

Programs that Protect and Restore Waters of Vermont

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This appendix contains brief program summaries for numerous monitoring and assessment, regulatory/technical assistance, funding, and education and outreach programs. In addition to these summaries, the Watershed Management Division Website contains detailed information pertaining to all Division programs.

WATERSHED MANAGEMENT DIVISION – QUICKLINKS TO PROGRAM WEBPAGES

The most comprehensive accounting of Watershed Management Division Programs may be found by perusing the Division’s program specific webpages:

[Business Support Services](#)

[Clean Water Initiative Program](#)

[Lakes and Ponds Management and Protection](#)

[Monitoring, Assessment and Planning](#)

[Rivers and Floodplains](#)

[Stormwater](#)

[Wastewater](#)

[Wetlands](#)

MONITORING AND ASSESSMENT PROGRAMS

Vermont Agency of Natural Resources, Department of Environmental Conservation (DEC)

DEC Watershed Management Division

Surface Water Monitoring & Assessment

The overall goal of the environmental monitoring and assessment program is to ensure that good science is used to develop an understanding of the attributes of, and the forces which affect, the physical, chemical, and biological characteristics of Vermont’s aquatic ecosystems, and ensure that this information is available to be used as the basis for making, and evaluating the consequences of, environmental management decisions made or influenced by DEC. The specific objectives of this program include the following:

- Determine the present and future health of aquatic ecosystems in Vermont;
- Establish empirical limits of natural variation in aquatic ecosystems in Vermont;
- Diagnose abnormal conditions to identify issues in time to develop effective mitigation;
- Identify potential agents of abnormal change;
- Assess ecological changes resulting from the implementation of environmental management activities; and
- Identify risks to human health associated with the use of aquatic resources.

In order to accomplish these objectives, this program conducts activities to monitor and assess the chemical, physical, and biological components of aquatic ecosystems. Findings relate to both ecological and human health. Activities are conducted both in response to identified issues, activities, and potential problems; and in the framework of long-term environmental status and trends monitoring.

DEC's surface water monitoring and assessment program is guided by a standalone [Water Quality Monitoring Strategy](#).

Fluvial Geomorphic Assessments

Fluvial geomorphic (FG) assessment data provide the basis for stream alteration regulatory decisions, technical assistance for fluvial conflict resolution, stream corridor protection and restoration, flood hazard mitigation and water quality protection. The assessment data is critical to prioritization of riparian and fluvial process-related water quality restoration and protection projects, project design alternatives analyses, and project design criteria. FG assessment data provides insight into the social, economic and ecological interrelationships between people and fluvial systems and as such, it is also a valuable educational tool. Assessment data is compiled in the fluvial geomorphic assessment database, and the database is used to ensure that projects are implemented in a manner consistent with and complementary to equilibrium conditions.

Vermont Invasive Patrollers

A volunteer "watch" program created by the Department of Environmental Conservation in 1987 to utilize volunteers to search for populations of Eurasian watermilfoil. This program has since grown to include other invasive aquatic plants and aquatic animals under the auspices of the "Volunteer Invasive Patroller" Program or VIPs. VIPs monitor a local waterbody for new introductions of invasive species while also learning about aquatic plants and animals, and their habitats.

Ambient Biomonitoring Network

The Ambient Biomonitoring Network (ABN) is the flagship monitoring program of the collection, processing and analysis of biological samples; the assessment of physical habitat features; the collection of chemical water quality samples; the assessment of monitoring data results to ensure that data are of the highest possible quality and that the assessment results are appropriately integrated into a wide variety of DEC management programs.

Lake Assessment Program

The program consists of a variety of monitoring projects that range from simple one-day site visits to long-term diagnostic studies. The results of these monitoring projects help the DEC characterize current water quality conditions, detect trends, and determine which lakes are supporting their designated uses. Ongoing special projects of basin-wide significance include a project to determine lakes most likely to exhibit mercury contamination in fish, and an effort designed to characterize expected biological communities in lakes of differing types, under varying degrees of human disturbance.

Vermont Long-Term Monitoring (VLTM) of Acid Sensitive Lakes

DEC has been monitoring the chemistry of low ionic strength lakes in Vermont since the winter of 1980. In 1983, the [US EPA Long-Term Monitoring Project](#) was initiated within the [National Acid Precipitation Assessment Program](#) (NAPAP). Since 1983, the VLTM project has been conducted in cooperation with the US EPA. This cooperative project consists of six federal/state agencies and universities in different regions of the U.S. and is managed by the US EPA's Environmental Research Laboratory in Corvallis, OR. (ERL-C). Currently, Vermont monitors the chemistry of 11 lakes. Each lake has been monitored under the current VLTM project from 16 to Statewide Surface Water Management Strategy - State, Federal and other programs that
Protect and Restore Waters

20 years, making it one of the oldest lake monitoring programs designed specifically to assess acidification.

Vermont Acid Precipitation Monitoring Program (VAPMP)

The VAPMP was initiated in 1980 to monitor the pH of bulk precipitation on an event basis through volunteer monitors located throughout Vermont.

Lay Monitoring Program

Volunteers are equipped and trained to monitor lake water quality on a weekly basis during the summer months. The program enables the DEC to obtain detailed water quality information on a larger number of lakes than would otherwise be possible, while educating volunteers about lake ecology and lake protection. Participation ensures the DEC has long-term seasonal data on lakes in the Basin, and accordingly, emerging water quality problems can be caught more quickly.

LaRosa Partnership Program

Since 2003 this partnership has helped watershed associations and monitoring groups across the state of Vermont implement new and/or ongoing surface water monitoring projects for waters in need of water quality assessment by helping to alleviate the financial burden of laboratory analysis costs. This testing allows citizens to get out and see their streams and rivers firsthand, learn about water quality issues, and use water testing to identify where impacts are present.

REGULATORY AND TECHNICAL ASSISTANCE PROGRAMS

DEC Watershed Management Division

Rivers Program

General

The goal of the Rivers Program is to resolve conflicts between human investments and the dynamics of rivers in an environmentally and economically sustainable manner. The Rivers Program supports and implements channel assessment and management practices that recognize the functions and value of floodplains, conservation flows, and stream in their equilibrium condition. The Program provides regulatory review and technical assistance for protection, management, and restoration projects that affect the flow and physical nature of streams, rivers, and floodplains. The objective is to guide and encourage projects that provide increased property and infrastructure protection and maintain or restore the ecological functions and economic values of the river and floodplain systems.

River Management Program

The [River Management Program](#) provides regulatory review and technical assistance to landowners, municipalities, non-governmental organizations and other agencies to help determine the appropriate stream channel management practices necessary to resolve and avoid conflicts with river systems. The practices selected are designed to recognize and accommodate, to the

extent feasible, the stream's natural stable tendencies (connectivity and equilibrium conditions). The conflicts are resolved with the recognition of a stream's long-term physical response to past and proposed management practices. The resulting work is intended to provide increased property and infrastructure protection and maintain or enhance the ecological functions and economic values of the river system. Regulation is conducted pursuant to 10 V.S.A., Chapters 41 and 32, the Stream Alteration Rule, and Section 401 of the Clean Water Act.

River Management Engineers are experienced in river dynamics, conflict resolution, and the environmental damage and human suffering that occur when projects fail during floods. It is their day-to-day field exposure to Vermont river systems and the people and communities that live along them that has created accountability back and forth between the service provider and the communities they serve and toward sustainable relationships at larger natural and economic scales. The number of stream alteration permits issued in a year is a small fraction of the field visits and face to face technical assistance provided to help project proponents understand the eventual river response and the risks they create to the environment, themselves, and their neighbors. On average, Vermont has experienced a flood disaster every year for the past twenty-five years, and it is the River Management Engineer who works with local officials for days, weeks, and often months putting things back together in a way that is better than before. The expert professional work in the field helping people and communities reduce both costs and risks is a basic tenet of the River Management Program.

River Corridor and Floodplain Protection Program

The [River Corridor and Floodplain Management Protection Program](#) provides regulatory review of any development exempt from municipal land use regulation (Primarily state facilities, agricultural structures, and utility projects) in accordance with 10 V.S.A. Chapter 32. The Program provides technical support to Act 250 and National Flood Insurance Program (NFIP) enrolled communities. In addition to providing general technical assistance, education, and outreach, staff provides floodplain development reviews in accordance 24 VSA Chap.117, Section 4424. Technical assistance is available to communities wishing to better protect river corridors from potential encroachments that will cause conflicts with stable channel functions and potentially increase future flood and erosion damages. In addition, the RCFPP provides support to the VT Division of Emergency Management, communities, watershed associations, Regional Planning Commissions and individuals to help plan for, design and implement flood and fluvial erosion hazard avoidance, reduction, mitigation and recovery planning and projects. River management engineers, floodplain managers and river scientists provide technical assistance and state funding, and use FEMA flood hazard and pre-disaster mitigation grants to assist non-government entities and municipalities with the planning and implementation of flood and erosion hazard mitigation projects. Mitigation projects and the program's assistance are increasingly used as leverage to get landowners and communities involved in greater river corridor and floodplain protection. FEMA pre-disaster mitigation planning funds in Vermont are also be used to help communities develop strategic hazard mitigation plans to restore, remove, or retrofit infrastructure likely to become damaged during or after floods. Recent Stafford Act amendments (44 CFR Part 201.6) required local governments to adopt Hazard Mitigation Plans in order to retain eligibility for certain FEMA (Federal Emergency Management Agency) grant programs. The State Hazard Mitigation Plan and 12 Regional (multi-jurisdictional) Hazard Mitigation Plans all set high priority on mitigation and avoidance of fluvial erosion hazards through river corridor protection. In this way, hazard mitigation planning is complementary to water quality objectives and can be a powerful local planning tool.

Regional river scientists and floodplain managers assist Act 250 and municipalities in developing river assessments and maps depicting river corridors and key flood and sediment attenuation assets. The RCFPP Program, in cooperation with a host of planning organizations and the Vermont League of Cities and Towns, conducts outreach and education and annually reports on the status and impact of river corridor easements and zoning, including development of River corridor mapping. The Program leverages state and federal funding to develop Phase 2 stream geomorphic assessment data and river corridor plans that identify river corridor and restoration projects consistent with the achievement of equilibrium conditions. The regional scientists, working with DEC Watershed Coordinators, educate communities about stream instability and fluvial erosion hazards, and provide incentives for their adoption and implementation of river corridor plans and bylaws. The RCFMPP Program has provided the RPCs and municipalities with a suite of Enhanced Model Flood Hazard Area and River Corridor Regulations. These Program activities are conducted pursuant to 10 V.S.A. Chapter 49 and 24 V.S.A Chapter 117 as amended by Acts 110, 138, and 16 (passed by the General Assembly in 2010, 2012, and 2013, respectively).

A River Corridor Easement Program has been established by the RCFPP Program to conserve river reaches identified as high priority sediment and nutrient attenuation areas. The opportunity to purchase and sell river corridor easements was created to augment the state and municipal river corridor zoning which, if adopted, avoids future encroachment and flood damage, but does not restrict channelization practices. The key provision of a river corridor easement is the purchase of channel management rights. The program works closely with state and federal farm service agencies, the Vermont Housing and Conservation Board, and land trust organizations to combine corridor easements with other land conservation programs. The purpose of the river corridor easement is to allow the river to re-establish a natural slope, meander pattern, and access to floodplains to provide flood inundation and fluvial erosion hazard mitigation benefits, improve water quality through hydrologic, sediment and nutrient attenuation, and protect riparian habitats and the natural processes which form them.

Streamflow Protection Program

The goal of the RMP [Streamflow Protection Program](#) is to maintain flows necessary to protect aquatic habitat and stream ecology. In addition to minimum flows, the Program addresses the timing, frequency, duration and magnitude of both high and low flow events and their influence on the physical and biological attributes of a stream or river.

The Program works with Vermont ski areas to protect streamflow at snowmaking water withdrawals. These projects usually include withdrawals designed to maintain conservation flows and construction of storage reservoirs so that water can be withdrawn during periods of high streamflow and used at other times when needed to make snow. The Agency of Natural Resources works closely with ski resorts to design systems that address the resorts' need for water while protecting the aquatic environment.

The Program is charged with ensuring that hydroelectric projects are operated so that the state's rivers and lakes continue to meet Vermont's water quality standards. In addition, the U.S. Army Corps of Engineers operates five flood control projects in Vermont on tributaries of the Connecticut River. The Program works closely with the Fish and Wildlife Department and federal resource agencies to ensure that water quality and aquatic habitat are protected at and below hydroelectric and Corps projects while they still serve their primary purpose of providing power generation or flood hazard mitigation.

Water withdrawals in both streams and lakes usually require a permit from the [U.S. Army Corps of Engineers](#) under Section 404 of the CWA. As with other projects requiring a federal permit, a Section 401 Water Quality Certification from the Agency is required before the permit is issued. For most types of water withdrawals (except those for snowmaking), the Agency has adopted a [procedure](#) that defines the standards and process used by the Agency during its review of project proposals. The procedure defines how the Agency will determine the minimum streamflow that is necessary to meet [Vermont Water Quality Standards](#). For snowmaking water withdrawals, the Agency has developed [rules](#) as directed by [10 V.S.A. §§ 1031-1032](#). The rules serve the same purpose as the Agency procedure, but apply specifically to snowmaking projects.

Dam removal has in recent years been used as a tool to restore rivers while addressing the on-going problems of aging, and deteriorating, infrastructure. Of the 1,200 known dams in Vermont, many no longer serve a useful purpose and impose legal and financial burdens on their owners. The Program works with many partners to remove dams where it makes sense for economic, public safety, ecological or social reasons. In 2000, the Agency and other groups and individuals interested in restoring our rivers formed the Vermont Dam Task Force. Task force members are working with dam owners and local watershed groups to identify dams that are good candidates for removal or modification.

Lakes and Ponds Management and Protection Program

General

The Lakes and Ponds Management and Protection Program monitors the water quality, aquatic biota, and aquatic habitat of Vermont lakes; seeks to prevent water quality problems or habitat degradation; determines the causes of problems that arise; and in collaboration with others, develops management or restoration plans to address problems. Technical and financial assistance is provided to municipalities, lake associations, and individuals to help them implement lake management and protection activities. The Program also administers permits for [aquatic nuisance control](#) activities, [shoreland clearing or construction](#), and [encroachments into lakes](#), and assists other state programs with lake-related issues such as water level management, Act 250 review, point source discharge permitting, Use of Public Waters rulemaking by the Water Resources Board, and near-shore waterski course regulation by the Vermont State Police. Public information and education is an important part of the Lakes and Ponds Management and Protection Program, and educational materials for all ages on a wide variety of lake and watershed-related topics are available from the Program.

Aquatic Invasive Species Program

The [Aquatic Invasive Species Program](#) seeks to prevent or reduce the environmental and socio-economic impacts of nuisance (primarily non-native and invasive) aquatic plant and animal species. The Program is concerned with species currently found in Vermont (e.g. Eurasian watermilfoil, variable-leaf watermilfoil, water chestnut, zebra mussels, and spiny waterflea) and species from nearby states or Quebec with the potential to spread into Vermont. The Program's components include monitoring, control and technical assistance, spread prevention, a permit program, a grant program for municipalities, and public information and education initiatives.

Public information and education is an essential part of the this program. Users of all Vermont water bodies should understand the serious impacts that aquatic invasive species can have on the state's aquatic resources and on people's use of those resources, and be aware of what can be

done to prevent the spread invasive species to uninfested waterbodies. In the case of invasive aquatic species, an ounce of prevention is truly worth a pound of cure.

Public Access Area Greeter Programs

These programs are one of the most effective methods for preventing the spread of invasive aquatic species to recreational waters. Public Access Greeters educate boaters, anglers and other recreationists about invasive species, offer courtesy watercraft inspections and STOP invasions. The Department of Environmental Conservation provides annual training workshops and support materials (e.g., training manuals, “Greeter on Duty” welcoming boards, “Access Greeter” t-shirts) to support Vermont greeter programs. Greeter program “saves” are documented annually. In 2015, greeters intercepted and removed 469 instances of aquatic invasive species, roughly 64% of recorded intercepts.

The Lake Wise Program

The LakeWise Program provides technical assistance to local governments, volunteer groups, and lakeshore residents for a wide variety of lake protection activities. Groups are provided information and guidance on shoreland best management practices to reduce the impact of shoreland land uses on the lake.

Shoreland Permit Program

Effective July 1, 2014, the Vermont Legislature passed the Shoreland Protection Act (Chapter 49A of Title 10, §1441 et seq), which regulates shoreland development within 250 feet of a lake’s mean water level for all lakes greater than 10 acres in size. The intent of the Act is to prevent degradation of water quality in lakes, preserve habitat and natural stability of shorelines, and maintain the economic benefits of lakes and their shorelands. The Act seeks to balance good shoreland management and shoreland development. Comprehensive information regarding the Shoreland Permit Program may be found at: <http://dec.vermont.gov/watershed/lakes-ponds/permit>

Stormwater Program

The Stormwater Management Program provides regulatory oversight and technical assistance to ensure proper design and construction of stormwater treatment and control practices as well as construction-related erosion prevention and sediment control practices, necessary to minimize the adverse impacts of stormwater runoff to surface waters throughout Vermont.

The management of stormwater runoff is at once a simple concept and a complex problem. Precipitation runs off impervious surfaces rather than infiltrating into the soil. The cumulative impact resulting from the increased frequency, volume, and flow rate of stormwater runoff can lead to destabilization of downstream channels and can also result in increased pollutant loading to waterways.

The following links provide permit-specific information:

[Operational Permits](#)

[Construction Permits](#)

[Industrial Permits](#)

[Municipal Permits](#)

[Transportation Permit](#)

[Stormwater Permit Fees](#)
[Stormwater Forms](#)

Wastewater Program

The Wastewater Management Program provides regulatory oversight for and technical assistance to Vermont's wastewater treatment facilities in cooperation with State, regional and national organizations. Municipal wastewater, originating from a combination of domestic, commercial, and industrial activities, is conveyed to a centralized wastewater treatment facility and treated to established standards and discharged into a receiving water.

Vermont's 92 municipal wastewater treatment facilities process more than 15 billion gallons of wastewater per year.

Direct Discharge Permits

All municipal, industrial and commercial facilities that discharge wastewater directly from a point source (such as a pipe, ditch or channel) into a receiving waterbody (lake, river, or ocean) are issued an NPDES permit. Facilities that discharge to a wastewater treatment facility, which in turn discharges into the receiving waterbody, are not subject to NPDES permits; rather they are controlled by the national pretreatment program. The state of Vermont has assumed the NPDES program from the federal government and issues permits through the Wastewater Management Program.

Pretreatment Permits

The Wastewater Management Program issues permits under the Federal Pretreatment Permit program for certain industrial and commercial discharges to municipal wastewater treatment facilities which may interfere with the operation of municipal treatment facilities.

Wetlands Program

The Vermont Wetlands Program is responsible for identifying and protecting wetlands and the functions and values they provide by the implementation of the [Vermont Wetland Rules](#). Activities to achieve these goals include education, project review, and enforcement.

The State of Vermont [protects wetlands](#) which provide significant functions and values and also protects a buffer zone directly adjacent to significant wetlands. Wetlands in Vermont are classified as Class I, II, or III based on the significance of the functions and values they provide. Class I and Class II wetlands provide significant functions and values and are protected by the [Vermont Wetland Rules](#). Any activity within a Class I or II wetland or buffer zone which is not exempt or considered an "allowed use" under the Vermont Wetland Rules requires a permit.

DEC Vermont Geologic Survey

The Vermont Geological Survey, also known as the Division of Geology and Mineral Resources in the Department of Environmental Conservation, conducts research and mapping relating to the geology, resources and topography of the State. Accessible geoscience data, maps and publications provide a foundation for understanding and stewardship of natural resources. The Survey also provides information to the public, government, industry, and other organizations who request assistance; reviews projects as they relate to Criteria 9D and 9E of Act 250; and maintains and publishes Vermont geological information.

DEC Drinking Water and Groundwater Protection Division

Statewide Surface Water Management Strategy - State, Federal and other programs that
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Indirect Discharge Permits

A. Land-based sewage treatment and disposal systems greater than 6,499 gallons per day, including septic tanks and leachfields and also treatment plants and spray disposal systems, all of which use soil as part of the waste treatment process. Following primary and/or secondary treatment, the soil provides final effluent renovation and polishing before it reaches groundwater and, eventually, surface water. This is in contrast to direct discharge systems, which may discharge through a pipe directly to surface waters.

B. Regional Office Permits -This section issues water supply and subsurface wastewater disposal permits required for all buildings other than single family homes and all permits for subdivisions, sewer line extensions, mobile home parks and campgrounds which have flows less than 6,500 gallons per day. If the subdivision involves 10 or more lots, Act 250 may take jurisdiction.

Engineers in five regional offices examine applications and approve permits including:

- Discharge of Sewage General Permit for Septic Systems

- Innovative and Alternative Systems

Innovative/Alternative systems and products may be authorized by the Secretary for General Use (§ 1-1001), Pilot Projects (§ 1-1002) or Experimental Designs (§ 1-1003) under the Wastewater System and Potable Water Supply Rules, Effective September 29, 2007 (Rules). The application process for approval of Innovative/Alternative systems and products is described in § 1-1004 of the Rules.

Underground Injection Control (UIC)

This program within DEC regulates all non-sanitary sewage discharges to the groundwater. It is a federally delegated program. If the discharge receives a permit from another DEC program, the UIC permit is not required.

Groundwater Protection

The Groundwater Protection Rule and Strategy is the groundwater management and protection strategy for the State of Vermont. The Rule outlines the principles, directives and goals relating to groundwater protection. The Rule also contains groundwater quality enforcement standards and outlines the four classes of groundwater. The Groundwater Coordinating Committee, an interagency committee, oversees the groundwater reclassification efforts and provides a forum for interagency coordination on groundwater issues. The DEC Water Supply Division provides administrative and technical support to the Committee. The program reviews weekly Act 250 applications for potential water supply and groundwater impacts. The Water Supply Division also serves as a clearinghouse on groundwater protection information. Through their regulatory and outreach programs, other divisions also protect groundwater and provide information on groundwater protection issues.

Public Water Supply

The DEC Water Supply Division is responsible for the regulation of all public water systems in the state of Vermont. A public water system has fifteen connections or serves an average of twenty-five people at least sixty days a year. Examples of public water systems include municipalities, mobile home parks, schools, restaurants, motels. The major program functions involve permitting construction and operation, approving new sources of drinking water, review of monitoring data, technical and financial assistance, enforcement, source water protection, operator certification, enforcement, and inspections.

DEC Waste Management and Prevention Division

Residual Wastes Program

Permits are required for treatment, storage, disposal of septage and wastewater sludge and for the operation or construction of such facilities.

There are several regulatory requirements for the land application of sludge (biosolids) and septage that assist in protecting surface waters and groundwater, such as required set backs and separation distances, maximum allowed slope of site, nutrient management for site, among others. In 1998, the Solid Waste Management Rules were revised to include, along with other items, the prohibition of land application of solid waste in the area of the 100-year floodway as another measure to assist in protecting surface water quality.

Sites Management Program

The Sites Management Section (SMS) provides State oversight for the investigation and cleanup of properties where a release of a hazardous material has contaminated the environment, including soils, groundwater, surface water, and indoor air.

DEC Facilities Engineering Division

The Facilities Engineering Division administers state and federal pollution control and drinking water funding programs, assists municipalities through the planning and construction of pollution control and drinking water projects, provides fund administration for other Department of Environmental Conservation grant and loan programs, and provides project engineering and implementation services to the Agency for a variety of projects, including construction and maintenance of state park facilities, fish culture stations, access areas, and dams. The division also includes the Dam Safety Section, which is responsible for programs related to the safety of dams.

Dam Safety Program

The Dam Safety Section administers the State Dam Safety program, and periodically inspects the 85 state-owned dams found throughout Vermont for their repair/improvement needs. The section operates a permit program for construction and alteration of non-hydroelectric dams (the Public Service Board regulates hydroelectric dams) to serve the public good and provide adequately for the public safety. A permit is required to alter any dam, pond or impoundment not related to generation of electric energy for public use or part of a public utility system which is or will be capable of impounding more than 500,000 cubic feet of water or other liquid, as measured to the top of the dam. Submittal of a completed application form, fee, plans and specifications and design data is required. A public information meeting may be required. The section inspects privately owned dams on a resources-available basis, maintains an inventory of dams, and provides technical assistance to dam owners.

DEC Environmental Assistance Division

Pollution Prevention Program

The focus of this program is to help businesses research and identify opportunities to reduce the amount of waste generated and the amount and toxicity of chemicals used in their operations. Technical assistance may be provided on-site at the facility's request. The program is also responsible for administering Vermont's Pollution Prevention Planning Requirement affecting over 100 businesses that generate hazardous waste and/or use certain listed toxic chemicals. The Program is located in the Environmental Assistance Division and shares a toll-free number with the Small Business Compliance Assistance Program that businesses and others can use to get answers to their environmental questions.

Agricultural Runoff Control Programs

Vermont Agency of Agriculture, Food & Markets

Accepted Agricultural Practices (AAP)

Base level of management required for all farms in Vermont. Easy to implement, low-cost solutions for addressing water resource concerns. The AAPs were designed to reduce non-point pollutant discharges through implementation of improved farming techniques rather than investments in structures and equipment. State law requires that these practices must be technically feasible as well as cost effective for farmers to implement without governmental financial assistance.

www.vermontagriculture.com/ARMES/awq/AAP.html

Alternative Manure Management Program (AMM)

Provides funding to farmers interested in implementing new technologies dedicated to enhancing water quality and improving waste management. Projects funded through this program have included solid separation, nutrient removal, and waste treatment systems. Maximum cost share is limited to \$100,000 through the AMM program. Total VAAFMM payment is limited to 35% if the project is coupled with federal cost share.

www.vermontagriculture.com/documents/BMPApplication.pdf

Best Management Practices Program (BMP)

Provides cost share payments for installation of conservation practices to address water resource concerns. While farmers may realize an economic benefit from BMPs, it is unlikely that they will be affordable without governmental cost sharing. Commonly funded production area practices include waste storage facilities, silage leachate systems, milkhouse waste systems, and barnyard runoff collection. Production area practices are eligible for up to 80% cost share. Field practices, such as animal trails and walkways, are eligible for 50% cost share. If coupled with federal cost share, Agency cost share is limited to 35%. The yearly maximum payment for a single practice is \$50,000 and \$75,000 for two or more practices.

www.vermontagriculture.com/documents/BMPApplication.pdf

Conservation Reserve Enhancement Program (CREP)

In partnership with the USDA, encourages the installation of conservation buffers along waterways by providing land owners with a yearly rental payment and by covering the cost of planting the buffer. Additionally, CREP covers the cost of installing fencing and livestock watering systems where animals on pasture are excluded from waterways. Contracts are either 15 or 30 years in length and payment is dependent upon past land use and whether the buffer is comprised of either trees and/or grasses. Minimum buffer widths are 25 feet for grass and 35 feet for tree buffers. Buffers cannot be harvested under this program. Payments can cover up to 100% of practice costs (for fencing, watering systems and plantings) and include a signup incentive of \$2,005/acre and annual rental payments of \$266/acre/year.

www.vermontagriculture.com/ARMES/CREPwebsite/Home/Home.htm

Farm Agronomic Practices Program (FAP)

Provides farms with state financial assistance for implementation of soil-based practices that improve soil quality, increase crop production, and reduce erosion and agricultural waste discharges at up to \$5,000 per farm. FAPP will provide funding incentive for NMP update, implementation, and maintenance with the aim of improving outreach education on agricultural water quality impacts and regulations. Eligible practices are: Cover Cropping (\$30/acre); Nurse Crops (\$25/acre); Strip Cropping (\$25/acre); Conservation Crop Rotation (\$25/acre); Alternative Manure Incorporation (\$25/acre); Cross-Slope Tillage (\$10/acre); Conservation Tillage (\$12/acre); and Educational and Instructional Activities (up to \$1,000).

www.vermontagriculture.com/ARMES/awq/FAP.html

Large Farm Operations Program (LFO)

An individual permitting process for farms with more than 700 mature dairy cows, 1,000 beef cattle or cow/calf pairs, 1,000 youngstock or heifers, 500 horses, 55,000 turkeys, or 82,000 laying hens. Like the MFO program, the goal of this program is to provide large farms with a Vermont-based alternative to federal permitting while assisting those farms with maintaining economic

viability. A LFO permit prohibits the discharge of wastes from a farm's production area to waters of the state and requires the farm to land apply manure, compost, and other wastes according to a nutrient management plan. Unlike the MFO Program, LFO permits are individual to each farm and also regulate odor, noise, traffic, insects, flies, and other pests.

www.vermontagriculture.com/ARMES/awq/LFO.html

Medium Farm Operations (MFO)

All dairies with 200-699 mature animals, whether milking or dry, qualify as a MFO. Other common MFOs include beef operations (300-999 cattle or cow/calf pairs), horse operations (150-499 horses), turkey operations (16,500-54,999 turkeys), and egg facilities (25,000-81,999 laying hens without liquid manure handling system). The MFO program provides a cost-effective alternative to a potentially burdensome federal permitting program by allowing medium sized farms to seek coverage under a single Vermont state General Permit. The General Permit prohibits discharges of wastes from a farm's production area to waters of the state and requires manure, compost, and other wastes to be land applied according to a nutrient management plan.

www.vermontagriculture.com/ARMES/awq/MFO.html

Nutrient Management Incentive Grant Program (NMPIG)

Provides for development of a nutrient management plan (NMP) and three additional years of updates. The initial payment to develop NMP is \$9 per acre, \$15 per soil test, and \$35 per waste storage facility test. Up to \$5,000 is available for plan updates for following three years (not to exceed \$14,000 total for NMPIG). Plans must meet state requirements for nutrient management, as explained in the General Permit for Medium Farm Operations, before receiving payment. Farms with NMP's that have completed the NMPIG or farms that developed their plans through alternate means can apply for annual update payments of \$3 per acre (up to \$1000). Funding is also available for Pre-sidedress Nitrate Tests (\$8 per test).

www.vermontagriculture.com/ARMES/awq/NMPIG.html

Vermont Agricultural Buffer Program (VABP)

The program offers a 5-year maximum rental contract for the installation of conservation grassed buffers on cropland. Unlike the CREP program, VABP consists of planting harvestable grassed buffers. Areas in crop fields that are prone to erosion caused by flood events, which can be classified as flood chutes, are also eligible under this program to be planted into grass and harvested. Additional program details include that, No manure can be spread in the buffer area; Fertilizer can be used with soil test and nutrient recommendation; Payment of \$123/ac to cover the establishment costs of new filter strips in addition to the annual incentive payments of \$90 to \$150 per acre per year; Forage in buffer can be harvested between June 1st and September 1st only; and Most buffers are 25 feet wide unless a water quality concern deems the need for a larger buffer

www.vermontagriculture.com/documents/VABP.pdf

Local Government Programs

Agricultural Resource Specialist Program (ARS)

Offered by the Vermont Association of Conservation Districts and supported by funding from the VAAFM. Three main services are offered to farmers: AAPA, AEM and FWWT:

Accepted Agricultural Practices Assistance (AAPA) offers farmers free technical assistance and information to help them meet the requirements of VAAFM's AAP regulations. The ARS works with farmers on developing strategies specific to the farm, accommodating seasonal changes and soil characteristics. If strategies involve implementation costs, the ARS provides information and referrals for State and Federal cost-share programs.

Agricultural Environmental Management (AEM) is a statewide, voluntary program that assists farmers in environmental stewardship, protecting the quality of the farm natural resources as the foundation of the farmer's long-term economic viability. Assessments cover farmstead water supplies, nutrient management, pesticide use, and many other farm practices. Suggested actions are linked with technical resources for design and implementation and financial resources for cost-share opportunities.

Farm Well Water Testing (FWWT) is a free drinking water protection service for farms. Water testing for farm wells provides information on bacteria, nitrates and common pesticide levels. If a water quality problem is found, ARS staff will assist the landowner in trying to determine the cause of the contamination and to find the best solution.

Land Treatment Planners (LTP)

Assist farmers in developing land treatment plans, which provide detailed information on farm soil and water resources, recommendations for continued stewardship and compliance with state and federal regulations. Land treatment planning is the foundation of a nutrient management plan (NMP). Although LTP is not itself required for Vermont farms, it provides the core data needed to develop a NMP. A NMP, however, is required for all Medium and Large Farm Operations and is encouraged for Small Farm Operations (SFOs). This free program is provided to farmers through a partnership between the USDA NRCS, Conservation Districts, and VAAFM.
www.vermontagriculture.com/ARMES/awq/LTP.html

Federal Programs

Agricultural Management Assistance (AMA) program

Assists agricultural producers to manage risk and voluntarily address issues such as water management, water quality, and erosion control by incorporating conservation practices into their farming operations. Producers may construct or improve water management or irrigation structures; plant trees for windbreaks or to improve water quality; and mitigate risk through production diversification or resource conservation practices, including soil erosion control, integrated pest management, or transition to organic farming. An AMA plan of operations, developed with NRCS, is required. Participants are expected to maintain cost-shared practices for the life of the practice. Contracts are for 1-10 years. Applicants must own or control the land and comply with adjusted gross income limitation provisions. Eligible land includes cropland, rangeland, grassland, pastureland, non-industrial forestland, and other private land that produces crops or livestock where risk may be mitigated through operation diversification or change in resource conservation practices. Total payments shall not exceed \$50,000 per year.
www.nrcs.usda.gov/programs/ama

Conservation Reserve Program (CRP)

A voluntary program for agricultural landowners. Through CRP, you can receive annual rental payments and cost-share assistance to establish long-term, resource conserving covers on eligible farmland. Participants enroll in CRP contracts for 10 to 15 years. CRP protects millions of acres of American topsoil from erosion and is designed to safeguard the Nation's natural resources. By reducing water runoff and sedimentation, CRP protects groundwater and helps improve the condition of lakes, rivers, ponds, and streams. Acreage enrolled in the CRP is planted to resource-conserving vegetative covers, making the program a major contributor to increased wildlife populations in many parts of the country. Eligible producers must have owned or operated the land for at least 12 months prior. Eligible land must be either cropland that is planted to an agricultural commodity 4 of the previous 6 crop years or pastureland that is suitable for use as a riparian buffer or for similar water quality purposes. Payments include; Annual Rental Payments for establishing long-term, resource-conserving covers; Maintenance Incentive Payments for certain practices; and Cost-share Assistance at up to 50% of the participants' costs in establishing approved practices.

www.fsa.usda.gov/FSA/webapp?area=home&subject=copr&topic=crp

Conservation Stewardship Program (CSP)

A voluntary program that encourages agricultural and forestry producers to address resource concerns by (1) undertaking additional conservation activities and (2) improving and maintaining existing conservation systems. CSP provides financial and technical assistance to help land stewards conserve and enhance soil, water, air, and related natural resources on their land. CSP is available to all producers, regardless of operation size or crops produced. Eligible lands include cropland, grassland, prairie land, improved pastureland, rangeland, nonindustrial private forest land, and agricultural land under the jurisdiction of an Indian tribe. CSP pays participants for conservation performance—the higher the performance, the higher the payment. An annual payment is available for installing new conservation activities and maintaining existing practices. A supplemental payment is available to participants who also adopt a resource conserving crop rotation. NRCS makes payments for activities installed and maintained in the previous year. Contracts may not exceed \$40,000 in any year or \$200,000 in any five-years.

www.nrcs.usda.gov/programs/new_csp/csp.html

Environmental Quality Incentives Program (EQIP)

A voluntary conservation program that provides financial and technical assistance to farmers and ranchers who face threats to soil, water, air, and related natural resources on their land. NRCS develops contracts with agricultural producers to implement conservation practices to address environmental natural resource problems. Payments are made to producers once conservation practices are completed according to NRCS requirements. Persons engaged in livestock or agricultural production and owners of non-industrial private forestland are eligible for the program. Eligible land includes cropland, rangeland, pastureland, private non-industrial forestland, and other farm or ranch lands. An EQIP plan of operations, developed with NRCS, is required. NRCS provides conservation practice payments to landowners under these contracts that can be up to 10 years in duration. Program payments are limited to a person or entity to \$300,000 during any 6-year period.

www.nrcs.usda.gov/programs/eqip/

Farm and Ranch Lands Protection Program (FRPP)

A voluntary program that helps farmers and ranchers keep their land in agriculture. The program provides matching funds to State, Tribal, or local governments and non-governmental organizations with existing farm and ranch land protection programs to purchase conservation easements. From 1996 through 2007, FRPP has enrolled over 533,000 acres in cooperation with more than 400 entities in 49 States. The program allows for long term agreements with cooperating entities. Such agreements may be 3-5 years in duration. The share of the easement cost must not exceed 50% of the appraised fair market value of the conservation easement. As part of its share of the cost of purchasing a conservation easement, a state, tribal, or local government or nongovernmental organization may include a charitable donation by the landowner of up to 25% of the appraised fair market value of the conservation easement. As a minimum, a cooperating entity must provide, in cash, 25% of the appraised fair market value or 50% of the purchase price of the conservation easement.

www.nrcs.usda.gov/programs/frpp/

Grassland Reserve Program (GRP)

A voluntary program for landowners and operators to protect grazing uses and related conservation values by conserving grassland, including rangeland, pastureland, shrubland, and certain other lands. The program emphasizes support for working grazing operations; enhancement of plant and animal biodiversity; and protection of grassland and land containing shrubs and forbs under threat of conversion. Eligible land includes privately owned or Tribal grasslands; land that contains forbs for which grazing is the predominant use; or land that is located in an area that historically has been dominated by grassland, forbs, or shrubland that has the potential to serve as wildlife habitat of significant ecological value. GRP rental contracts and easements prohibit crop production other than hay. A grazing management plan is required. GRP enrollment options include: Rental Contracts of 10-20 years, Permanent Easements or Restoration Agreements. USDA can also enter into cooperative agreements with entities to enable them to acquire easements.

www.nrcs.usda.gov/programs/GRP/

Partners for Fish and Wildlife Habitat Restoration Program (PFW)

Established in 1987 for on-the-ground wetland restoration projects on private lands. At the heart of the Service's mission are the conservation and management of the Federal Trust Species: migratory birds; threatened and endangered species; inter-jurisdictional fish; certain marine mammals; and species of international concern. The Partners Program provides technical and financial assistance to private landowners and Tribes who are willing to work with us and other partners on a voluntary basis to help meet the habitat needs of our Federal Trust Species. The Partners Program can assist with projects in all habitat types which conserve or restore native vegetation, hydrology, and soils associated with imperiled ecosystems such as longleaf pine, bottomland hardwoods, tropical forests, native prairies, marshes, rivers and streams, or otherwise provide an important habitat requisite for a rare, declining or protected species. Locally-based field biologists work one-on-one with private landowners and other partners to plan, implement, and monitor their projects. Partners Program field staff help landowners find other sources of funding and help them through the permitting process, as necessary.

www.fws.gov/partners/

Regional Conservation Partnership Program

The Regional Conservation Partnership Program (RCPP) promotes coordination between NRCS and its partners to deliver conservation assistance to producers and landowners. NRCS provides assistance to producers through partnership agreements and through program contracts or easement agreements.

RCPP combines the authorities of four former conservation programs – the Agricultural Water Enhancement Program, the Chesapeake Bay Watershed Program, the Cooperative Conservation Partnership Initiative and the Great Lakes Basin Program. Assistance is delivered in accordance with the rules of EQIP, CSP, ACEP and HFRP; and in certain areas the Watershed Operations and Flood Prevention Program. There are three active RCPP efforts in Vermont, assisting landowners in the Lake Champlain, Memphremagog, and Connecticut River Watersheds.
<https://www.nrcs.usda.gov/wps/portal/nrcs/main/vt/programs/farbill/rcpp/>

Rural Energy for America Program (REAP) Grants and Loan Guarantee funding

Available from USDA Rural Development's REAP to assist agricultural producers and rural small businesses with costs for the purchase and installation of renewable energy systems and energy efficiency improvements. Solar, wind, biomass, geothermal, and efficiency projects are eligible. The grants are awarded on a competitive basis and can be up to 25% of total eligible project costs. Grants are limited to \$500,000 for renewable energy systems and \$250,000 for energy efficiency improvements. Grant requests as low as \$2,500 for renewable energy systems and \$1,500 for energy efficiency improvements will be considered.
<https://www.rd.usda.gov/programs-services/rural-energy-america-program-renewable-energy-systems-energy-efficiency>

Additional Programs

Farmland Access Program (FAP)

Provides farmers with opportunities to purchase or lease affordable farmland so that they can start up or expand agricultural businesses. Supporting local communities, local food production, and the long-term productive use of farmland are all objectives of this program. Gaining access to high quality, affordable farmland is one of the most difficult obstacles for beginning farmers and expanding agricultural operations. The challenge is especially acute for enterprises that depend on being near Vermont's economic growth centers—areas where land values remain strong even in the current economic climate.

Minimum qualifications require candidates to have 3 years of commercial farming experience, strong agricultural references, plans to develop an agricultural enterprise that would gross \$100,000 per year within 5 years of start up, and sufficient financial resources (or ability to be financed) for start-up expenses. Our focus is on farms producing food and fiber that would use at least 25 acres of land.

www.vlt.org/initiatives

Farmland Preservation Program (FPP)

Focused on retaining the state's quality agricultural land base in strong farming regions of the state. The purchase of conservation easements on farmland preserves Vermont's working

landscape--the open farm fields, woodlands and farmsteads that comprise the third largest sector in the state's economy and draw visitors that make tourism the largest sector. Because of VHCB's investment in conservation easements, some of Vermont's most productive farmland will remain undeveloped and the best soils will remain available for farming in the future. Selling conservation easements enables a landowner to keep land in agricultural use and be compensated for potential development value of the land, recognizing the asset value of the land. The landowner retains title and agrees to terms of a conservation easement limiting future ability to subdivide and develop the land.

www.vhcb.org/conservation.html

Technical Assistance Programs (TAP) through Northeast Organic Farming Association

Free to farmers - made possible by grants from the VHCB's VFP and VAAF. Vegetable and Fruit Technical Assistance provides technical assistance to organic farmers in Vermont seeking production and financial assistance on small fruit and vegetable operations. Dairy and Livestock Technical Assistance provides Information, Services and Support for Vermont's Organic Dairy & Livestock Community.

www.nofavt.org/programs

Pesticide Management Programs

The Agency of Agriculture, Food and Markets Pesticide Management Section administers Vermont's pesticide regulations, manages pesticide permits, provides and approves training courses in the proper handling, storage and use of pesticides. The section also tests and certifies pesticide applicators, enforces state and federal laws on the sale and use of pesticides, investigates pesticide spills, incidents and consumer complaints.

http://agriculture.vermont.gov/pesticide_regulation

Silvicultural (logging) runoff control program

Agency of Natural Resources, Department of Forests, Parks and Recreation

Vermont Acceptable Management Practices (AMP)

[Acceptable Management Practices \(AMPs\) for Maintaining Water Quality on Logging Jobs in Vermont](#) were developed and adopted as rules for Vermont's water quality statutes and became [effective in 1987](#) and were subsequently revised effective October 22, 2016. AMPs are intended and designed to prevent sediment, petroleum products, and woody debris (logging slash) from entering Vermont's waters.

Vermont Heavy Cutting Law (Act 15)

The Vermont Legislature passed the so-called heavy cutting law in 1998. The purpose of the law is to monitor and regulate the amount and approach to heavy cutting being done in Vermont. Heavy cutting is defined as cutting below the "C" line in excess of forty acres or 80 acres in a two-mile radius. The "C" line is a silvicultural stocking level provided for in US Forest Service guidelines for managing various forest types. This level establishes the minimum stocking for

stands of trees that would allow stands to return to a fully stocked condition. The AMPs (see above) are among the requirements of this law.

http://fpr.vermont.gov/forest/vermonts_forests/heavycut

Portable Skidder Bridge Initiative

The goals of this initiative are three-fold.

(1) Inform loggers, landowners and foresters about the benefits of using portable skidder bridges through workshops and presentations, field demonstrations, informational brochures, static displays, video and web production, and news articles.

(2) Provide portable skidder bridges to loggers for purchase, loan and rental using a variety of means and partners.

(3) Provide assistance and support for existing and start-up businesses that would fabricate and sell portable skidder bridges.

Complete information about this expanding program is available at:

http://fpr.vermont.gov/forest/your_woods/harvesting_your_woodlots/skidder_bridge

Federal Programs

Federal Wetlands Protection

A U.S. Army Corps of Engineers permit is required for all work beyond ordinary highwater in or above navigable waters of the United States under Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403). In New England, for the purpose of Section 10, navigable waters of the United States are those subject to the ebb and flow of the tide and a few major waterways used to transport interstate or foreign commerce. Permits are required under Section 404 of the Clean Water Act for those activities involving the discharge of dredged or fill material in all waters of the United States, including not only navigable waters of the United States but also inland rivers, lakes, streams and wetlands. In inland waters, Corps jurisdiction extends landward to the ordinary high water mark or the landward limit of any wetlands. The term "discharge" in this context may include the re-depositing of wetlands soils such as occurs during mechanized land clearing activities, including grubbing, grading and excavation.

The term "wetlands," used above, is defined by Federal regulations to mean "...those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions..." (33 C.F.R. Part 328.3 (b), as published in the November 13, 1986 Federal Register). Wetlands generally include swamps, marshes, bogs and similar areas. The term "fill material," used above, is defined by Federal regulations to mean "...any material used for the primary purpose of replacing an aquatic area with dry land or of changing the bottom elevation of a waterbody. The term does not include any pollutant discharged into the water primarily to dispose of waste..." (33 C.F.R. Part 323.2 (b), as published in the November 13, 1986 Federal Register).

Land Use Programs

Agency of Natural Resources

Act 250

Act 250 provides a public, quasi-judicial process for reviewing and managing the environmental, social and fiscal consequences of major subdivisions and development in Vermont through the issuance of land use permits. Activities include review of land use permit applications for conformance with the Act's ten environmental criteria, issuance of opinions concerning the applicability of Act 250 to developments and subdivisions, monitoring for compliance with the Act and with land use permit conditions, and public education.

In an Act 250 application, applicants need to supply sufficient information for the District Commission to make findings on the ten environmental criteria. In so doing, certifications and/or approvals from other agencies and departments, utilities, regional planning commissions and local government may be necessary.

With regard to water pollution, Criterion 1 states that the project will not result in undue water or air pollution. This criterion deals with water and air pollution potential generally and such specific matters relating to water pollution as: (A) Headwaters; (B) Waste disposal; (C) Water Conservation; (D) Floodways; (E) Streams; (F) Shorelines; and (G) Wetlands.

Towns with assistance from Regional Planning Commissions and the Vermont League of Cities and Towns

Municipal Plans

Municipal plans adopted under 24 VSA Chapter 117 provide the legal basis for local land use regulation for water quality protection or other purposes. Municipal plans vary widely in level and scope of commitment to water quality protection and sustainability, and may not describe the means to attain water quality objectives.

Local Zoning

Through local zoning, municipalities can limit the impact of land development on water quality by concentrating development into designated areas. For example, local governments have clear legal authority under 24 VSA Chapter 117 to regulate riparian buffers. The Vermont League of Cities and Towns (VLCT) has produced a model riparian buffer ordinance for towns.

Other model ordinances are under development or available to municipal governments to support water quality protection and restoration including National Flood Insurance Program (NFIP) and Enhanced NFIP ordinances, Fluvial Erosion Hazard Overlay District Ordinance, Stormwater ordinance and Conservation subdivision ordinances.

The VLCT Water Quality Specialist, in conjunction with Vermont DEC, has reviewed the most current town zoning or other applicable regulations. VLCT is available to help towns navigate the process of including ordinances/bylaws related to stormwater management, riparian corridor protection and other local water quality protection measures.

Flood Hazard Area Regulations

The majority of municipalities are enrolled in the National Flood Insurance Program (NFIP) and have adopted regulations restricting development in mapped floodplains. However, local flood hazard area regulations are designed to prevent the loss of property and life in the event of a flood. In this regard, local flood hazard area regulations contribute little to the protection and restoration of water quality.

Fluvial Erosion Hazard mapping

Fluvial erosion hazard mapping consists of a data layer generated from fluvial geomorphic assessments and provides an overlay district that defines a corridor within which a stream can recover or maintain its equilibrium condition thus minimizing the production of sediment and nutrients and maximizing sediment and nutrient attenuation.

Stormwater Utilities

Communities across the nation are increasingly examining the option of stormwater utilities to fund stormwater management. A stormwater utility charges fees to property owners who use the local stormwater management system. The revenue can be used to maintain and upgrade existing storm drain systems, develop drainage plans, construct flood control measures, and cover administrative costs. Stormwater utilities are seen as a fair way of collecting funds for stormwater management. The properties that contribute stormwater runoff and pollutant loads and, therefore, create the need for stormwater management, pay for the program. Stormwater utilities provide a predictable and dependable amount of revenue that is dedicated to the implementation of stormwater management. Over 400 communities in the United States have created stormwater utilities.

Act 109 (Vermont Legislature, spring 2002) gave Vermont municipalities the authority to create stormwater utilities. So far, only the City of South Burlington has created a stormwater utility. Each single family home pays an additional \$4.50 a month which goes to providing funds for the identification and management of stormwater problems, projects and infrastructure upgrades. Additionally, subdivisions with stormwater permits can apply to have their permit and systems taken over by the City of South Burlington. Overall, it is more efficient to have one entity managing the upkeep and maintenance of the stormwater management systems; rather than multiple groups having to contract out for the maintenance of their systems, the City can provide those services with its own equipment and technical resources. The City of Winooski reports on its website that it, too, is considering the formation of such a utility.

Conservation Plans

Local conservation plans tend to address water quality objectives in a general sense, recommending vegetated riparian buffers and wildlife corridors.

The Community Wildlife Program supported by the Department of Fish and Wildlife provides assistance and resources for professional and lay planners in Vermont. We help regional and municipal planning commissions and non-governmental organizations in their efforts to protect wildlife habitat and significant natural communities by providing them with the most up-to-date information on conservation science and help them with the implementation of their conservation projects.

We help towns identify their important wildlife habitat by providing data for GIS review as well as instruction in how to do field work and how to use these information sources. We help towns translate conservation goals that the community has agreed on into language suitable for the Town Plan and further assist with turning that language into appropriate zoning and subdivision regulations that bring these conservation goals into action. We help towns and organizations connect with other assistance organizations and finding funding in moving their goals forward

Road Maintenance Programs

Vermont Agency of Transportation (VTRANS)

Handbook for Local Officials

This guide is produced by VTrans and is designed to assist local officials in the State of Vermont. Much of this handbook contains practical, day-to-day information concerning the contents of Title 19. [Orange Book Local Officials Handbook](#)

Better Roads Program

The Vermont [Better Roads Program](#) provides technical support and grant funding to municipalities to promote the use of erosion control and maintenance techniques that save money while protecting and enhancing water quality around the State.

Stormwater Compliance

The Stormwater Compliance Management Program includes regulatory oversight and technical assistance associated with stormwater permitting and management on VTrans facilities, striving to ensure proper design, construction, operation, maintenance, and regulatory compliance with Federal and State Water Quality Standards and Stormwater Management Rules, Regulations and Laws.

FUNDING OPPORTUNITIES

Funding sources are continually changing. The table in this section represents a compilation of known funding sources as of December, 2016. Please notify the Watershed Management Division of other relevant surface water improvement funding sources.

Category (State, Fed., Foundation)	Grant Name	Funding Type	Contact
WSMD	319 Nonpoint Source Grant	Restore water quality in waters threatened by non-point sources	emily.bird@vermont.gov
WSMD	Ecosystem Restoration Program Grant	Environmental remediation, protection and runoff mitigations, P loading, Ag land enhancement, nonpoint source	emily.bird@vermont.gov
F+W	VT Watershed /License Plate	Enhance/restore water resources, restore or protect fish and wildlife habitat, education, cultural resources, reducing P loading	emily.bird@vermont.gov
WSMD	Aquatic Nuisance Control Grant-in-aid control	Available for municipalities; first priority to new infestations, second to controlling infestations or prevention, third to ongoing maintenance. (Ann Bove)	Ann.bove@vermont.gov
FED	The Vermont Planning Advance Program	For planning community water resources; sewage, drinking water, feasibility studies for the aforementioned works. <i>Funds currently available.</i>	Bryan.Redmond@vermont.gov
FED	CWSRF	For WWTF construction, sewer works, stormwater mgmt. facilities. Available to municipalities Currently, funds available for planning and final design applications are accepted on a rolling basis. Funds will be available for construction projects later this year but all new projects will need to go through planning and design prior to approval. Currently there are some subsidy opportunities of up to 50% on planning and final design activities. There is also a call out for the next month for asset management grants.	terisa.thomas@vermont.gov 802-828-1550

Category (State, Fed., Foundation)	Grant Name	Funding Type	Contact
FED	Unsafe Dam State Revolving Fund	Available for dam removal, either 100% loan or 75% loan and 25% grant funding (if breaching or removing— maintenance or reconstruction are eligible for loan only). Generally \$50,000 cap, may be expanded.	Stephen.Bushman@vermont.gov
FED	DWSRF	Public and private drinking water utilities are eligible for this funding. Can be used for easements that help with drinking water quality.	Ashley.Lucht@vermont.gov
WSMD	Regional Conservation Partnership Program (NRCS)	Projects related to soil and water quality, flood prevention, water resource conservation, reducing runoff and irrigation improvement. Available to state, farmers' cooperatives, municipal water orgs, orgs with a history of working with farms, and higher education organizations. Pre-proposals already submitted for this calendar year.	RCPP@wdc.usda.gov
F+W	Clean Vessel Act Grant	Grants for public or private marinas or a state, county/municipal org for installing or upgrading pumpout stations or dump stations, or projects related to boating septic waste. Due August 15, grant covers up to 75 percent of the project.	(802) 828-1000 Mike Wichrowski
AAFM	BMP financial assistance	Financial assistance for up to 90 percent cost share on NRCS approved practices on production areas, up to 50 percent on non-production areas. Can be coupled with federal NRCS funds. Available to growers in the state of Vermont/livestock producers or private land holders	Jeff Cook Jeff.Cook@vermont.gov 802-828-3474
AAFM	CREP Grants	Available to landowners for land in ag use, that is adjacent to a perennial stream or waterway. Cost share may cover 90-100 percent of funding needed for swales, vegetated buffers, filter strip, livestock fencing etc	
AAFM	Various Farm Agronomic Practices	Funds for practices that restore soil quality and enhance water quality by reducing runoff. Includes grants for educational activities and cover cropping (paid by acre). Usually due one month prior to implementation, available to growers and livestock owners.	Jeff Cook Jeff.Cook@vermont.gov 802-828-3474

Category (State, Fed., Foundation)	Grant Name	Funding Type	Contact
NRCS	EQIP	Provides assistance in the form of reimbursement up to \$ 300,000 for projects that conserve agricultural or forested land, or other wildlife habitat. Project can only be started AFTER contract with NRCS signed for funding. Priority given to historically underserved customers and projects which address significant resource concerns	http://www.nrcs.usda.gov/getstarted Contact local NRCS field office
ACCD	Municipal planning grants	Municipalities eligible, priority given to those in historic settlement pattern—villages and town centers. Joint applications may be accepted. Funding provided for meetings, hearings, workshops, conservation work, legal fees, easements, administrative materials, research, inventories and mapping, and payment for support staff.	Annina Seiler 802-828-1948 annina.seiler@vermont.gov
WSMD	Flood Mitigation Assistance Grant Program	State government applies for FEMA funding, which local governments may then access by working as “subapplicants”. Project must support the flood hazard portion of State, tribal, or local mitigation plans to meet the requirements outlined in 44 CFR Part 201 Mitigation Planning. Funds are only available to support communities participating in the National Flood Insurance Program (NFIP).	Ned SwanBerg ned.swanberg@vermont.gov 802.490.6160.
DEM	Hazard mitigation Grants	Provides funding for land acquisition, infrastructure projects, flood planning. State, local government and non-profits eligible. Communities must have a FEMA approved and adopted local mitigation plan to be eligible. Funds not currently available but possibly in future.	Lauren Oates (802) 241-5363 lauren.oates@vermont.gov
LCBP	Local Implementation Grants	Grants for Lake Champlain basin bioremediation and pollution control/ environmental improvement. State, interstate, and regional water pollution control agencies, and public or nonprofit agencies, institutions, and organizations are eligible to receive grants from EPA through this program.	Jeanne Voorhees voorhees.jeanne@epa.gov

Category (State, Fed., Foundation)	Grant Name	Funding Type	Contact
AAFM	Water Quality Grant	For Water Quality projects initiated by VAAF. Can be applied for through a RFP opportunity.	AGR.waterquality@vermont.gov
Foundation	Vermont Community Foundation	"Small and Inspiring" grants: connect people to each other through volunteer work or community-building efforts connect people to the environment around them in new ways	Kim Haigis, khaigis@vermontcf.org
Foundation	Vermont Community Foundation	"Lamoille County and Beyond: Green Mountain Fund" serving children, elderly and family services, education, environment, sustainability, and the arts in Lamoille County and other parts of the Northeast Kingdom.	Kim Haigis, khaigis@vermontcf.org
Foundation	Vermont Community Foundation	"Upper CT River Mitigation and Enhancement Fund" river restoration work in the upper Connecticut River Watershed; wetland restoration, protection, and enhancement; and shoreline protection. Region: Connecticut River watershed upstream of the confluence of the White River and the Connecticut River at White River Junction, Vt. and West Lebanon, N.H.	Kim Haigis, khaigis@vermontcf.org
Foundation	Vermont Community Foundation	Lake Champlain Tributaries and Restoration Fund: protection, restoration, and enhancement of Lake Champlain's ecosystem.	Kim Haigis, khaigis@vermontcf.org
Foundation	Vermont Community Foundation	Special and Urgent Needs- helps Vermont nonprofits with unexpected expenses that impact their ability to meet their mission. A SUN grant can help an organization manage an unbudgeted, unforeseen, and time-sensitive emergency or take advantage of an unanticipated opportunity that will enhance its work.	Kim Haigis, khaigis@vermontcf.org
Foundation	Vermont Community Foundation	"Kelsey Trust" Lake Champlain and Tributaries protection. We are particularly interested in programs aimed at protecting Lake Champlain and its tributaries, the Green Mountains, and the Adirondacks. LOI needed	Kim Haigis, khaigis@vermontcf.org

Category (State, Fed., Foundation)	Grant Name	Funding Type	Contact
VTRANS	Transportation Alternatives	<p>F. Any environmental mitigation activity, including pollution prevention and pollution abatement activities and mitigation to--</p> <p>(i) address stormwater management, control, and water pollution prevention or abatement related to highway construction or due to highway runoff, including activities described in sections 133(b)(11), 328(a), and 329; or</p> <p>(ii) reduce vehicle-caused wildlife mortality or to restore and maintain connectivity among terrestrial or aquatic habitats.</p> <p>(iii) Construction of salt sheds is eligible under the environmental mitigation category. Eligibility for salt sheds will be considered on a case by case basis based on proximity of the existing storage location to a major water body (generally within 50 ft.). We recommend reviewing eligibility with VTrans prior to application submittal.</p>	<p>Scott Robertson, P.E. Telephone: (802) 828-5799 Fax: (802) 828-5712 E-mail address: scott.robertson@vermont.gov</p>
VTRANS	Better Back Roads	<p>funding to support municipal road projects that improve water quality and result in maintenance cost savings. The grant funds are provided by VTrans and the Vermont Agency of Natural Resources. The Vermont Better Roads Program's goal is to promote the use of erosion control and maintenance techniques that save money while protecting and enhancing Vermont's lakes and streams. Funds, subject to availability, will be distributed as grants to municipalities to address town erosion problems.</p>	<p>Alan.may@vermont.gov</p>

Category (State, Fed., Foundation)	Grant Name	Funding Type	Contact
VTRANS	Category (A) planning grants	Road Inventory and Capital Budget Planning (Maximum Grant Amount \$8,000) Road erosion reduction requires planning and budgeting to implement road improvements that also result in cost savings. Eligible projects under this category must include: (1) Inventory of roads and/or culverts and identification of road related erosion and/or stormwater problems affecting water quality in a particular watershed or the whole town. (2) Sites identified must then be prioritized by problem area for future repair. (3) The final step is the development of a capital budget plan to correct these problems over a specific period of time.	Alan.may@vermont.gov
VTRANS	Category (D) culvert upgrade grants	Structures or culverts that carry streams or rivers must have accompanying documentation showing consultation with an ANR River Management Engineer and/or Army Corps Engineer indicating use or nonuse of river management standards prior to submittal of application.	Alan.may@vermont.gov
VTRANS	Category B – Road Erosion	Correction of a Road Related Erosion Problem and/or Stormwater Mitigation/Retrofit for both gravel and paved roads	Alan.may@vermont.gov
VTRANS	The Category (C) bank stabilization	Stream and river/road conflicts must have accompanying documentation showing consultation with an ANR River Management Engineer and/or Army Corps Engineer indicating use or non-use of river management standards prior to submittal of applicatio	Alan.may@vermont.gov
Foundation	Joe W. & Dorothy Dorsett Brown Foundatio	Environmental research; housing for the homeless; support for organizations that care for the sick, hungry or helpless; religious and educational institutions; as well as organizations and groups concerned with improving our local communities. Within these areas, the focus is primarily on alleviating human suffering. Secondary consideration includes cultural, spiritual, educational, or scientific initiatives.	bethbuscher@thebrownfoundation.org , 504-834-3433

Category (State, Fed., Foundation)	Grant Name	Funding Type	Contact
Foundation	Weyerhaeuser Giving Fund	The fund helps cultivate growing minds and bodies, promote sustainable communities, and nourish the quality of life in these Weyerhaeuser communities. The Foundation's main funding areas are: affordable housing and shelter, education and youth development, environmental stewardship, human services, civic, and cultural growth.	253-924-3658 anne.leyva@weyerhaeuser.com
Foundation	The Dale & Edna Walsh Foundation	DEW contributes to medical, relief, welfare, education, community service, ministries and environmental programs, and arts organizations. All organizations must submit a letter of inquiry (LOI) to be considered for funding.	775-200-3446 info@dewfoundation.org
Foundation	Toolbox for Education Grants	Lowe's Charitable and Educational Foundation . Giving on a national basis in areas of company operations; giving on a national basis for the Outdoor Classroom Grant Program and Lowe's Toolbox for Education to support parks and playgrounds and organizations involved with K-12 education, environmental beautification, environmental education, home safety, and community development. No support for schools established less than two years ago for Lowe's Toolbox for Education. Pre-schools are not eligible.	1-800-644-3561 ext. 7 info@toolboxforeducation.com
Foundation	Captain Planet Foundation	The foundation supports projects that: 1) Promote understanding of environmental issues; 2) Focus on hands-on involvement; 3) Involve children and young adults 6-18 (elementary through high school); 4) Promote interaction and cooperation within the group; 5) Help young people develop planning and problem solving skills; 6) Include adult supervision; 7) Commit to follow-up communication with the foundation.	404-522-4270 grants@captainplanetfdn.org

Category (State, Fed., Foundation)	Grant Name	Funding Type	Contact
Foundation	G. Unger Vetlesen Foundation	Giving on a national basis. Foundation established a biennial international science award for discoveries in the earth sciences; grants for biological, geophysical, and environmental research, including scholarships, and cultural organizations, including those emphasizing Norwegian-American relations and maritime interests. Support also for public policy research and libraries. No grants to individuals. A Letter of Inquiry must be submitted before a full proposal will be considered.	212-586-0700 contact@vetlesenfoundation.org
Foundation	Max and Victoria Dreyfus Foundation, Inc.	Giving on a national basis to support museums, cultural, and performing arts programs; schools, hospitals, educational and skills training programs, programs for youth, seniors, and the handicapped; environmental and wildlife protection activities; and other community-based organizations and their programs. Organizations seeking support from the Foundation may submit a letter of request, not exceeding three pages in length, which includes a brief description of the purpose of the organization, and a brief outline of the program or project for which funding is sought.	202-337-3300 info@mvdreyfusfoundation.org
Foundation	American Honda Foundation	The American Honda Foundation engages in grant making that reflects the basic tenets, beliefs and philosophies of Honda companies, which are characterized by the following qualities: imaginative, creative, youthful, forward-thinking, scientific, humanistic and innovative. We support youth education with a specific focus on the STEM (science, technology, engineering and mathematics) subjects in addition to the environment.	310-781-4091 ahf@ahm.honda.com
Foundation	Dr. Scholl Foundation	In general the Foundation guidelines are broad to give them flexibility in providing grants. Applications for grants are considered in the following areas: Education, Social Service, Healthcare, Civic and Cultural, and Environmental.	1033 Skokie Blvd., Suite 230, Northbrook, IL 60062 847-559-7430

Category (State, Fed., Foundation)	Grant Name	Funding Type	Contact
Foundation	The Andrew W. Mellon Foundation	Giving nationally on a selective basis for higher education and scholarship, scholarly communications and information technology, art history, conservation, and museums, performing arts, conservation and the environment.	212-838-8400 inquiries@mellon.org
Foundation	The Xerox Foundation	The foundation supports: Education/Workforce Preparedness, Science/Technology, Employee/Community Affairs, and Environmental Affairs. Grants are made only to organizations that have been granted exemption from Federal Income Tax under Section 501 (c)(3) and ruled to be publicly supported under Section 509(a) of the Internal Revenue Code.	203-849-2453
Foundation	Lintilhac Foundation	Giving primarily in north central VT, including Chittenden, Lamoille, and Washington counties supporting medical education programs, health services, community development, civic projects, and educational institutions. Support also for local scientific, environmental, and educational issues. Grants given for building/renovation, curriculum development, equipment, general/operating support and seed money. No support for religious organizations. No grants to individuals.	886 North Gate Road, Shelburne, VT United States 05482-7211 (802) 985-4106 lint@together.net
Foundation	Perkins Charitable Foundation Educational Grants	Giving nationally, primarily in CA, CT, FL, MA, MT, OH, RI, VA, and VT for education, the arts, environmental conservation, animals, wildlife, health and medical care, and children, youth and social services. No grants to individuals.	1030 Hanna Bldg. , 1422 Euclid Ave., Cleveland, OH United States 44115-2001 (216) 621-0465

Category (State, Fed., Foundation)	Grant Name	Funding Type	Contact
Foundation	Fields Pond Foundation, Inc.	The Fields Pond Foundation awards grants to projects and programs primarily in Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. The primary mission of Fields Pond Foundation is to provide financial assistance to nature and land conservation organizations that are community-based and that serve to increase environmental awareness by involving local residents in conservation issues.	781-899-9990 info@fieldspond.org
DOI	Rivers, Trails and Conservation Assistance Program	Applications for Rivers, Trails and Conservation Assistance program are competitively evaluated based on how well the applications meet the following criteria: 1. The project has specific goals and results for conservation and recreation expected in the near future. 2. Roles and contributions of project partners are substantive and well-defined. 3. There is evidence of broad community support for the project.	Jennifer Waite jennifer_waite@nps.gov (802) 457-3368, ext 221
Foundation	Waterwheel Foundation Grants	The WaterWheel Foundation was created by Phish in 1997 to oversee the band's various charitable activities. The primary effort then and now is our Touring Division, though in keeping with our "Local" mission we also support Vermont-based non-profits and others in need.	<u>ww@phish.com</u> or <u>write to WaterWheel,</u> <u>PO Box 4400,</u> <u>Burlington VT</u> <u>05406-4400.</u>