

## Winooski Trees for Streams/Riparian Buffer Restoration, 2016



**Project Status:**  
**Completed**

**Results:**

- 4 acres riparian corridor planted
- 10.5 kg/year phosphorus reduction
- 2,955 linear feet riparian corridor planted

**Town:** Essex, Bolton, Milton, Shelburne, Jericho, Huntington

**County:** Chittenden

**Watershed:** North Champlain, Lamoille, Winooski

**Funding Amount:** \$14,300

**Funding Source:** DEC Ecosystem Restoration Grant (Capital Fund, SFY 2016)

**Description:** The Trees for Streams program was created to enhance riparian buffers on private lands throughout Vermont. In conjunction with Trees for Streams, the current project seeks to plant four acres of riparian buffer along 2,955 linear feet across six properties at Essex High School, Bolton Valley Access Road, West Milton Road in Milton, Shelburne Road in Shelburne, Ethan Allen Road in Jericho, and Main Road in Huntington. Each planting site has been visited with US Fish and Wildlife Service partners to confirm stability for planting and each buffer is at least 35 feet in width.

**Partners:** Winooski Natural Resources Conservation District



Before planting on the Allard Property site, which is particularly prone to stream bank erosion.

The Allard property replanted a large quantity of trees in this riparian area to offer soil stabilization along the Lamoille River in Milton.

For more information visit: <http://dec.vermont.gov/watershed/cwi/projects>

# Hyde Park Stormwater Improvement Project



**Project Status:**  
**Completed**

**Results:**

- 1 100% designs completed
- 3.5 kg/year phosphorus reduction
- 4.4 acres of impervious area treated

**Town:** Hyde Park

**County:** Lamoille

**Watershed:** Lamoille

**Funding Amount:** \$75,000

**Funding Source:** DEC Ecosystem Restoration Grant (Capital Fund, SFY 2015)

**Description:** This project located in the Town of Hyde Park, seeks to reduce nutrient and sediment loading and increase nutrient and sediment storage by targeting two major stressors; land erosion and nutrient loading, as outlined in the Vermont Surface Water Management Strategy. The project includes both the design and construction of three stormwater management practices: 1. Stabilizing a headcut on a Private Depot Street Culvert, 2. Restoring an eroded gully on Depot Street, and 3. Constructing a Bioretention Area on Morey Road.

**Partners:** Lamoille County Conservation District



An eroded gully on Depot Street in Hyde Park before restoration.

The restored gully on Depot Street after constructing and post-planting.

For more information visit: <http://dec.vermont.gov/watershed/cwi/projects>

## Lamoille River/Wolcott Town Garage and Fire Station Stormwater Treatment



**Project Status:**  
Funded and in Progress

**Results:**

**Town:** Wolcott

**County:** Lamoille

**Watershed:** Lamoille

**Funding Amount:** \$15,888

**Funding Source:** DEC Ecosystem Restoration Grant (Capital Fund, SFY 2017)

**Description:** This project is located at the Wolcott Town Garage and Fire Department shared facility, on School Street in Wolcott. The draft 2016 update to the Lamoille Tactical Basin Plan identifies this section of the Lamoille River as "Altered, Part F list" and "stressed" due to sediment, turbidity, and erosion. This project will address sediment and nutrient loading to the Lamoille River by means of disconnecting roof runoff that currently causes sediment from the parking area to discharge to the river, as well as providing opportunities for discharges to spend time in settling pools before reaching the river. Another part of the project is to help reduce sediment laden runoff from the sand pile stored at the site. The project scope involves: installation of roof gutters, re-establishment of, two existing settling pools, Re-grading and re-surfacing of work road, Installation of concrete block retaining walls to better confine the sand pile, and Installation of concrete block header on the School Street culvert.

**Partners:** Wolcott Town

## Gihon River Tributary/Johnson State College Stormwater Treatment



**Project Status:**  
**Selected for Funding**

**Results:**

**Town:** Johnson

**County:** Lamoille

**Watershed:** Lamoille

**Funding Amount:**

**Funding Source:**

**Description:** The Johnson State College (JSC) Stormwater Improvement Project will capture, retain, and treat the stormwater flow from more than 3 impervious acres and improve flood resiliency on campus. The project involves routing additional stormwater to an existing stormwater retention pond to by installing a conveyance system and hydrodynamic separator. Additionally, a small green stormwater infrastructure/public demonstration practice will be installed to capture and infiltrate runoff from nearby athletic fields.

**Partners:**

For more information visit: <http://dec.vermont.gov/watershed/cwi/projects>

## Deer Brook/Route 7 and Route 104A, Georgia Gully Remediation



**Project Status:**  
Funded and in Progress

**Results:**

**Town:** Georgia

**County:** Franklin

**Watershed:** Lamoille

**Funding Amount:** \$86,700

**Funding Source:** DEC Ecosystem Restoration Grant (Clean Water Fund, SFY 2017)

**Description:** This project is located in the Deer Brook Watershed which includes approximately 8.4 square miles in the towns of Georgia and Fairfax. Stormwater discharges are known to be an important contributor to the sediment impairment in Deer Brook and, in particular, from the homes, businesses and roadways along U.S. Route 7, which discharge to the "Deer Brook Gully". The results of the project will include 1) updated impervious cover mapping within the watershed, 2) a survey of stormwater management opportunities in the area draining to the gully, 3) final engineering designs for a suite of practices to improve stormwater management, and 4) a final report including an Identification all permits that will be required.

**Partners:** Friends of Northern Lake Champlain

For more information visit: <http://dec.vermont.gov/watershed/cwi/projects>



**Project Status:**  
**Funded and in Progress**

**Results:**

**Town:** Hardwick

**County:** Caledonia

**Watershed:** Lamoille

**Funding Amount:** \$24,700

**Funding Source:** DEC Ecosystem Restoration Grant (Clean Water Fund, SFY 2016)

**Description:** The Town of Hardwick has completed a stormwater mapping project and the Caledonia Natural Resources Conservation District produced a report in 2012 identifying three main watershed concerns: conveyance (ice dams), stormwater remediation, and bridge and culvert upgrades. The stormwater remediation projects identified can be wrapped in and updated with a stormwater master plan for the town of Hardwick.

**Partners:** Caledonia County Natural Resources Conservation District

For more information visit: <http://dec.vermont.gov/watershed/cwi/projects>

# Hyde Park and Morristown Stormwater Master Plan



**Project Status:**  
Funded and in Progress

**Results:**

**Town:** Hyde Park, Morristown

**County:** Lamoille

**Watershed:** Lamoille

**Funding Amount:** \$30,000

**Funding Source:** DEC Ecosystem Restoration Grant (Clean Water Fund, SFY 2017)

**Description:** This project develops Stormwater Master Plans for the towns of Hyde Park and Morrisville, and focuses on several stressed waters, (Centerville Brook, Gihon River, Ryder Brook) all within the Lamoille Watershed. Runoff from village properties has caused extensive road/ditch erosion, sedimentation, and unstable slopes. The scope of work includes a review of pre-existing data, on-the-ground-assessment of problem areas, a detailed identification of projects, and the drafting of the Stormwater Master Plan.

**Partners:** Lamoille County Conservation District

For more information visit: <http://dec.vermont.gov/watershed/cwi/projects>





**Project Status:**  
Funded and in  
Progress

**Results:**

- 6 30% designs completed
- 22,758 acres covered by plan

**Town:** Jericho

**County:** Chittenden

**Watershed:** Lamoille, Winooski

**Funding Amount:** \$19,000

**Funding Source:** DEC Ecosystem Restoration Grant (Clean Water Fund, SFY 2016)

**Description:** This project is to develop a Stormwater Master Plan for the Town of Jericho. The plan focuses on the village centers of Jericho Corners and Jericho Center and addresses road and ditch erosion, ponding water and destabilizing slopes. The scope of work includes a review pre-existing data, on-the-ground-assessment of problem areas, a detailed identification of projects, and the drafting of the Stormwater Master Plan.

**Partners:** Chittenden County Regional Planning Commission

For more information visit: <http://dec.vermont.gov/watershed/cwi/projects>



## Underhill Stormwater Master Plan



**Project Status:**  
Funded and in  
Progress

**Results:**

**Town:** Underhill

**County:** Chittenden

**Watershed:** Lamoille

**Funding Amount:** \$16,105

**Funding Source:** DEC Ecosystem Restoration Grant (Clean Water Fund, SFY 2017)

**Description:** Stormwater Master Plan for the town of Underhill. This project will serve to develop a list of priority areas for stormwater pollutant reduction including road segments, municipal 3 acre or greater impervious parcels, and significant erosion problems.

**Partners:** Chittenden County Regional Planning Commission

For more information visit: <http://dec.vermont.gov/watershed/cwi/projects>

## Regional Hydroseeder Equipment-Share Program



**Project Status:**  
Funded and in  
Progress

**Results:**

**Town:** Caledonia County, Lamoille County, Essex County

**County:** Caledonia, Essex, Lamoille

**Watershed:** Lamoille, Stevens, Wells, Waits and Ompompanoosac, Passumpsic, Northern Connecticut, Memphremagog

**Funding Amount:** \$115,100

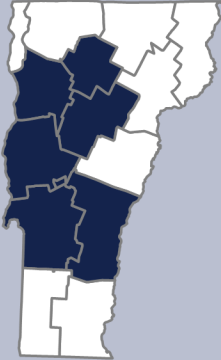
**Funding Source:** DEC Ecosystem Restoration Grant (Clean Water Fund, SFY 2017)

**Description:** Create and continue a Regional Hydroseeder Program for three Natural Resources Conservation Districts, Lamoille, Caledonia, and Essex Counties in the northeast region of Vermont, and its municipalities. Three hydroseeders will be collectively shared with at least four towns within each district. The program will promote and accelerate the use of vegetation stabilization for roadside ditches and steep side slopes especially when used during the wet fall season when most ditches are improved. Performance Measure(s) for this Grant: 3 hydro-seeders purchased, equipment training and operation materials developed and 14 sites where hydro-seeder is utilized.

**Partners:** Lamoille County Conservation District

For more information visit: <http://dec.vermont.gov/watershed/cwi/projects>

## Implementation of Road Erosion Controls along Class IV Roads



**Project Status:**  
Completed

**Results:**

- 130 drainage structures installed/repaired

**Town:** Lamoille County, Washington County, Stockbridge, Pittsfield, Granville, Calais, Cabot, Woodbury, Elmore, Richmond

**County:** Addison, Chittenden, Lamoille, Rutland, Washington, Windsor

**Watershed:** Lamoille, Winooski, White

**Funding Amount:** \$75,000

**Funding Source:** DEC Ecosystem Restoration Grant (Capital Fund, SFY 2015)

**Description:** Implementation of road erosion BMPs along Class IV roads to reduce sedimentation into adjacent waterways. Projects prioritized based on the State's Road Erosion Risk Analysis and completed regional road erosion inventories.

**Partners:** Vermont Youth Conservation Corps



VYCC crew digs stones to use to help stabilize a culvert along East Elmore Branch of the Lamoille River.

For more information visit: <http://dec.vermont.gov/watershed/cwi/projects>

## Selawsky River Corridor Easement Design on the Wild Branch



**Project Status:**  
**Completed**

**Results:**

- 17 acres of corridor scoped for easement

**Town:** Wolcott

**County:** Lamoille

**Watershed:** Lamoille

**Funding Amount:** \$11,500

**Funding Source:** DEC Ecosystem Restoration Grant (Capital Fund, SFY 2015)

**Description:** Conduct initial work to establish Selawsky River Corridor Easement along the Wild Branch. Work involved completion of Baseline Documentation Report, survey, and initial legal work.

**Partners:** Vermont River Conservancy

For more information visit: <http://dec.vermont.gov/watershed/cwi/projects>

## Selawsky River Corridor Easement: Wild Branch - Phase 2



**Project Status:**  
**Completed**

**Results:**

- 17 acres of corridor conserved
- 2,123 linear feet of corridor conserved

**Town:** Wolcott

**County:** Lamoille

**Watershed:** Lamoille

**Funding Amount:** \$26,540

**Funding Source:** DEC Ecosystem Restoration Grant (Capital Fund, SFY 2015)

**Description:** This project will conduct a corridor easement project on the property belonging to Mr. Selawsky of Wolcott, Vermont. This section of the Wild Branch has a very high sensitivity to channel adjustment and is a high priority for conservation due to the value of this area for sediment attenuation and natural floodplain development. The corridor easement will conserve roughly 12 acres of land of river corridor. The purchase of the channel management rights will preclude any future management of the Wild Branch at this locations without the consent of the State and ensure that the river is free to adjust within the river corridor in perpetuity.

**Partners:** Vermont River Conservancy



Bank erosion where the Wild Branch meets the western property boundary.

Armoring along North Wolcott Road (western shore), with a stretch of no vegetated riparian buffer within the Selawsky property (eastern shore).

For more information visit: <http://dec.vermont.gov/watershed/cwi/projects>

## Jeffersonville Riparian Corridor Easement



**Project Status:**  
**Completed**

**Results:**

- 4.2 acres of corridor conserved
- 1,000 linear feet of corridor conserved

**Town:** Cambridge

**County:** Lamoille

**Watershed:** Lamoille

**Funding Amount:** \$19,643

**Funding Source:** DEC Ecosystem Restoration Grant (Capital Fund, SFY 2013)

**Description:** Implementation of Jeffersonville floodplain easement to protect important floodplain functions along the Brewster River, including sediment and phosphorus attenuation.

**Partners:** Jeffersonville Village

For more information visit: <http://dec.vermont.gov/watershed/cwi/projects>

## North Branch Lamoille River Corridor Easement (Barup Farm)



**Project Status:**  
Funded and in  
Progress

**Results:**

**Town:** Cambridge

**County:** Lamoille

**Watershed:** Lamoille

**Funding Amount:** \$46,494

**Funding Source:** DEC Ecosystem Restoration Grant (Clean Water Fund, SFY 2017)

**Description:** Barup Farm River Corridor Easement serves to protect the river corridor and channel management rights along this area of the North Branch of the Lamoille and Lamoille River, serving the dual purpose of protecting the State's water quality and supporting the Grantee's goal. 20 acres of river corridor will be conserved.

**Partners:** Vermont Land Trust

For more information visit: <http://dec.vermont.gov/watershed/cwi/projects>



## Rankin Farm River Corridor Easement



**Project Status:**  
**Completed**

**Results:**

- 12.3 acres of corridor conserved
- 2,578 linear feet of corridor conserved

**Town:** Johnson

**County:** Lamoille

**Watershed:** Lamoille

**Funding Amount:** \$39,513

**Funding Source:** DEC Ecosystem Restoration Grant (Capital Fund, SFY 2016)

**Description:** The Vermont Land Trust acquired a river corridor easement on 12.3 acres along the Gihon River in Johnson. The easement acquires the channel management rights within the 12.3 acres and establishes a 50-foot naturally vegetated buffer along the southern bank of the Gihon. In partnership and as match for this grant, the USDA Conservation Reserve Enhancement Program (CREP) program will be planting the portions of the buffer not currently in natural vegetation. (planting scheduled for Spring 2017)

**Partners:** Vermont Land Trust



View of Gihon River and riparian corridor easement area. The easement will help to re-establish its natural slope and meander pattern and access to natural floodplains.

For more information visit: <http://dec.vermont.gov/watershed/cwi/projects>

## Wild Branch Lamoille River Corridor Easement (McCrumb Property)



**Project Status:**  
Funded and in  
Progress

**Results:**

**Town:** Wolcott

**County:** Lamoille

**Watershed:** Lamoille

**Funding Amount:** \$37,961

**Funding Source:** DEC Ecosystem Restoration Grant (Capital Fund, SFY 2017)

**Description:** This easement is located on a property along the stressed portion of the Wild Branch River in Wolcott, VT. In addition to major flood events that have previously affected the Wild Branch, this section of river has experienced channelization adjacent to roads, floodplain encroachments, gravel mining, bank armoring, road stream crossings, and woody vegetation removal have all had impacts on the Wild Branch and its stability. Eliminating corridor encroachments on the protected property, enhancing water quality through improved riparian buffers and bank stability, and mitigating future flooding are all direct, long-term benefits of river corridor protections through easements.

**Partners:** Vermont River Conservancy

For more information visit: <http://dec.vermont.gov/watershed/cwi/projects>

## Wild Branch River Corridor Easements



**Project Status:**  
**Completed**

**Results:**

- 22.5 acres of corridor conserved
- 4,100 linear feet of corridor conserved

**Town:** Wolcott

**County:** Lamoille

**Watershed:** Lamoille

**Funding Amount:** \$68,270

**Funding Source:** DEC Ecosystem Restoration Grant (Capital Fund, SFY 2014)

**Description:** The Wild Branch Easements, located on 2 properties along the Wild Branch in Wolcott, VT, will protect the river corridor and channel management rights along this area of the river. This section of the Wild Branch has very high sensitivity to channel adjustment and a high priority for conservation due to the value of the area for sediment attenuation and natural floodplain development. The corridor easement will conserve approximately 24 acres of land.

**Partners:** Vermont River Conservancy

For more information visit: <http://dec.vermont.gov/watershed/cwi/projects>

## Town of Cambridge/Brewster River Floodplain Restoration



**Project Status:**  
Funded and in  
Progress

**Results:**

**Town:** Cambridge

**County:** Lamoille

**Watershed:** Lamoille

**Funding Amount:** \$21,250

**Funding Source:** DEC Ecosystem Restoration Grant (Clean Water Fund, SFY 2017)

**Description:** This Plan will build on Phase 1 and Phase 2 stream geomorphic assessments (SGA) sponsored by the Lamoille County Regional Planning Commission, the Village of Jeffersonville, Smugglers' Notch Resort, and the Town of Cambridge. The grantee will develop projects on reaches and M13 and M14 for berm removal, head-cut stabilization and improving corridor conditions. Results include 90% design documents for 2 projects and a report identifying 3 additional potential corridor priority projects.

**Partners:** Lamoille County Conservation District

For more information visit: <http://dec.vermont.gov/watershed/cwi/projects>

# Brewster River Stream Geomorphic Assessment and Corridor Planning



**Project Status:**  
**Completed**

**Results:**

- **6.2 stream miles assessed**
- **30 projects identified**

**Town:** Cambridge

**County:** Lamoille

**Watershed:** Lamoille

**Funding Amount:** \$24,240

**Funding Source:** DEC Ecosystem Restoration Grant (Capital Fund, SFY 2014)

**Description:** This project conducts Phase 2 Stream Geomorphic Assessment and River Corridor planning for the Brewster River in Cambridge VT. The plan includes detailed assessments of geomorphic condition, habitat condition, a bridge and culvert inventory, an analysis of stressors in the river corridor, sediment regime maps, and an estimate of the river's sensitivity to changes in flow. The plan also provides a list of recommended restoration projects.

**Partners:** Lamoille County Planning Commission

For more information visit: <http://dec.vermont.gov/watershed/cwi/projects>

## Seymour River Stream Geomorphic Assessment/River Corridor Plan



**Project Status:**  
Funded and in  
Progress

**Results:**

**Town:** Cambridge, Underhill

**County:** Chittenden, Lamoille

**Watershed:** Lamoille

**Funding Amount:** \$34,713

**Funding Source:** DEC Ecosystem Restoration Grant (Clean Water Fund, SFY 2017)

**Description:** Project includes a phase 1 and 2 Stream Geomorphic Assessment of the Seymour River Watershed in Cambridge and Underhill and a River Corridor Plan for the entire Seymour River Watershed that identifies at least 10 priority projects.

**Partners:** Lamoille County Planning Commission

For more information visit: <http://dec.vermont.gov/watershed/cwi/projects>

## Equine Manure Runoff Management Program



**Project Status:**  
**Completed**

**Results:**

- 15 practices installed

**Town:** Jericho, Milton, Essex, Isle La Motte

**County:** Chittenden, Grand Isle

**Watershed:** North Champlain, Lamoille, Winooski

**Funding Amount:** \$13,000

**Funding Source:** DEC Ecosystem Restoration Grant (Capital Fund, SFY 2015)

**Description:** Development and piloting of a horse manure composting program to improve water quality conditions by preventing manure and manure runoff from entering local waterways. Winooski Natural Resources Conservation District visited 12 farms, of which 6 agreed to participate, installing a total of 15 manure compost bins, capable of storing 2,656 cubic feet of manure and bedding material.

**Partners:** Winooski Natural Resources Conservation District



Unprotected manure pile less than 200 feet from creek. When horse manure is not managed properly it can leach nutrients and pathogens to surface and groundwater.

Completed two-bin system for a small horse farm on the Hook property in Jericho.

For more information visit: <http://dec.vermont.gov/watershed/cwi/projects>