd	2.23
Exeter	1 Cronin Rd	1.20
Exeter	0 Route 101	3.80
Exeter	Epping Rd	23.00
Exeter	Epping Rd	4.80
Exeter	216 Epping Rd	21.00
Exeter	Epping Rd- Lot 03	1.09
Exeter	Finch Ln	0.88
Exeter	Holland Way	2.81
Exeter	Beech Hill Rd	72.00
Exeter	Epping Rd	9.50
Exeter	228 Epping Rd	225.05
Fremont	Exeter River	2.00
Fremont	Exeter River	2.00
Fremont	Exeter River At South Rd	14.19
Fremont	Main Street	0.60
Fremont	Railroad Bed	37.30
Fremont	Main Street To South Road	21.00
Hampstead	Main St	13.63
Kingston	233 Rt 125	2.00
Newfields	Main St	0.42
Newfields	Marshland	1.50
Newfields	Marshland	1.10
Newfields	Marshland	0.57
Newfields	24 Rt 108	0.23
Newfields	Rt 108	1.34
Newfields	Rt 108	0.15

Public Recreation Sites (Continued)

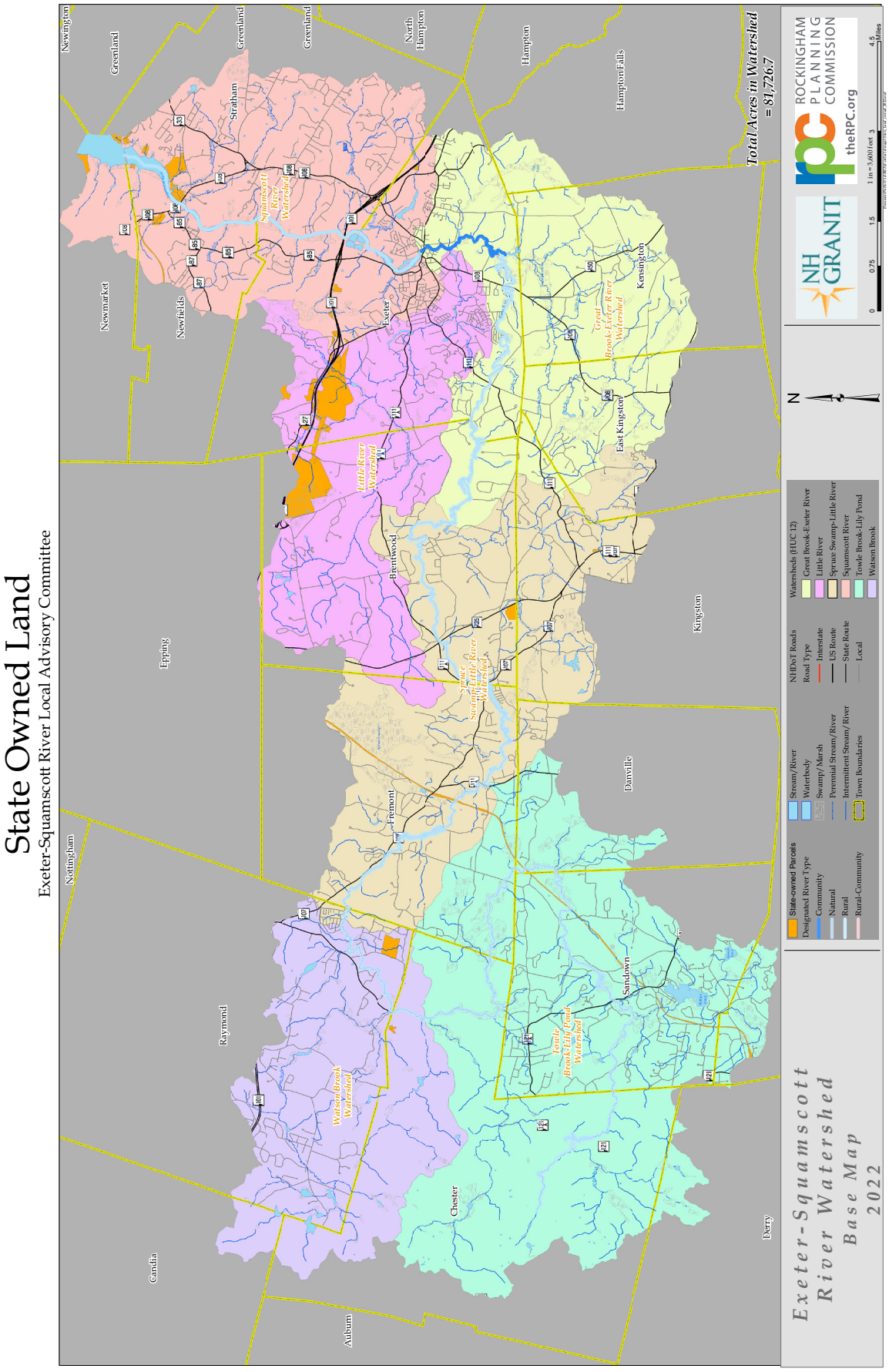
Newfields	39 Rt 108	17.00
Newfields	Rt 108	1.22
Newfields	11 Old Route 108	22.28
Raymond	Gillingham Road	50.00
Sandown	Hampstead Rd	2.80
Sandown	Hampstead Rd	5.50
Sandown	Hampstead Rd	9.60
Sandown	Hampstead Rd	9.60
Sandown	Cranberry Meadow Rd	5.50
Sandown	Cranberry Meadow Rd	0.01
Sandown	Cranberry Meadow Rd	0.01
Sandown	Odell Rd	4.10
Sandown	Fremont Rd	8.26
Sandown	North Rd	0.52
Stratham	88 College Road	1.18
Stratham	College Road	8.47
Stratham	Squamscott River	3.00
Stratham	Squamscott River	4.43
Stratham	College Road	4.79
Stratham	84 College Road	1.39
Stratham	80 College Road	1.72
Stratham	Squamscott River	3.00
Stratham	Squamscott River	2.45
Stratham	Squamscott Road	57.00
Stratham	Off Linda Lane	0.40
Stratham	Backland	7.29
Stratham	19 Morning Star Drive	3.13
Stratham	21 Morning Star Drive	4.38
Stratham	Off Depot Road	44.51

Maps

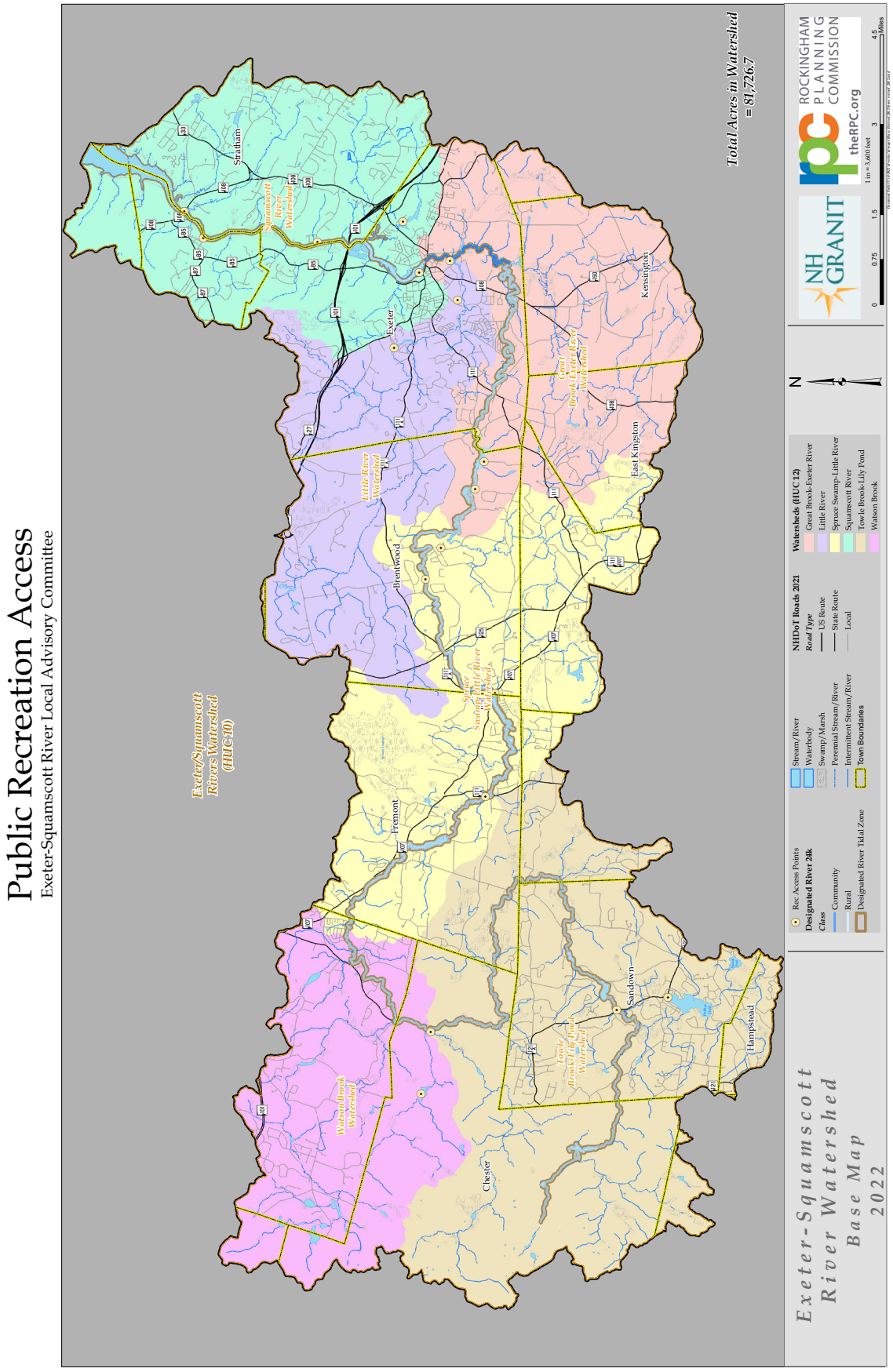
Conservation Land



State Owned Land



Public Recreation Access



Aquatic Organism Passage