

Chapter 14: Water Quality

INTRODUCTION

Water bodies in the Rutland Region serve a multitude of uses, including drinking water, aquatic and riparian plant and animal community habitat, and recreation.

Land uses can have a profound effect on water's movement, storage, and transmission, and ultimately its quality. The water quality in the Region is one critical element of our ecosystem. More attention to balancing the types of development and recreational activities occurring in our watersheds will protect water quality.

This chapter of the *Regional Plan* examines the separate elements of water quality and how they affect and are affected by human activity. The issues identified in this chapter are drawn, in large part, from the extensive analysis, public input, and recommendations completed in the preparation of the *Poultney-Mettowee* and *Upper Otter Creek Basin Plans*.

CURRENT CONDITIONS

This section examines water quality at five separate levels: watersheds, surface water (including lakes, ponds, rivers, and wetlands), ground water, point-and non-point sources of pollution, and key factors affecting water quality in the Region.

Watersheds

The Rutland Region is almost wholly contained within the Lake Champlain Basin, and primary lies across three watersheds — the Poultney Mettowee, the Otter Creek, and the Lower Lake Champlain. Four other watersheds touch the Region's extreme eastern and southwestern edges.

Planning at the watershed level is done by the Vermont Agency of Natural Resources. They have been changed with

developing and maintaining basin plans for all of the State's major watershed.

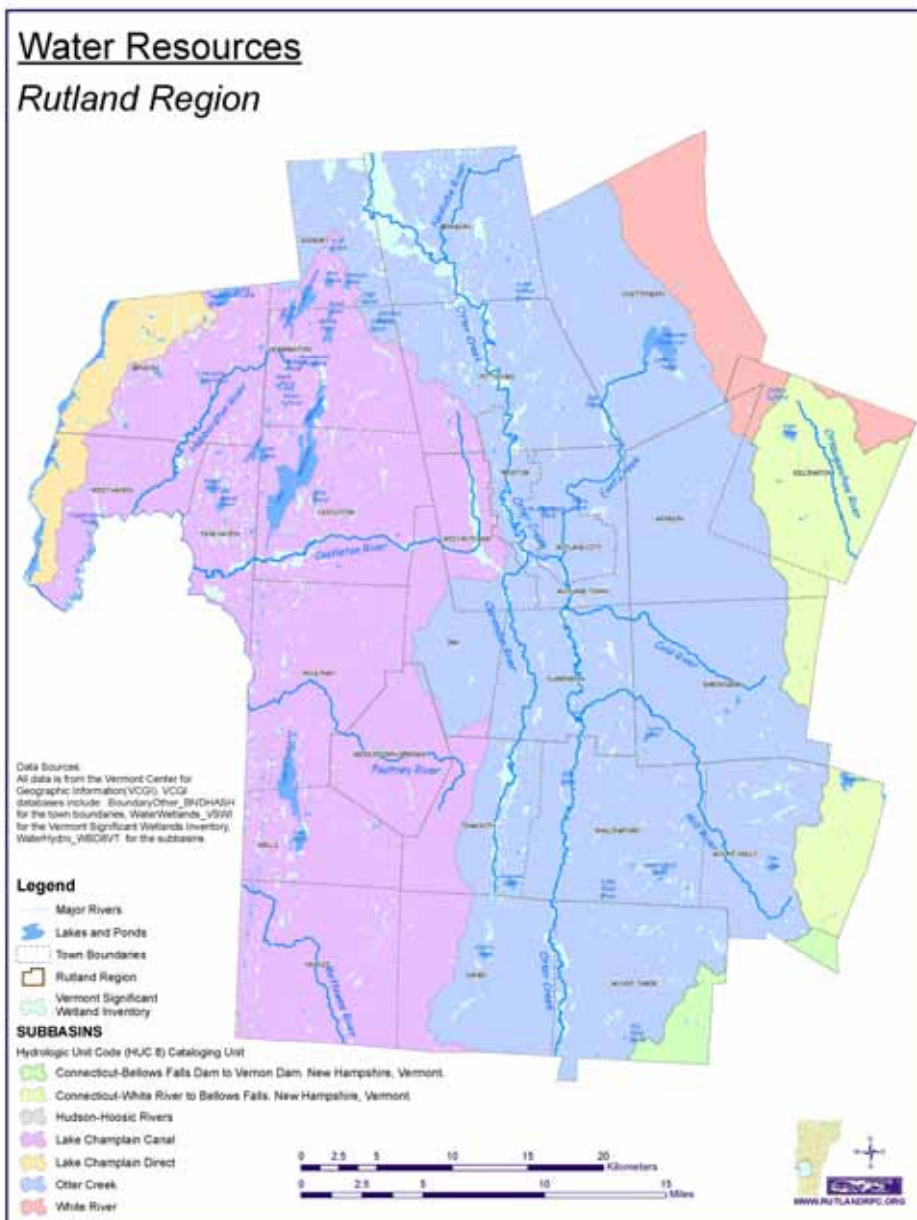
With a strong focus on public involvement at all levels, these basin plans and their associated planning processes identify key water quality conditions, problems of local and statewide concern, management goals and detailed implementation strategies.

This strategy has proven successful to date. The *Poultney-Mettowee Basin Plan* was among the first adopted in the state, in 2005. Various stakeholder groups in the watershed are now using the Plan as a



FAST FACT

Section 305(b) of the Federal Clean Water Act requires states to monitor surface water quality. The 305(b) report characterizes our water quality, identifies widespread water quality problems of national significance, and describes various programs implemented to restore and protect our waters.





FAST FACT

The VT Water Resources Panel has a classification system for surface water that establishes management goals and practical uses.

- Class A(1) waters are ecological waters which are managed to maintain waters in a natural condition. All waters above 2,500 feet in elevation are classified A(1).
- Class A(2) waters are managed as public supplies and therefore allow moderate water level fluctuation.
- Class B waters are designated as being either Water Management Type 1, 2, or 3 depending upon their protection and management. Most waters in the Rutland Region are Class B, targeted for achieving and maintaining water quality levels suitable for swimming, boating, and drinking with treatment as well as for irrigation and livestock watering.

guide to project implementation. It has provided local volunteers and officials, as well as state agencies, a framework for tackling broad water quality issues at the local and multi-municipal level. A plan for the Otter Creek is under development.

Surface Water

The Rutland Region’s surface water resources consist of over 7,100 miles of rivers and streams and 57,000 acres of lakes and major ponds, not including Lake Champlain.

These rivers, streams, lakes, ponds, and the lands adjacent to them provide a variety of important riparian habitats for several plant and animal communities. These communities depend on the water resource for shelter and food for their survival during several life cycles. Not only are these riparian communities important to the quality of life, ecological balance and biological diversity of the Region, but also provide economic and human health assets as well.

The Poultney River, notably, has been designated an outstanding water resource because of its exceptional natural, scenic and cultural values.

The Vermont Department of Environmental Conservation’s Water

Quality Division maintains a river and lake assessment database on 71 lakes and ponds in the Region. The assessment, available online, includes scores for several water quality indicators for the water body.

The Department also maintains a listing of impaired waters in need of restoration, management plans, and individual water quality-based effluent limitations. The 2006 report lists 14 impaired water body segments in the Rutland Region. Impairments may be based on elevated levels of pollutants which endanger wildlife or humans.

Floodplains

Floodplains play a critical role in the storage and conveyance of flood waters and maintenance of ecological water systems. Historic development and the associated fill placed in some of the Region’s floodplains have obstruct flood flows and reduced their ability to store water. In some cases, these obstructions have subsequently caused floodwaters to rise to higher levels on upstream and adjacent properties affecting water quality and causing property damage.

All but two of the Region’s municipalities have regulations in place to address flood hazards at a basic level. The majority of these town are also participants in the National Floodplain Insurance Program (NFIP), which makes Federally backed flood insurance available to homeowners, renters, and business owners in these communities.

A handful of towns have begun to take the next step with their regulations, applying local knowledge and historical perspective to craft approaches that can work for their particular municipality.

Wetlands

Wetlands in the Rutland Region include many ponds, vernal pools, bogs, fens, marshes, wet meadows, shrub swamps, and wooded swamps. They serve a series of important ecological functions,



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Direct discharges of stormwater, such as this one in Rutland, transmit pollutants from human activity directly into streams and ponds.

including flood and erosion control, and providing habitat for fish and wildlife, as well as aiding in the maintenance of water supplies and provide recreational and educational opportunities.

All of the towns in the Region contain wetlands that have been designated by the state as significant, but they are especially prevalent near to the Otter Creek, the Castleton River, and the Clarendon River.

The Vermont Wetland Rules place all wetlands into one of three classes. Classes One and Two are considered "significant" and protected under the Rules. Class Three wetlands fall primarily under the jurisdiction of local officials, through they are regulated under Act 250 laws.

The Tinmouth Channel is one of only three Class One wetlands in the state, having recently received the designation following substantial local efforts. A second Class One wetland is located just south of the Region in East Dorset.

Groundwater

Groundwater provides the primary supply of potable water for most of the Region. Statewide, groundwater accounts for approximately 70% of all drinking water. Ground water occurs in two general hydrogeologic settings: bedrock and unconsolidated aquifers. As ground water moves through these materials, the organic and mineral substances that are dissolved or adsorbed dictate the quality of water. These water sources often tend to be better quality than surface water because of the filtering that glacial till provides. Toxic substances, however, can stay with ground water for very long distances and very long periods of time.

Although groundwater quality in Vermont is generally good, it is not well understood. See the Water and Wastewater chapter for information on human use of groundwater.

Point and Non-Point Source Pollution

Water quality can be damaged by a wide range of pollutants, ranging from excessive soil deposits to industrial chemicals. In general, however, they can be categorized as either *point-source* or *non-point source* pollutants.

Point Source Pollution

Point source pollutants are so named because they can typically be traced to a single point, such as an outfall pipe or a malfunctioning wastewater treatment facility. Though these types of pollutants can be extremely dangerous, they are also easier to track to a single emission location. In the Rutland Region, point sources are not a major contributor to poor water quality. The primary polluters, wastewater treatment facilities, were among the first to be addressed by the State and now have a strong track record.

Non-Point Source Pollution

Nonpoint source pollution is the major source of impairment to surface waters in the Poultney, Mettowee, and Otter Creek basins. Among the leading sources are runoff from parking lots, back roads, fertilized lawns, and agricultural fields. By



DEFINITIONS

WATERSHED A geographic area in which all water flows into a single river. Boundaries of watersheds are therefore the highest points of elevation surrounding the water body. Vermont is divided into 17 major watersheds, or river basins.

A **FLOODPLAIN** is the flat land adjacent to rivers and streams that is periodically inundated to varying depths during periods of high water. The 100-year flood frequency is used as the standard for delineating flood hazard areas by the Federal Insurance Administration. The 100 year flood will have a one percent chance of being equaled or exceeded in any given year.

WETLANDS are defined areas that are inundated by surface or ground water with a frequency sufficient to support plants and animals that depend on saturated or seasonally saturated soil conditions for growth and reproduction.



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Street drains, such as this one in Rutland, generally pour water directly into streams, sending all of the road pollutants into our waters. Better management practices and reduced paving can have a positive impact.



FOOD FOR THOUGHT

It has been well documented that per acre, urban and suburban nonpoint sources contribute more phosphorus and sediment than runoff from the working landscape. Urban land covers only a small portion of the Champlain Basin, yet it produces approximately 37% of the average annual nonpoint source phosphorus load to Lake Champlain – much more phosphorus per unit area than either agricultural or forested land (Hegman et al., 1999).

It should be noted, however, that people live and work in far greater concentrations in these urban and suburban areas as well.

Addressing non-point source pollution at the larger watershed level is important in order to address all contributors, together.

its nature, nonpoint source pollution is diffuse, difficult to quantify, and harder to control.

As water travels across the landscape, it picks up oil residues, pesticides, dirt, animal wastes, toxic chemicals, salt, and trash and deposits all of these residues in our waterways. Together, these sediments reduce water quality, silt up fish spawning habitat, and fill spaces between rocks otherwise used as habitat by macroinvertebrates and amphibians.

To a large extent, nonpoint source pollution prevention and control efforts in Vermont and the Rutland Region have been focused at the watershed level.

Key Factors Affecting Water Quality

Overall water quality is influenced by a wide range of factors that fall within the general categories of *point* and *non-point* sources. Maintaining good overall water quality is not a matter of single pollutant or a single solution. Discussed below are seven of the primary elements affecting the water quality in the Region.

Urban Stormwater Runoff

Stormwater is generated when precipitation runs across hard surfaces, transporting soil and pollutants directly from land into our streams, lakes, and rivers. The most visible signs of this are when rainwater pours along streets and parking lots, through storm drains, and into our rivers. Mowed lawns, dirt roads, and rooftops are significant contributors as well, however.

Stormwater and all of the pollutants it carries enters our waterways untreated when it rains or snow melts. This form of pollution has become a significant environmental impact in Vermont as we experience a change in land use towards greater urban and suburban development. The greatest solutions to stormwater impairment is vegetative cover in areas adjacent to rivers and ponds, which serve as filters to the speed and quality of water. Significant efforts have been made by the Poultney-Mettowee and Otter Creek Natural Resource Conservation Districts, and the Vermont Agency of Natural Resources, to address this problem.

Run-off from the Working Landscape

Rainwater can transport nutrients, pesticides, pathogens, and organic materials from agricultural operations directly into waterways when not well managed. This more rural form of stormwater is one of the primary sources of pollutants entering our waterways, largely due to the sheer amount of land devoted to farming in the Region.

Excessive nutrients being poured into a water body cause excessive algae growth. Pesticides can have dramatic affects on water quality in terms of aquatic life. Pathogens, if contracted or ingested in sufficient quantity, pose a human and animal health hazard. The risk of adverse human health impacts is increased with exposure to pathogens in surface waters through swimming and other contact recreation. Fortunately, there are simple



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Runoff from farms such as this one in Ira can carry animal waste, pesticides and nutrients, and affect water quality in streams and the entire watershed.

Best Management Practices that can be used at the individual and large scale to limit this runoff from reaching the stream. Vermont has new requirements for large and medium sized farms to address and prevent water quality problems from agricultural runoff.

Pathogens

Pathogens are any disease-causing organism, including bacteria, viruses, and protozoa. The pathogens that are of concern in Vermont surface waters are those that come from fecal matter of humans and other warm-blooded animals. Surface waters containing this waste pose a risk to human health when ingested through drinking water or inadvertent ingestion through contact recreation. In surface waters, the most likely source of human waste or sewage is from a malfunctioning wastewater treatment plant or septic system. Animal waste (livestock, domestic and wild) can also contribute pathogens.

In the Rutland Region, elevated levels of pathogens have been found in several locations, but rarely on a consistent basis. The level of concern is not so elevated as to raise pathogens above other sources of pollutants in our waters.

Fluvial Erosion

Fluvial geomorphic adjustments (shifting of a river or stream's course) occur in response to disturbance and are part of a predictable process that often results in conflicts with human investments along riparian corridors such as roads, bridges and culverts, railroads, agricultural lands, and residential and commercial structures.

As these structures are built, traditional river management activities, such as straightening, or installing retaining walls, contribute to a vicious cycle of ever-increasing conflict and instability. State and local regulations in the Rutland Region are slowly moving away from these traditional models of water management

towards more balanced approaches that seek to accommodate streams rather than attempt to control them.

Aquatic Nuisance Species

Aquatic Nuisance Species (ANS) are non-native, aquatic and terrestrial organisms, introduced into new habitats that produce harmful impacts on aquatic natural resources in these ecosystems and on the human use of these resources. The most common aquatic nuisance species are Eurasian water milfoil, water chestnut, purple loosestrife, and non-native bait species. Several animal species, such as sea lamprey, have also been documented in waters throughout the State. These species often enter Vermont's surface waters through recreational uses such as boating or fishing. Educating the public and raising awareness are often the most useful tools in dealing with nuisance species.

The Poultney-Mettowee Basin has the highest concentration of lakes with dense populations of Eurasian watermilfoil—the most prevalent of the water-based invasives — statewide.

Flow and Water-Level Regulation

Dams and hydroelectric operations change the physical, ecological and social characteristics of a river, but are also sources of clean, renewable energy.

These changes range from a minor alteration of depth and velocity in the case of low-head, run-of-the-river systems, to a complete change from river to lake characteristics in the case of large dams. Dams can flood upstream habitat and act as barriers to upstream and downstream movement of aquatic organisms. Operations alter the natural flow regime in a way that can reduce downstream habitat quality and quantity. In addition to channel adjustments that may affect the structure of in-stream habitat, additional flow diversion from the bypassed reach of the stream can expose streambed substrates, reducing the amount of habitat area available for



FOOD FOR THOUGHT

Fluvial geomorphic adjustments are, in effect, the shifting of a river's course. All rivers, naturally change their paths over time, cutting away from some streambanks and depositing along others. Human influences, such as river straightening or the installation of bridges, can upset the natural balance and cause dramatic erosion in some areas.

The Rutland Regional Planning Commission, together with the Agency of Natural Resources, is in the process of analyzing changes in the Region's watercourses. These fluvial geomorphic assessments, or erosion studies, will provide clear information for communities and the state to use in creating better regulations for the management of land adjacent to these watercourses.



For more information about the fluvial geomorphic assessments, see the Emergency Management chapter.



DEFINITIONS

BIOACCUMULATE:
When a substance, such as mercury, becomes concentrated inside the bodies of living things.



For more information about invasive plants, see the Wildlife and Natural Habitat chapter of the Plan.

To learn more about renewable energy resources in the Region, see the Energy chapter.

aquatic organisms.

Many of the watercourses in the Rutland Region contain some type of control system. As the discussion around local, renewable energy production grows, close attention to the tradeoffs between electricity and habitat will have to be paid.

Atmospheric Deposition

Atmospheric transport and deposition of the incorporation of mercury into the food chain are issues in this Region as in other basins in Vermont.

This is especially problematic in the lakes' food webs but is also an issue affecting walleye taken from the lower reaches of the Poultney River and at higher elevation waterbodies such as Chittenden Reservoir.

Mercury contamination is a widespread problem throughout Vermont's lakes and rivers. Unlike many other organic compounds, mercury does not readily break down or biodegrade. It bioaccumulates in the muscle tissues of living things and those concentrations are magnified in organisms that feed higher in the food chain. Fish, especially large fish such as walleye, can contain unhealthy levels of mercury and have consumption advisories as a result.

These serious problems must be addressed at all levels, from local to Federal, both because atmospheric deposition has no boundaries and because we eat from an increasing global food system.

UNMET NEEDS

Surface Water

Each of the issues discussed under Current Conditions present challenges in the Rutland Region. The following are among the key specific obstacles to the protection of water quality in the Region:

- Ongoing construction of impervious

surfaces (parking lots, driveways, and buildings) that increase the velocity of runoff and inhibit the infiltration of water into the soil. The higher volume and velocity of water increases the potential for flooding and brings with it sediment and pollutants that wash over the land into surface waters. In many cases, parking areas are larger than necessary because of requirements that developments plan for maximum potential usage.

- Erosion and sedimentation caused by improperly built and maintained dirt roads. A Rutland County study of backroads in the Region indicated that runoff and erosion from town roads is the principal source of silt and sediment in Rutland County waterbodies (1999). The study found that the amount of road resurfacing gravel used by Rutland County towns is sufficient cause for concern about natural resources. Furthermore, the poor quality of resurfacing gravel – in terms of drainage characteristics – is a major part of the water body siltation problem.
- Erosion caused by flooding leads to streambank destabilization and discharge of sediment into the Region's rivers, lakes, and streams, and can cause significant damage to aquatic communities.
- Filling of wetlands for development purposes has long been an issue in Rutland County communities. This is especially the case for unclassified wetlands, those too small for mapping on a statewide level or considered to be intermittent. While state laws require setbacks from and / or mitigation of Class I and II wetlands, there is no state-level protection of these smaller wetlands, which serve critical local functions.
- Regular mowing of lawns to the edges of lakes and streams is a common activity in most residential areas. Only recently have homeowners begun to be informed about the impacts of the increased

runoff of rainwater, lawn fertilizers, and other matter into lakes and streams, and changes in lawn care have been slow. There is a need to increase awareness of the dramatic effects that minor behavior modifications can have on the overall water quality of a stream or lake.

- Ongoing farming of lands to the edge of water bodies remains a common occurrence in Rutland County communities, through efforts by the Otter Creek and Poultney-Mettowee Natural Resource Conservation Districts have helped many farmers to establish buffer zones to limit erosion and run-off.
- A number of the current facilities for on-site stormwater treatment and erosion control are outdated or poorly designed, and new developments tend not to treat stormwater on-site, which may ultimately cause water pollution. New stormwater regulations will provide greater scrutiny of new development, but more effort will be needed on the local level to address development that falls outside the scope of State stormwater permitting and purview.
- Ditches and water control structures for transportation infrastructure, such as roads and railroads, are often inadequately designed, constructed and maintained. In the winter, snow piles are often placed too close to rivers out of convenience.

Groundwater

By far the most significant unmet need in the field of groundwater quality is the lack of mapping data. At present, there are no reliable mapped groundwater areas in the Rutland Region, and only a handful of pilot projects are complete throughout the State of Vermont. Because of the complex nature of groundwater flow – it does not necessarily follow surface topography – developers and community officials must make decisions concerning water and wastewater without clear knowledge of where water is coming from or going.

Other key unmet needs related to groundwater include:

- Understanding of water resources available within a developing area. Anecdotal evidence suggests that some households around the state have witnessed decreased water flow with the construction of new wells nearby. How great an impact this may have on Vermont communities is currently unknown.
- Information concerning the effects of any long-term drought conditions on water systems in the Rutland Region is unknown due to the lack of groundwater mapping data.
- Potential contamination of aquifers by residential or industrial activities. Recent work in the area of Brownfields has illuminated several instances of localized contamination, but large-scale contamination remains an unknown.

Local Capacity

Volunteer Planning Commissions and part-time zoning administration staffs have only limited time to devote to planning and zoning issues. The complexity of water quality – both surface and ground – makes effective planning, review, and



FAST FACT

- The Brownfields Program is a program spurred by the U.S. EPA which targets “abandoned, idled or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination.” Funds through the new Small Business Liability Relief and Brownfields Revitalizations Act are used to mitigate environmental damage on the property, so that the land may be redeveloped.
- You can address concerns about potential Brownfield sites by contacting Town Officials or the deed holder. Assessment of these sites is in the best interest of owners and potential buyers.



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Development in wetlands can be regulated through tools that include zoning

enforcement of development for water quality a significant challenge. There is a need for clear, concise, community-oriented education and assistance.

FUTURE TRENDS

Water quality challenges in the future will likely be the result of many of the same activities being done today. Among them:

- The process of development and urbanization is rapidly transforming Vermont's landscape. These changing land uses impact our water resources. The lack of adequate planning, coordination, and management have resulted in the degradation of our waterbodies and the destruction of wildlife habitat.
- Valuable open space needed to filter and infiltrate runoff and recharge aquifers is being paved or turned into impervious surfaces. This added impervious surface increases runoff that may increase erosion and flooding. More intense land use also typically generates significant pollutant loadings even when best management practices are used.
- Invasive species will continue to affect the water quality due to recreational activities, unless their introduction

through transportation of weeds or contaminated soil or water, use of non-native bait, and improper disposal of pet fish or aquatic plants is halted.

- With increased traffic volumes, roads will continue to require more maintenance. Although the salt/sand and other materials used on the roads have become less detrimental to the environment, they still negatively affect water quality when best management practices are not implemented, especially on dirt roads.

MEETING CURRENT AND FUTURE NEEDS

Surface Water

Towns have the opportunity to become more proactive regarding water quality, development in floodplains and wetlands that otherwise fall outside of state permit jurisdiction. Among the potential solutions:

- Education, prevention, and best management practices are the best solutions to prevent non-point source pollution.
- Working with landowners to establish riparian buffers, for example, has been identified as the single most effective and likely cheapest action an individual, organization, municipality, or (other) can take to improve and protect surface water quality, fisheries, and aquatic habitat.
- When regulatory action is needed, a Total Maximum Daily Load (TMDL) may be established to allocate the amount of pollution that a water body can receive and still meet to Vermont Water Quality Standards. With stormwater rising to the top of water quality concerns in the state, it is paramount that we address this on every level throughout the Rutland Region.
- Towns can incorporate stormwater design guidelines or requirements into their ordinances. These could include



Fly-Fishing the surrounding rivers and brooks is a long-standing tradition in our Region that relies on healthy water ecosystems.

such simple tools as requiring new technology such as porous pavement, water gardens, For towns that choose not to incorporate stormwater design guidelines into their ordinances, proposed development projects can be reminded to conform to the Vermont Stormwater Management Handbook.

- It is important that the state, towns, and landowners cooperate in efforts to

maintain roads with better practices to protect water quality. The Vermont Better Backroads Program works with landowners and town road crews to apply common sense techniques to maintain gravel roads that protect the environment at the same time.

- Information and assistance is available through publications such as the VT Better Backroads Manual, grants to

CASE STUDY: THE TOWN OF TINMOUTH EMBRACES GREATER PROTECTION FOR WETLAND ASSETS

In 2001, The Vermont Water Resources Board supported a petition submitted by the Vermont Natural Resources Council and the Town of Tinmouth, represented by both the Selectboard and Planning Commission, to reclassify the Tinmouth Channel Wetland Complex from a Class 2 to a Class 1 Wetland under the Vermont Wetland Rules. The majority of citizens of Tinmouth came out in support of greater protection for the 1,450-acre Tinmouth Channel wetland, of which 1200 acres are state-owned. This extensive wetlands complex, just north of Danby, now contains a buffer zone that is 300 feet on the North End, and 100 feet on the southern end as part of its having been granted Class One status

The State Water Resources Board granted the Vermont Natural Resources Council's petition to upgrade the wetland's classification from Class Two. The Tinmouth Channel wetland complex is now the third wetland in Vermont to receive Class One status. The petition which the Water Resources Board accepted stated that the wetland is "exceptional and irreplaceable in its contribution to Vermont's natural heritage." The petition pointed out that the Tinmouth wetland was an important habitat for migratory birds as



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well as threatened and endangered species of animals and plants. It also provided "aesthetically satisfying" open space, and possibilities for education and research. The petition gained the endorsement of Tinmouth's Select Board, Planning Commission, Vermont Land Trust, and the Vermont Public Interest Research Group. Under Class One designation, no proposals for "conditional uses" of any sort are considered. The only uses allowed are those predating 1990, such as logging (stumps must stay in) or raising the same crops as before.

The Tinmouth Channel wetland runs from the Danby-Tinmouth line, north of Danby Pond, to North End Road, where the Channel flows into the Clarendon River, and between East Road and Otis Road.



For more information about groundwater protection, see the Water and Wastewater Systems chapter.

inventory and/or correct road erosion problems, on-site technical assistance, and workshops and informational meetings.

- Faced with tight budgets, many towns address erosion problems with a short-term approach, and end up repeatedly “band-aiding” a problem year after year. Better Backroads grants are available to help towns fix eroding sites optimally and correctly in order to reduce erosion and save the town money over the long run.
- River corridor planning is conducted in Vermont to remediate river instability that is largely responsible for erosion conflicts. The Vermont River Management Program (RMP) will provide funding and technical assistance to facilitate an understanding of river channel adjustments.
- Stream geomorphic assessments are one of the first steps towards erosion hazard mitigation. Towns and the Regional Planning Commission should continue to participate in river corridor planning and protection efforts that are being promoted through the River Management Program.
- The single most effective way to prevent the spread of aquatic nuisance species is through prevention efforts – that is through public education and awareness and outreach to specific user groups who are at greatest risk to additional spread through their actions (e.g. angler groups, boaters, etc).

Groundwater

One way to avoid costly groundwater contamination cleanup is to begin a Well Head Protection Program and implementation and enforcement of municipal source protection plans and source water protection areas (SWPA).

The most cost-effective way for towns to mitigate flood hazards is avoidance: limiting building and other investments in river corridors. In addition to preventing future flood losses to structures built in hazardous areas, this approach avoids

constraining a river, allowing the stream or river to become more stable over time .

RRPC ACTIONS

- Work with area water conservation organizations and lake associations to initiate a training workshop series for local officials and the public about maintaining water quality in the community and at home.
- Assist towns to complete source water assessments.
- Assist towns in identifying floodplains and enrolling in National Flood Insurance Program.
- Work with the Vermont Agency of Natural Resources and individual communities to establish greater enforcement of floodplain regulations and floodway determinations.
- Work with communities to promote better design strategies such as Low-Impact Development (LID) and cluster development, which would lessen the impact of combined impervious surfaces therefore decreasing runoff.
- Assist communities to develop plans and regulations that afford greater protection of wetlands that do not appear on the “Vermont Significant Wetlands Inventory”.
- Assist communities to install regulations addressing setbacks, buffers, and other tools that protect shoreline and/or riparian areas from floodplain encroachment and fluvial erosion hazards.
- Work with communities to create an inventory of the natural assets and features in the town that warrant long-term protection and/ or planning.
- Promote the Better Backroads Program to include all towns within the Rutland Region.
- Educate community officials about the importance of vernal pools.