# Water Resource Protection Guide for the Exeter-Squamscott River Watershed

## TOWN OF FREMONT

EXETER-SQUAMSCOTT RIVER
LOCAL ADVISORY COMMITTEE

PREP™
Piscataqua Region Estuaries Partnership

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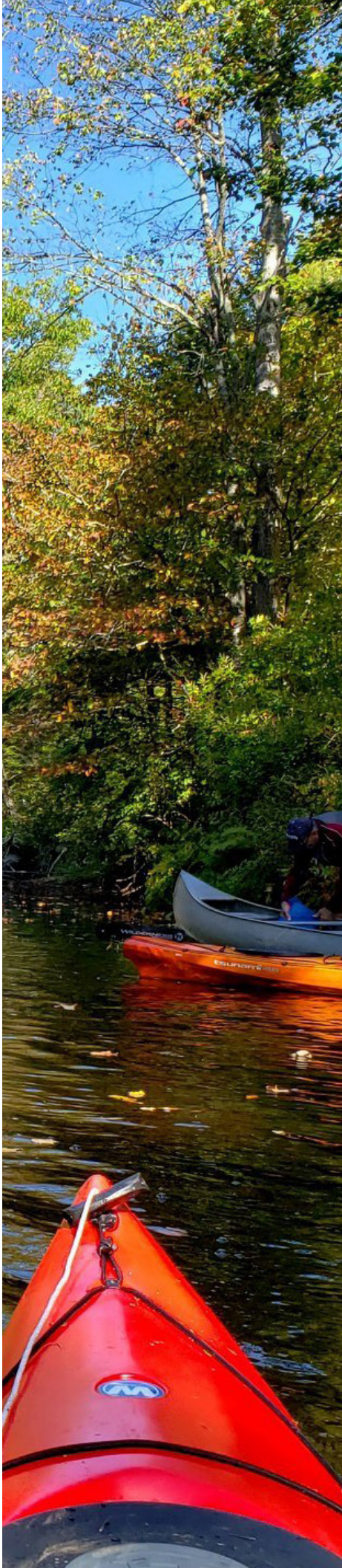
# About This Guide

This Water Resource Protection Guide is designed to provide clear, practical strategies for safeguarding water quality and enhancing environmental conditions within the Exeter-Squamscott River Watershed.

The guide outlines specific actions and best practices for both individuals and communities for effective water resource management. It addresses various aspects of water protection, including land use, pollution prevention, and conservation efforts. By following these guidelines, residents and municipal leaders can work together to preserve the health and integrity of the watershed, ensuring clean and sustainable water resources for the community now and in the future.



**Front Cover Image:**
Exeter River at Scribner Road Bridge.
Photo Credit: Nancy J Murray

# Glossary of Water Resource Protection Terms

**Aquifer:** An underground layer of rock or sediment that holds water and allows it to flow, serving as a source of drinking water through wells.

**Best Management Practices (BMPs):** Methods or techniques used to manage water runoff and pollution in a way that minimizes impact on the environment, such as rain gardens or buffer zones.

**Buffer Zone:** A strip of natural vegetation, often along a river, stream, or wetland, that helps filter pollutants, control erosion, and protect water quality.

**Conservation Easement:** A legal agreement that permanently limits the use of land to protect its natural resources, preventing development and preserving water quality and habitat.

**Ecosystem:** A community of living organisms, like plants, animals, and microorganisms, interacting with their physical environment (air, water, soil).

**Erosion:** The process where soil, sand, or rock is worn away by wind or water, often leading to sedimentation in water bodies, which can degrade water quality.

**Impervious Surface:** A surface, such as concrete or asphalt, that doesn't allow water to soak into the ground, increasing stormwater runoff and potential pollution.

**Nonpoint Source Pollution:** Pollution that comes from many diffuse sources, like runoff from roads, farms, and yards, rather than a single, identifiable source.

**Nutrient Loading:** The introduction of excess nutrients, particularly nitrogen and phosphorus, into a water body, which can lead to harmful algal blooms and poor water quality.

**Riparian Area:** The land adjacent to a river or stream, which plays a critical role in protecting water quality by filtering pollutants and providing wildlife habitat.

**Runoff:** Water from rainfall or snowmelt that flows over the surface of the land, often picking up pollutants along the way, before entering streams, rivers, or lakes.

**Sedimentation:** The accumulation of soil, sand, and other particles in water bodies, often due to erosion. It can harm aquatic habitats and degrade water quality.

**Septic System:** A private system used to treat wastewater in areas without centralized sewer systems. Poorly maintained systems can release pollutants into groundwater.

**Setback:** A specified distance from a water body within which certain activities are restricted.

**Stormwater:** Water from rain or snowmelt that runs off surfaces like roads, parking lots, and roofs, carrying pollutants into rivers, lakes, and other water bodies.

**Watershed:** An area of land where all the water drains to a common body of water, like a river, lake, or estuary. Everything that happens in a watershed affects the water quality of that shared resource.

**Wetlands:** Areas where the land is saturated with water, either permanently or seasonally. Wetlands help filter water, control floods, and provide vital wildlife habitat.

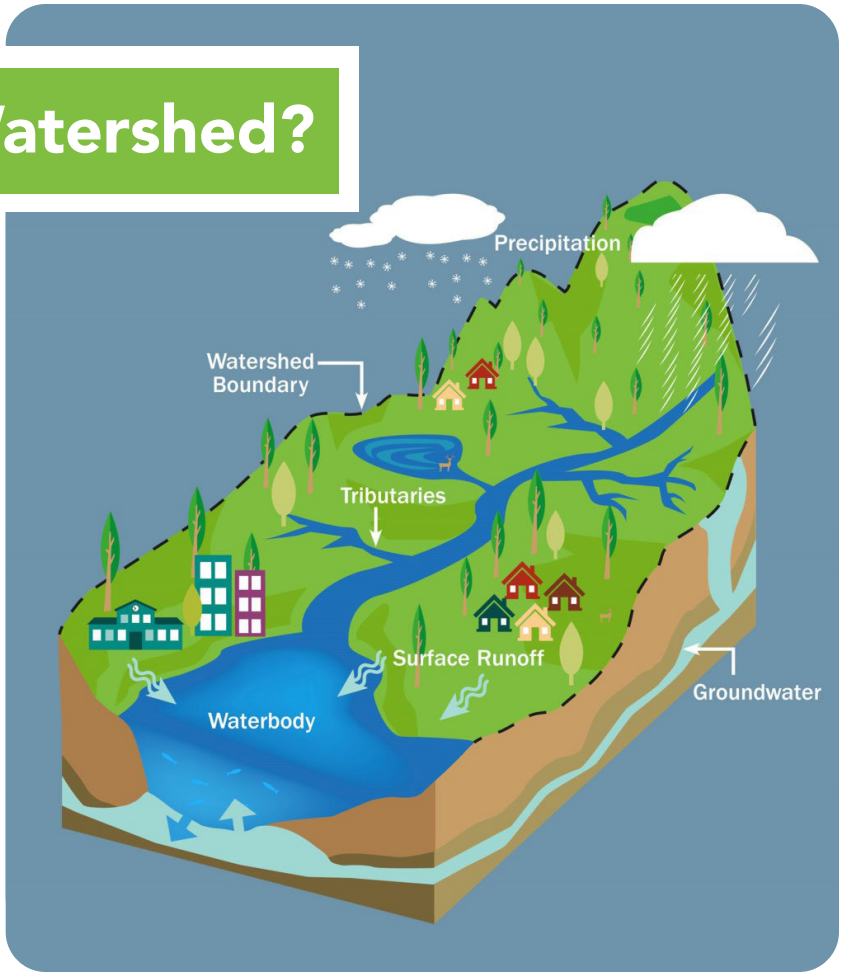
**Wildlife Corridor:** A natural route or strip of habitat that allows wildlife to move between different areas, helping maintain biodiversity and healthy ecosystems.

**Tidal River:** A river that is affected by the tides, where freshwater from the river mixes with saltwater from the ocean, creating an estuarine environment.

**Water Table:** The upper level of an aquifer, where the ground is fully saturated with water. It can rise or fall depending on factors like rainfall and groundwater use.

**Total Maximum Daily Load (TMDL):** The maximum amount of a pollutant that a body of water can receive while still meeting water quality standards. This is a regulatory term used by environmental agencies to manage water pollution.

# Why Protect our Watershed?




*Source: NOAA Fisheries*

A watershed is like nature's giant bathtub! It's the land area that catches rain, snow, and runoff, and channels it into rivers, lakes, and streams. Imagine all the water flowing downhill from mountains, forests, and fields, eventually making its way to one shared body of water. Whether you live in a city or the countryside, you're part of a watershed!

Why is it important? Watersheds are the lifeblood of our environment, providing clean drinking water, supporting wildlife, and helping with flood control. A watershed connects all the communities within it, so actions taken in one town can directly impact the water quality in others. When we protect water resources in our own backyard—whether by reducing pollution or conserving land—we're helping to ensure cleaner, healthier water flows downstream to our neighboring communities. Since we're all part of the same system, individual efforts contribute to the overall health of the entire watershed, benefiting everyone who shares it.

By taking care of our watershed, we're ensuring that our rivers stay healthy, our habitats thrive, and we have clean water for future generations to enjoy. It's one big, interconnected system, and every small action we take to protect it makes a huge difference!

# Overview of ESRLAC Watershed

The Exeter River and Squamscott River are two names used to describe one river, connecting a dozen communities. This State-protected waterway extends 33 miles from Chester to Downtown Exeter. At Great Falls in downtown Exeter, the river becomes tidal and is known as the Squamscott River. The Squamscott flows for another nine miles, gradually transitioning from a freshwater environment to a saline estuarine ecosystem. The watershed covers an area of approximately 128 square miles and includes parts of 12 towns: Chester, Raymond, Fremont, Danville, Sandown, Kingston, East Kingston, Kensington, Brentwood, Exeter, Newfields, and Stratham.

If you've ever spent time at the ponds, rivers, or wetlands fed by the Exeter-Squamscott River, you've likely witnessed two things at once: the ecosystem's incredible resilience and its delicate fragility. The river's capability to re-stabilize itself during abnormal conditions like flooding or pollution, is remarkable. The Exeter-Squamscott River is a significant natural resource with numerous benefits not only to Brentwood, but to all the communities in the watershed. Some of these benefits include:

**Ecological Diversity**

The watershed supports diverse habitats including wetlands, forests, riparian zones, and agricultural lands which are home to a variety of plant and animal species. These habitats provide essential ecosystem services such as water filtration, flood control, and wildlife habitat.

**Water Supply**

The river and its tributaries contribute to local drinking water supplies for communities within the watershed. Protecting water quality is essential for maintaining clean and safe drinking water sources.

**Recreation and Tourism**

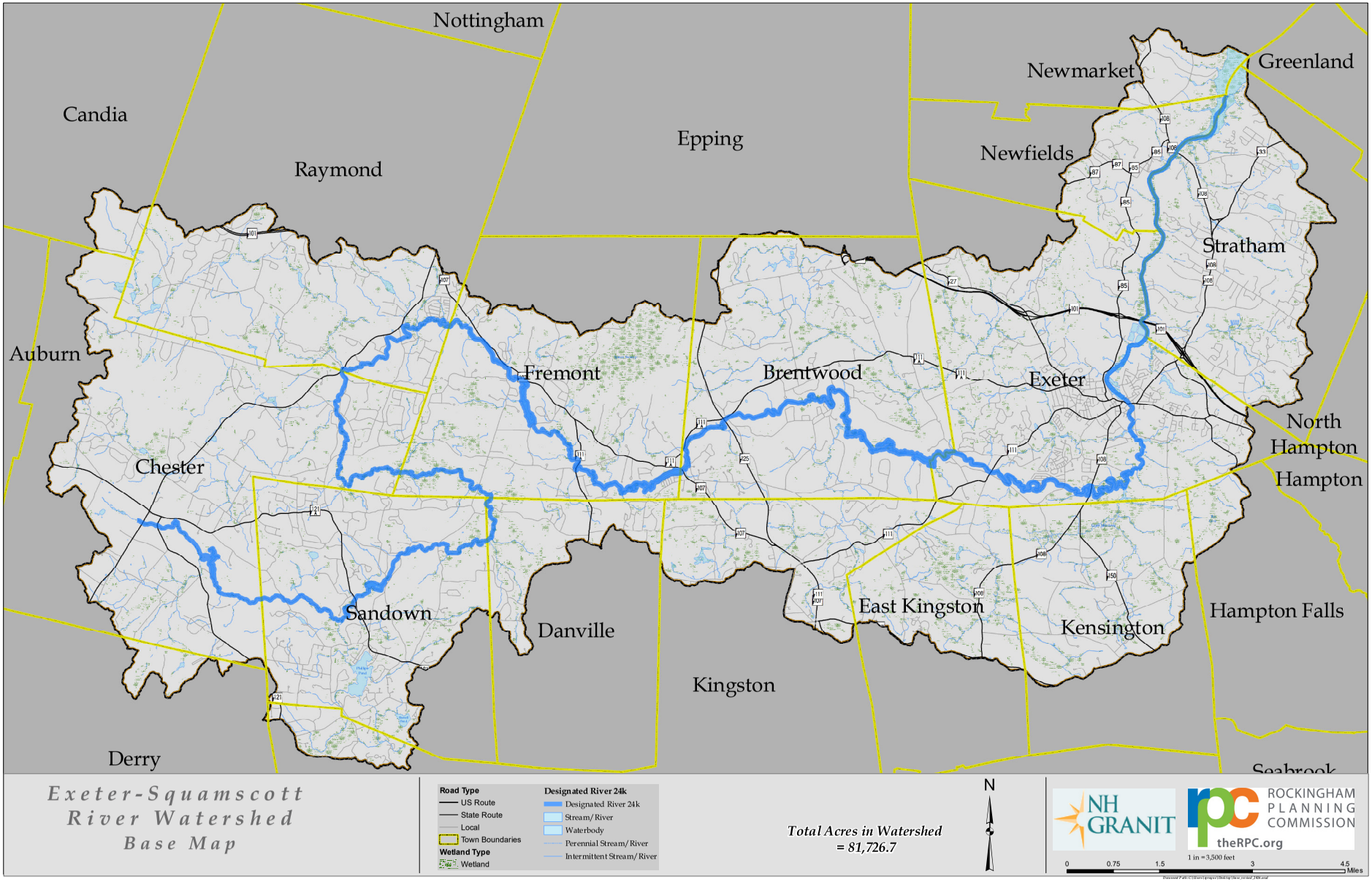
The watershed offers recreational opportunities such as boating, fishing, birdwatching, and hiking, attracting outdoor enthusiasts and supporting local tourism economies. Check out opportunities for recreation by visiting 7 Rivers to the Coast's interactive map.

**Cultural Heritage**

The river has historical and cultural significance, having played roles in transportation, industry, and settlement patterns throughout its history.

**Economic Benefits**

Healthy rivers and estuaries support commercial and recreational fisheries, tourism activities, and property values, contributing to local economies.


Nottingham
Candia
Raymond
Epping
Newmarket
Greenland
Newfields
Stratham
Auburn
Fremont
Brentwood
Exeter
North Hampton
Hampton
Chester
Sandown
Danville
East Kingston
Kensington
Hampton Falls
Kingston
Derry
Seabrook
Exeter-Squamscott River Watershed Base Map
Road Type
US Route
State Route
Local
Town Boundaries
Wetland Type
Wetland
Designated River 24k
Designated River 24k
Stream/River
Waterbody
Perennial Stream/River
Intermittent Stream/River
Total Acres in Watershed = 81,726.7
N
NH GRANIT
ROCKINGHAM PLANNING COMMISSION
theRPC.org
1 in = 3,500 feet
0 0.75 1.5 3 4.5 Miles

# What is the Exeter-Squamscott River Local Advisory Committee?

The Exeter-Squamscott River is overseen by the Exeter Squamscott River Local Advisory Committee (ESRLAC), a group formed by residents of the watershed in 1996 under New Hampshire's Local Rivers Management and Advisory Program. The committee was established as part of the Rivers Management and Protection Act of 1988 (RSA 483), which created a statewide Rivers Management Advisory Committee and multiple local committees for various watersheds. This program is managed by the New Hampshire Department of Environmental Services (NHDES). Since its inception, ESRLAC has acted as a resident-led, community-focused liaison among river communities, government agencies, land developers, riverfront property owners, and environmental organizations, helping to coordinate efforts in river management and protection.

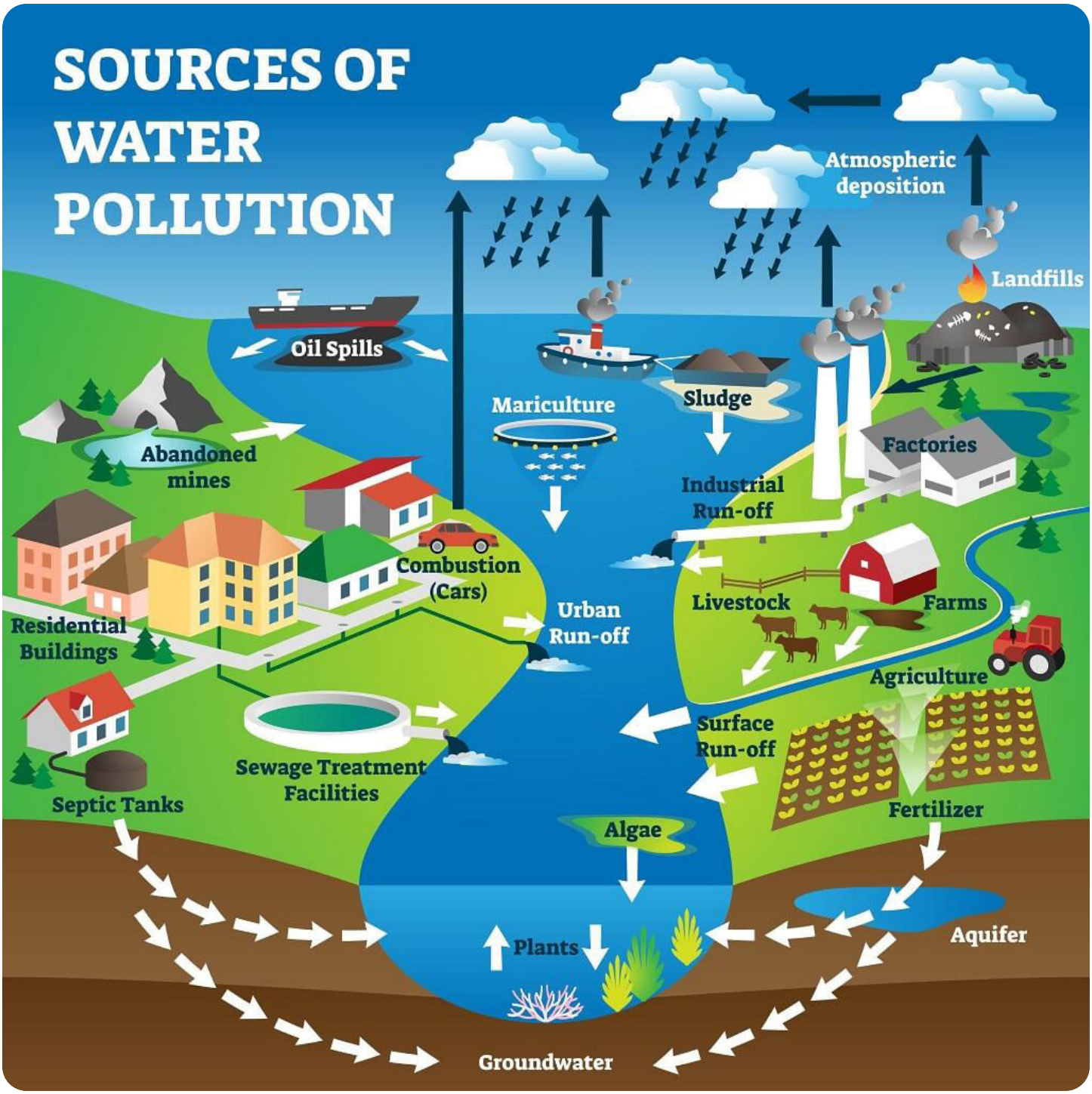
ESRLAC is tasked with various responsibilities aimed at preserving the river's ecological health and promoting sustainable development practices. The committee's key responsibilities include:

- **Reviewing Development Proposals:** ESRLAC reviews and provides input on development proposals and land use changes that may impact the river and its watershed. This includes evaluating plans for new construction, road work, or any other activities near the river to ensure they comply with local, state, and federal regulations and best practices for water quality protection.
- **Promoting Public Awareness and Education:** The committee works to raise awareness about the importance of protecting the Exeter-Squamscott River and its watershed. This involves organizing community events, workshops, and educational programs to inform residents about water resource protection, sustainable practices, and the ecological significance of the river.
- **Collaborating with Stakeholders:** ESRLAC facilitates collaboration among various stakeholders, including municipalities, state agencies, environmental organizations, landowners, and developers. The committee serves as a platform for discussing issues related to river management and advocating for policies that promote the long-term health of the river.
- **Advising on River Management Plans:** The committee contributes to the development and implementation of management plans aimed at preserving and enhancing the ecological health of the river. This includes recommending strategies for habitat restoration, erosion control, pollution prevention, and the maintenance of natural buffers along the riverbanks.
- **Monitoring and Assessing River Health:** ESRLAC is involved in monitoring the health of the river and its surrounding environment. This may include supporting water quality testing, identifying sources of pollution, and assessing the impacts of various activities on the river's ecosystem. The committee uses this data to advocate for necessary actions to protect and improve river health.

For more information on the Exeter-Squamscott River Watershed and ESRLAC, visit: www.exeterriver.org and check out ESRLAC's Management Plan!

# Challenges in the Exeter-Squamscott River Watershed

The Exeter-Squamscott River Watershed is an incredible natural resource, but like any beautiful place, it faces some challenges. Problems like stormwater runoff, pollution from roads, old septic systems, and overdevelopment can introduce harmful chemicals, trash, and excess nutrients into the water. This can lead to murky rivers, loss of wildlife habitats, and even affect our drinking water.




Source: [filterwater.com](filterwater.com)

*Kayak event on the Exeter River*

### The good news? We all have the power to make a difference!

Since everything we do on the land—whether it's maintaining our lawns, managing stormwater, or conserving land—affects the water. Collective action is key.  By joining forces, even the smallest efforts can make a big difference in protecting the rivers, lakes, and wetlands we all cherish. Since we all share these water resources, what one community does upstream directly affects those downstream. When we care for the watershed, we're not just safeguarding the environment—we're looking out for each other!

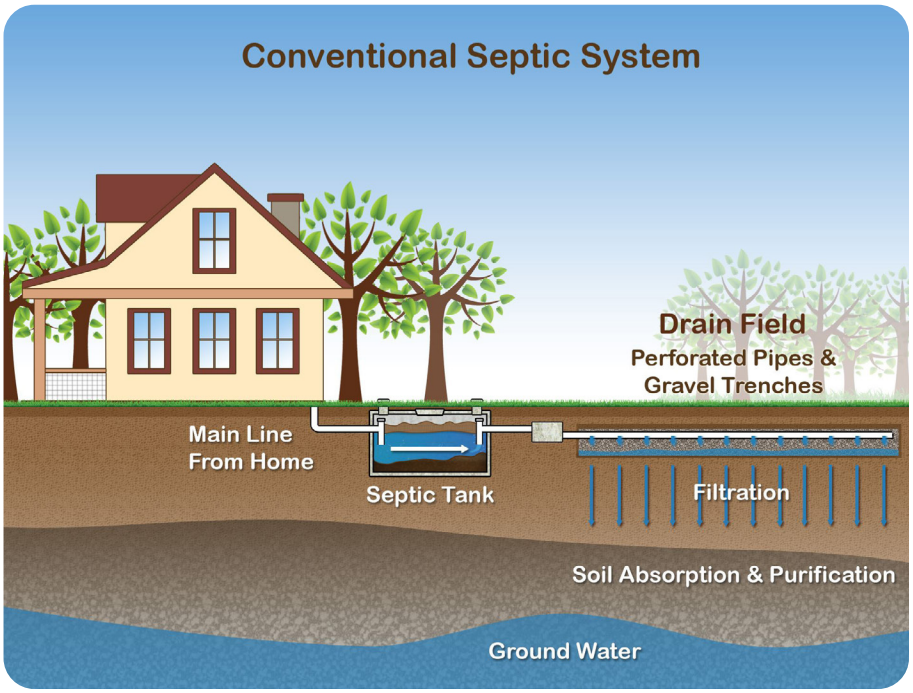
The best part? The steps we're all taking—both individually and as communities—to protect our watershed are making a real difference! Want proof? Check out the State of Our Estuaries Report by the Piscataqua Region Estuaries Partnership. This detailed report dives into the challenges facing our watershed, the key indicators of those issues, and the root causes behind them. Even better, it highlights the amazing efforts and partnerships underway to improve the health of our waterways. The data shows that these efforts are paying off, giving us hope and motivation to keep going! Together, we're creating a cleaner, healthier future for our rivers, estuaries, and all the life they support.

## What can you do to help protect our water resources?

Ensuring the health and viability of our water starts with individual actions we can all take to better safeguard this precious resource. You can play a significant role in protecting water resources through simple, effective strategies. This guide provides specific actions you can take to safeguard water quality, ensuring a healthy environment for us and future generations. By adopting these practices, you can contribute to the well-being of our water systems, helping to reduce pollution and preserve the natural beauty and function of our rivers, lakes, and streams.

# Maintain Your Septic System

Regularly pumping and inspecting your septic tank is crucial for preventing system failures and overflows that can contaminate water sources and lead to expensive repairs. Proper maintenance ensures that your septic system operates efficiently, reducing the risk of harmful bacteria, nutrients, and chemicals leaking into groundwater and surface waters.




*Source: filterwater.com*

## *What you can do!*

**Understand Your Septic System:** Familiarize yourself with your septic system's design, location, and maintenance requirements. Adhere to a regular schedule for inspections and pumping to keep your system functioning properly. See U.S. Environmental Protection Agency's Septic Smart Education Materials.

**Regular Pumping:** Have your septic tank pumped at least every two to three years. If the combined thickness of sludge and surface scum reaches one-third of the tank's liquid depth, schedule a pump-out with a licensed professional.

**Avoid Flushing Inappropriate Items:** Never flush items like diapers, cat litter, coffee grounds, grease, or hygiene products, as these can clog your septic system and cause malfunctions.

**Steer Clear of Toxic Materials:** Do not flush toxic substances such as paint thinner, gasoline, pesticides, chlorine, or drain cleaners. These chemicals can kill the beneficial bacteria in your septic tank and impair its performance. When in doubt, don't flush it!

**Protect Your Leach Field:** Keep vehicles and livestock off your leach field. Heavy weight can compact the soil and damage the pipes, reducing the effectiveness of your septic system.

# Dispose of Chemicals and Toxic Materials Responsibly

Never pour leftover medicines, paint, pesticides, or other chemicals down the drain or flush them. Doing so can lead to pollution that contaminates drinking water sources, disrupts ecosystems, and poses health risks to both humans and wildlife. To prevent these contaminants from entering water resources, use designated hazardous waste collection sites or take-back programs for proper disposal. These methods help safeguard water quality and protect the environment.

## *What you can do!*

**Proper Disposal of Chemicals and Hazardous Materials:** Do not pour chemicals, oils, medications, or hazardous materials down the drain or dispose of them on the ground. Learn more about household hazardous waste here. Visit the NH Department of Environmental Services' Household Hazardous Waste resource page for more information.

**Use Local Hazardous Waste Collection Programs:** Safely dispose of chemicals and hazardous materials by participating in local hazardous waste collection programs. Contact your town to find out about nearby household hazardous waste (HHW) collection events.

**Educate and Advocate for Safe Disposal Practices:** Raise awareness about the importance of proper disposal methods among your community members. Share information on safe disposal practices and available resources to encourage others to use designated collection programs and avoid improper disposal methods.

# Consider Using Eco-friendly Cleaning Products in Your Home

Traditional homecare and cleaning products frequently contain harsh chemicals and toxins that can contaminate water sources when rinsed down the drain, leading to water pollution.

Visit EPA's Safer Choice Program website to browse products with safer ingredients for human health and the environment.

## *What you can do!*

**Check Product Ingredients:** Always review the ingredient lists of the products you use at home. Utilize the EPA's Safe Choice-Certified Product Search to find products with safer ingredients that are better for both human health and the environment.

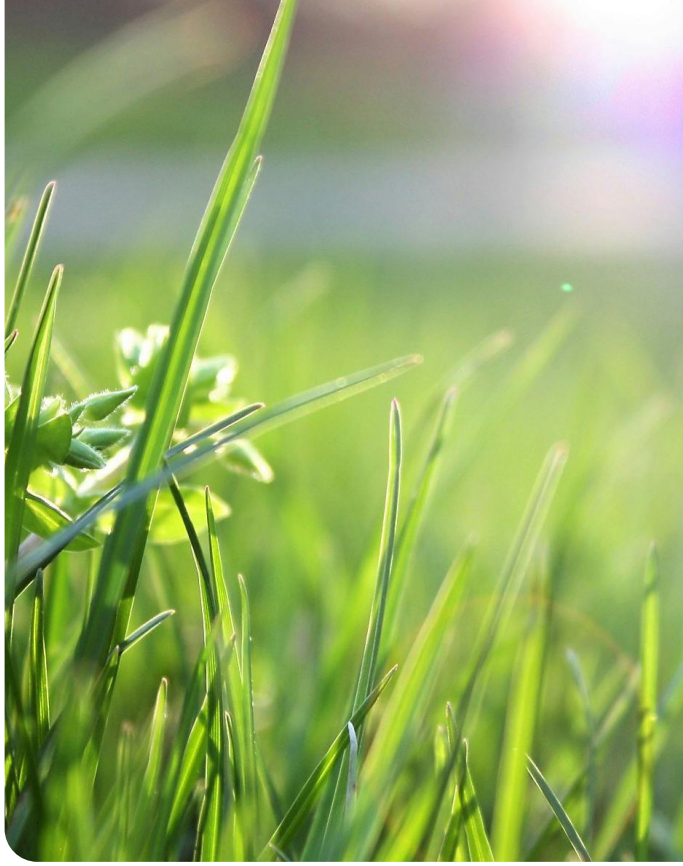
**Choose Eco-Friendly Products:** Opt for cleaning and homecare products that are labeled as biodegradable, non-toxic, or environmentally friendly. These products are designed to break down more easily and have a lower impact on water quality and the environment.

**Properly Dispose of Unused Products:** Never pour leftover or unused cleaning products down the drain. Instead, follow local guidelines for the safe disposal of hazardous household materials. Many NH communities offer special collection days or drop-off locations for such items.

**Make Homemade Cleaning Solutions:** Consider making your own cleaning solutions using natural ingredients like vinegar, baking soda, and lemon juice. Homemade cleaners can be effective and reduce the reliance on commercial products that may contain harmful chemicals. Check out the NH Department of Environmental Services' "Alternative Household Products" factsheet.

# Lawn Care

Making simple adjustments to your watering and pest control practices can significantly benefit water resources. These changes help conserve water and protect the quality of rivers, lakes, and estuaries by reducing pollutants. As a result, you contribute to healthier ecosystems and safer drinking water supplies.



Check out Landscaping at Water's Edge - a manual for NH landowners and landscapers that covers the concepts and practices of ecological design for water quality protection in lakes, rivers, streams and coastal areas.

## *What you can do!*

**Use Efficient Watering Techniques:** Implement methods such as drip irrigation or watering during cooler parts of the day to reduce water waste and minimize runoff that can carry pollutants into waterways.

**Opt for Natural Pest Control:** Choose natural pest control methods instead of chemical pesticides to avoid contaminating groundwater and surface water with harmful substances.

**Preserve Buffer Zones:** Avoid mowing in buffer zones, which are typically planted with native grasses, shrubs, and trees. These natural filters act as barriers between developed areas and water bodies, trapping sediments, absorbing nutrients, and filtering out pollutants from runoff. Maintaining these vegetative buffers helps reduce erosion, stabilize stream banks, and protect wildlife habitats, ultimately enhancing their ability to safeguard water resources and support healthier aquatic ecosystems.

**Properly Dispose of Pet Waste:** Pet waste can contain harmful bacteria and pathogens, such as fecal coliform, Salmonella, roundworms, and Giardia. To prevent pollution and protect public and environmental health, always clean up after your pets and dispose of their waste properly to ensure it does not run off into waterways.

# Get Involved in Your Community

Local and regional conservation and watershed organizations, along with municipal boards, rely heavily on volunteers. By joining your local board or committee, you can play a crucial role in shaping discussions on land use and water quality issues, ensuring that your voice is heard, and your concerns are addressed.

## Civic Involvement Opportunities and Resources

Fremont Planning Board: Meets 1st & 3rd Wednesday of every month, 7pm, Fremont Town Hall. Website

Fremont Conservation Commission: Meets 1st Monday of every month, 6:30pm, Town Hall. Website

Open Space Advisory Committee: Meets as needed visit: Website

ESRLAC (Exeter-Squamscott River Local Advisory Council) Meeting Time: Fourth Tuesday of the month at 7 PM, locations vary. Visit the ESRLAC website for more information. Website

## *What you can do!*

**Explore Municipal Board Opportunities:** Inquire about opportunities to join local municipal boards, especially those focused on land use and environmental issues, such as the planning board, conservation commission, or open space committees.

**Support Local Conservation Groups:** Get involved with or support local conservation organizations dedicated to protecting the watershed.

**Engage in Community Activities:** Participate in community clean-up events, tree planting initiatives, or river monitoring programs to contribute directly to local environmental efforts.

# What can the community do to help protect our water resources?

Municipalities play a crucial role in safeguarding water quality, ensuring sustainable water resources for their communities. Effective water resource protection requires comprehensive strategies and proactive measures at the local government level. This guide provides specific strategies that municipalities can implement to protect water quality, from regulating land use and managing stormwater to promoting public awareness and upgrading infrastructure. By adopting these practices, municipalities can significantly reduce pollution, protect aquatic ecosystems, and ensure a reliable supply of clean water for all residents.

## Buffers & Setbacks

**What are setbacks and buffers?**

Setbacks and buffers are protective zones of land that are maintained around streams, wetlands, and other water bodies. These areas are left undeveloped and are often planted with native vegetation. They serve as a natural barrier between human activities and water resources, helping to filter out pollutants before they reach the water.

- A **buffer** is a naturally vegetated area.
- A **setback** is a specified distance from a water body within which certain activities are restricted.
- A **jurisdictional zone** is an area adjacent to a water body over which a governing agency has regulatory authority.

**Why are they important?**

Buffers and setbacks are crucial for maintaining water quality in our communities. By providing a buffer zone, these areas help reduce the amount of nonpoint source pollution—such as fertilizers, pesticides, and sediments—that can enter water bodies through runoff. Additionally, setbacks and buffers enhance habitat quality for fish and wildlife, providing critical shelter, food, and breeding grounds.

**Types of Streams in New Hampshire -** New Hampshire has a network of streams classified as 1st, 2nd, or 3rd order streams. These classifications refer to the size and flow of the streams:

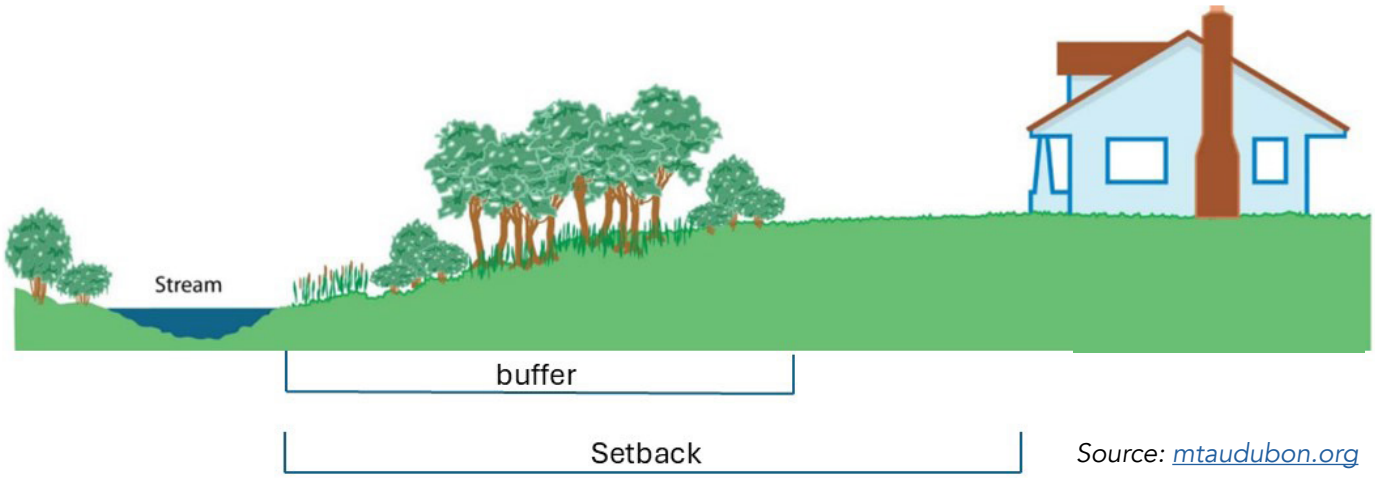
- **1st Order Streams:** The smallest, usually seasonal or small brooks and streams.
- **2nd Order Streams:** Formed where two 1st order streams meet.
- **3rd Order Streams:** Larger streams formed by the confluence of two 2nd order streams.

About 85 percent, or roughly 16,000 miles, of New Hampshire's streams fall into these categories.

**Check out Buffer Options for the Bay to learn more about the function and value of buffers.**

**Local Regulations for Buffers and Setbacks**

In New Hampshire, most regulations regarding stream and wetland buffers are determined at the municipal level. This is because smaller streams (1st, 2nd, and 3rd order) often fall outside the jurisdiction of state and federal regulations, such as the Shoreland Water Quality Protection Act (SWQPA), which primarily covers larger water bodies.




*Source: mtaudubon.org*

## What the community can do!

**Implement Local Buffer and Setback Ordinances:** Municipalities should establish ordinances that mandate buffers and setbacks around all water bodies, including smaller streams and wetlands. These regulations should define the minimum width for these protective zones based on the type of water body and adjacent land use. It is advisable for riparian buffers to be at least 100 feet wide to effectively safeguard water quality. Wider buffers, exceeding 100 feet, can provide additional benefits such as improved wildlife habitat, enhanced bank stabilization, and better water temperature regulation. See what ESRLAC communities have adopted for setbacks and buffers in Table 1 on the following page.

**Promote Native Plants in Buffer Zones:** Encourage the use of native plants within buffer zones to boost their effectiveness in filtering pollutants, reducing erosion, and offering habitat for local wildlife.

**Educate the Community:** Inform residents and local businesses about the critical role of maintaining setbacks and buffers in protecting water quality. Highlight how minimizing chemical use and reducing impervious surfaces near water bodies contribute to better water management and environmental health.

**Support Riparian Restoration Projects:** Engage in or support local riparian restoration efforts to rehabilitate degraded buffer zones. These projects can improve water quality, restore natural habitats, and enhance the ecological function of riparian areas.

**Encourage Sustainable Landscaping Practices:** Support landscaping practices that reduce runoff and promote water conservation. This includes using mulch, reducing lawn areas, and implementing rainwater harvesting systems. Sustainable landscaping helps to manage stormwater more effectively and minimize environmental impact.

## Table 1: Wetlands Setback Requirements By Town; Data Retrieved From Each Town's Zoning Ordinance 2024

| | Septic system setback from wetlands and water bodies | Structure setback from wetlands | No-disturb buffer requirements | Prime wetlands designation (RSA 482w-A:15) |
|---|---|---|---|---|
| Brentwood | 75 ft | 25 ft - 100 ft depending on wetland type | 50 ft for prime wetlands and very poorly drained soils, 50 ft for very poorly drained soils and vernal pools, 25 ft for poorly drained soils | Yes |
| Chester | 75 ft - 100 ft depending on soil type | 75 ft; 100 ft for vernal pools | 25 ft for wetlands and water bodies, 50 ft for vernal pools | Yes |
| Danville | 75 ft | 75 ft | None | No |
| East Kingston | 75 ft | 75 ft | None | No |
| Exeter | 75 ft; 100 ft for vernal pools, 125 ft for prime wetlands | 75 ft minimum, 100 ft from vernal pools, 125 ft prime wetlands | None | Yes |
| Fremont | 100 ft | 100 ft | None | Yes |
| Kensington | 75 ft | 100 ft for very poorly drained, 50 ft for poorly drained | 25 ft buffer for hydric soils A and B | No |
| Kingston | 75 ft | 25 ft - 100 ft depending on wetland type | None | No |
| Newfields | 50 ft - 100 ft depending on soil type | 25 ft - 50 ft depending on soil type | None | No |
| Raymond | 75 ft | 75 ft | None | No |
| Sandown | 75 ft | 50 ft; 25 ft from vernal pools | None | No |
| Stratham | 75 ft for very poorly drained soils, 50 ft for poorly drained soils | 50 ft from any wetland; 100 ft from very poorly drained soils | 25 ft for any wetland, 50 ft for very poorly drained soils | No |

# Land Conservation

### Why Land Conservation is Essential for Water Quality

One of the best ways to protect water quality is to permanently conserve land, particularly in areas that are sensitive to development. Conserving land helps ensure that these areas remain in a natural state, which can effectively prevent pollution from entering water bodies, protect drinking water sources, and maintain healthy ecosystems.

### Methods for Conserving Land

**1. Conservation Easements:** This is a voluntary legal agreement between a landowner and a conservation organization or government agency that permanently limits uses of the land to protect its conservation values. The land remains privately owned, but its future development is restricted. Conservation easements are tailored to the specific needs and goals of the landowner and the conservation organization, allowing for flexibility while ensuring long-term protection of the land.

**2. Conservation Land Acquisitions:** In this method, conservation organizations or government agencies purchase land outright to protect important natural resources, including water bodies, wetlands, and wellhead protection areas. The acquired land is then managed to maintain its natural state, which helps prevent development that could harm water quality.

**Check out the New Hampshire Coastal Watershed Conservation Plan, which identifies high value natural resources and conservation lands that are essential to the resilience of watershed communities. Find your community's conservation focus areas by downloading the "maps by municipality" or the maps by subwatershed for priority conservation areas in the Exeter-Squamscott River watershed.**

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

## What the community can do!

**Adopt Land Use Regulations Focused on Water Resource Protection such as:**

- **Conservation Overlay Districts:** These are special zoning districts that overlay existing zoning maps. They place additional restrictions on land use in environmentally sensitive areas, such as near rivers, lakes, wetlands, or groundwater recharge zones.
- **Development Restrictions in Resource-Sensitive Areas:** By identifying and mapping out areas that are critical for water resource protection, municipalities can enforce stricter land use regulations in these zones. For instance, they can limit the type of development that can occur near wetlands, streams, and other critical water bodies to reduce the risk of pollution and habitat destruction.

**Collaborate with your local conservation commission:** Work closely with local conservation commissions to identify high-priority areas for land conservation. These areas should include lands that are critical for protecting water quality, such as buffer zones around water bodies, wetlands, and aquifer recharge areas. Develop a strategic plan to acquire these lands, either through purchase, conservation easements, or donations, to ensure they are permanently protected from development. Engaging in partnerships with local land trusts and conservation organizations can also help leverage additional resources and expertise for land conservation efforts.

**Advocate for Local Funding for Land Conservation:** Encourage municipalities to raise and allocate local funds specifically for land conservation efforts. These funds can be used to match state and federal grants, which often require a local contribution. Having dedicated conservation funds readily available ensures that communities are prepared to act quickly and effectively when opportunities for land conservation arise, allowing for successful project completion and long-term protection of vital water resources.

**Develop and regularly update Municipal Natural Resource Inventories and Open Space Plans to accurately reflect the status of water resources, wildlife habitats, forests, and other natural features.**

**Table 2: Conservation Land In The Esrlac Municipalities; Source Granit, 2012 & 2021**

| Town | 2012 Acres Conserved | 2021 Acres Conserved | Total 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 Conserved Land | 12,435 | 15,968 | |
| TOTAL Land in Watershed | 81,727 | 81,666 | |
| Percent Conserved | 15.2% | 19.55% | |

# Septic Systems

Septic systems are an essential part of wastewater management for homes and businesses that are not connected to a municipal sewer system. These systems treat and dispose of household wastewater by allowing it to slowly drain through soil, which naturally filters out some contaminants. However, if not properly designed, maintained, or regulated, septic systems can become a major source of water pollution.

## *What the community can do!*

**Increase setback requirements:** Require septic systems and primary structures to be located at least 100 feet away from all streams, rivers, lakes, ponds, estuaries, and wetlands to protect water quality.

**Implement stricter standards:** Establish and enforce rigorous standards for the placement and design of new septic systems to prevent contamination of water resources.

**Conduct a septic system risk assessment:** Identify aging or potentially failing septic systems within the community and assess their risk to nearby water bodies.

**Launch educational campaigns:** Educate homeowners on proper septic system care and maintenance practices to prevent system failures and protect water quality.

# Stormwater Runoff Management

Why is Stormwater Runoff a Concern?
When stormwater flows over impervious surfaces, it can collect and carry a variety of pollutants including trash and debris, chemicals, sediments and bacteria and pathogens. These pollutants can then be deposited directly into streams, rivers, lakes, and even groundwater sources, where they can cause significant environmental and health problems.

# What the community can do!

**Adopt Local Policies and Regulations:**

- Adopt land use regulations that promote best management practices for stormwater management (See Southeast Watershed Alliance Model Stormwater Standards).

- Adopt land use regulations encouraging the use of low impact development and green infrastructure such as rain gardens in new development.

- Encourage new development to incorporate pervious pavement where feasible.

- Utilize the trainings, workshops and resources at the UNH Stormwater Center to educate municipal boards and residents on stormwater management.

- Implement best practices for road salt usage to minimize chloride contamination in waterways. See NH Department of Environmental Services Road Salt Reduction resources for more information.

**Promote Community Education and Involvement:**

- **Public Education Programs:** Educate residents and businesses about the impacts of stormwater runoff and encourage practices like reducing fertilizer use, properly disposing of hazardous waste, cleaning up after pets, and keeping storm drains clear of debris.

- **Check out and promote NH's Soak up the Rain for educational resources, workshops and trainings on stormwater management.**

- **Volunteer Cleanup Events:** Organize community events to clean up litter and debris from streets, parks, and waterways, reducing the amount of trash that can be picked up by runoff.

**Check out and promote NH's Soak up the Rain for educational resources, workshops and trainings on stormwater management.**

**Take a look through Protecting Water Resources and Managing Stormwater: A Bird's Eye View, which provides information about on-the-ground actions for communities to improve stormwater management from landscape to site level scales.**

# Community Highlight: Spruce Swamp

Spruce Swamp, covering over 700 acres in Fremont, New Hampshire, is the town's largest and most important natural resource. Stretching over two miles in length and nearly one and a half miles wide, it sits atop a significant aquifer system that is crucial to the area's water supply. The swamp is also one of the few remaining unspoiled ecosystems in southeastern New Hampshire, providing essential habitat for a wide range of wildlife, including deer, moose, bear, and even rare species like the Blanding's turtle.

This extensive wetland, designated as Fremont's first prime wetland in 2003, plays a vital role in flood control, water purification, and groundwater recharge. It feeds four streams that eventually drain into the Exeter River, demonstrating its importance to the entire watershed. The swamp's remoteness and size also provide a rare sanctuary for large mammals and numerous plant and animal species, including great blue herons, migratory ducks, turtles, and beavers.

Spruce Swamp is a prime example of an "Exemplary Fen," a nutrient-poor, sensitive ecosystem shaped by retreating glaciers. Its ability to filter and purify water while supporting diverse habitats makes it an irreplaceable asset to the community and its water resources. Thanks to strong conservation efforts, including the town's wetlands protection regulations and ongoing stewardship, Fremont is safeguarding this critical resource for future generations. For more information about Spruce Swamp see Fremont's 2021 Natural Resources Inventory at: https://www.fremont.nh.gov/sites/g/files/vyhlif3146/f/uploads/nri_2021_update_fnl_adopted_04-21-21_all.pdf

# Water Resource Protection Resources for Residents and Local Officials of Fremont

## Septic System Resources

EPA Septic System Care and Maintenance Resources
EPA SepticSmart Education Materials
NH Department of Environmental Services
Get Pumped! New Hampshire

## Household Hazardous Waste Resources

Household Hazardous Waste Fact Sheet (NHDES)
NH Department of Environmental Resources
State of NH Drug Drop Box Locations
Emptying the Medicine Cabinet: Disposal Guidelines for Pharmaceuticals in the Home
Northeast Resource Recovery Association
Fremont Trash & Recycling Collection Schedule, Bulky Day, Household Hazardous Waste Collection

## Eco-friendly Cleaning Products Resources

Identifying Greener Cleaning Products (EPA)
Safe Choice Program (EPA)
University of New Hampshire Water Quality and Lawn Care Outreach Materials

## Lawn Care Resources for Protection Water Quality

Green Grass & Clear Water Fact Sheet (UNH)
Home Lawn Care Resources (UNH)
Landscaping for Water Quality (UNH)
Soak up the Rain NH

# Buffers and Setbacks Resources

NH Drinking Water Quality Buffer Model Ordinance
NH Buffer Options for the Bay
Piscataqua Region Estuary Partnership
Resilient Land Use Guide for NH
NH Innovative Land Use Planning Techniques

# Land Conservation Resources

NH Innovative Land Use Planning Techniques
NH Coastal Watershed Conservation Plan
Southeast Land Trust of NH Conservation Resources
Common Grant and Loan Sources for Land Conservation in New Hampshire
Land & Water Conservation Fund Grant NH State Parks
Land & Community Heritage Investment Program (LCHIP)
Fremont Open Space Plan
Fremont Natural Resources Inventory
Fremont Master Plan, Natural Resources

# Stormwater Management Resources

Southeast Watershed Alliance Model Stormwater Management Standards
NH Homeowner's Guide to Stormwater Management
NH Department of Environmental Services MS4 Resources
UNH Stormwater Center
Resilient Land Use Guide for NH by Rockingham Planning Commission