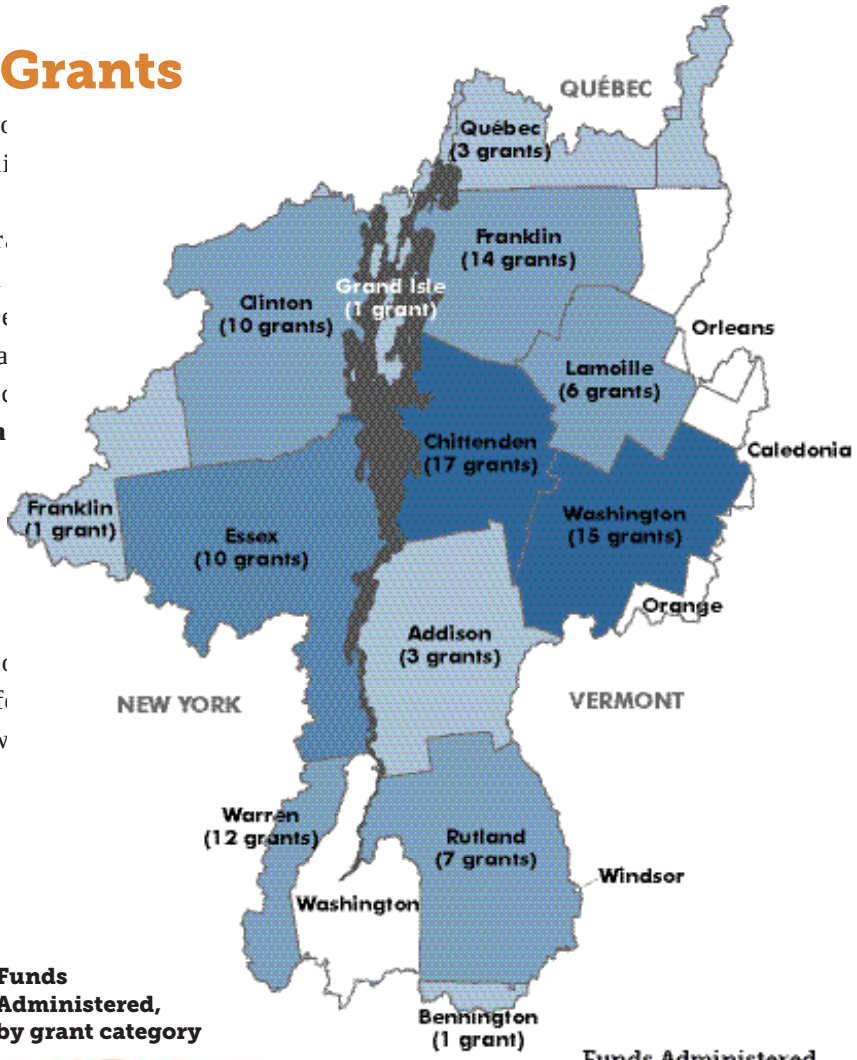
Report of Activities

Lake Champlain Basin Program

Local Implementation Grants

The LCBP Local Grant Programs provide vital suppo for many of the tasks included in the Lake Champlai Management Plan *Opportunities for Action*. The LCBP's core areas of work are addressed through gr awarded in several categories: Pollution Prevention Habitat Conservation, Aquatic Invasive Species Spre Prevention, Education and Outreach, Organizationa Support, and Cultural Heritage and Recreation. Sinc 1992, the LCBP has awarded more than **1,200 sma grants** amounting to more than **$9,000,000** to **350 organizations.** Local municipalities and watershed groups, Soil and Water Conservation Districts, Natural Resource Conservation Districts, NGOs, schools, and many other groups have been funded for effective projects awarded thr competitive process. The outcomes of these grants f the accomplishments of citizens working in their ow communities, often with their own neighbors.



$966,656 Sum of grants administered by LCBP staff in FY 2018

100 Local implementation grants administered by LCBP

6 Categories of local implementation grants administered

Funds Administered, by grant category

Note: Grants administered in FY 2018 were funded with budgets from multiple years.

Technical Project Grants

Each year, the LCBP supports a number of technical research and implementation projects. The awards for these projects are generally larger than local grants, and are solicited with Requests for Proposals from universities, consultants, research foundations, and other organizations. Many of these larger research projects provide the foundation for informing critical decisions for limited management resources. Results from these studies often inform policy, and are extended to educational programming and training opportunities by partners across the watershed.

Key technical projects from 2018 include:

- Tile drain monitoring and phosphorus filter experiments.
- High resolution land cover mapping of the U.S. portion of the Basin.
- The Farm-P Reduction Planner agricultural phosphorus reduction tool.
- Technical Assistance in Wastewater Treatment Facility Asset Management.
- Demonstration project of whole farm nutrient management to reduce phosphorus loading.

TABLE OF CONTENTS

CONCLUDED

CONCLUDED

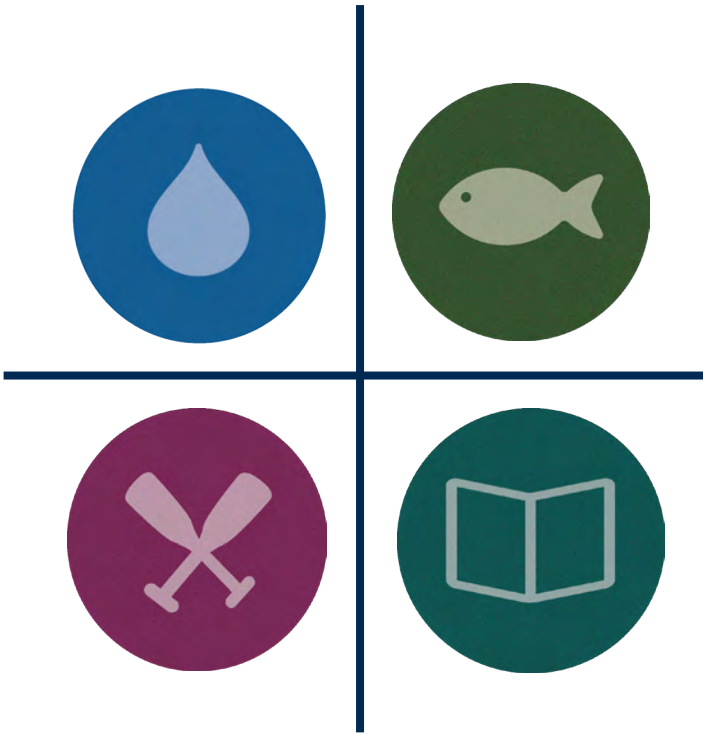
CONCLUDED

EDUCATION AND OUTREACH

SECTION FIVE:
EXTERNALLY MANAGED CONTRACTS . . . 219

IN PROGRESS

CONCLUDED



BOUND BY WATER

wo of the Lake Champlain Basin Program's key accomplishments in Fiscal Year 2018 showcase several of the primary management themes in the management plan *Opportunities for Action.* The *2018 State of the Lake and Ecosystem Indicators Report* and the 2018 Lake Champlain Research Conference both embody the science-driven collaborative management that is at the heart of the Program's work. Both were a source of great enthusiasm and pride by LCBP staff—not only for their content and presentation, but also for their process.

OFA reads: "Management of the Basin's resources is based on consistent, high-quality data and current scientific knowledge that is developed by a diverse array of federal, state, provincial, local, and not-for-profit partners."

Planning for January's research conference was a collaborative effort of organizations within the region and beyond. It brought together more than 200 researchers, agency scientists, management practitioners, and members of the public to discuss and share the latest knowledge about nutrients, cyanobacteria, fisheries, aquatic invasive species, climate change, and cultural heritage. Keynote speaker Dan Egan discussed the challenges and opportunities shared by Lake Champlain and the Great Lakes, and Larry Greenberg of Sweden's Karlstad University spoke about Atlantic salmon restoration efforts in Lake Vänern—further broadening the pool of experts that can help generate solutions.

Similarly, the *State of the Lake Report* is a distillation of collaborative science. More than a dozen LCBP staff helped produce this report. It is a sometimes trying, but always rewarding in-house team effort. But the LCBP is more than the staff in the office. It is also the dozens—perhaps scores—of scientists, resource managers, and other committed professionals who serve on our advisory committees and generously contribute their time and expertise in the development of the report.

Meanwhile, the Lake Champlain Basin's Congressional delegation continued to provide strong support for our treasured and common resource. In a bi-partisan effort on the floor of the U.S. House of Representatives, Representatives Elise Stefanik of New York and Peter Welch of Vermont successfully passed an amendment to restore $4.4 million in LCBP funding to the Federal budget. In the Senate, Patrick Leahy of Vermont secured an additional $4 million for projects to implement the 2016 Vermont Lake Champlain TMDL for phosphorus.

Whether among LCBP staff debating the best presentation of phosphorus loading data, or on the floors of the U.S. Congress, science-driven collaborative management persevered in 2018. It's not always easy, but sound science *is* critically important and collaboration *is* possible. In the end, we—and Lake Champlain—benefit when we are bound by our similarities more than we are divided by our differences.

This summary highlights LCBP projects that were in progress between October 1, 2017 and September 30, 2018. A comprehensive listing of local grants, technical projects, and staff accomplishments is available in the full *2018 Report of Activities.* To view or request a copy of the full report, please contact the LCBP office.

Eric Howe, Director, LCBP and CVNHP

Jim Brangan, Associate Director, CVNHP

Jane Ceraso, Director, NEIWPCC Water Resource Protection Programs

Fred Dunlap, New York Lake Champlain Coordinator (NYSDEC)

Meg Modley Gilbertson, AIS Management Coordinator

Colleen Hickey, Education & Outreach Coordinator

Laura Hollowell, LCBP Resource Room Coordinator

Kathy Jarvis, Office Manager

Ellen Kujawa, Technical Associate

Stephanie Larkin, LCBP Resource Room Specialist

Myra Lawyer, NYS Agronomist (NYS DEC)

Elizabeth Lee, Communications and Publications Associate

Ryan Mitchell, Communications and Publications Coordinator

Cynthia Norman, LCBP Resource Room Specialist

Bethany Sargent, Vermont Lake Champlain Coordinator (VT ANR)

Pete Stangel, Lake Champlain Long-Term Monitoring Program (VT DEC)

Matthew Vaughan, Technical Coordinator

SECTION ONE:

CLEAN WATER

core function of the LCBP, the Long-term Water Quality and Biological Monitoring Program continued to provide critical data used for scientific analyses and to guide watershed management.

The data is collected by scientists within separate entities in two different states, staffed in part with LCBP funds, and hosted on the Vermont Department of Environmental Conservation's website. This data has been the basis of countless LCBP technical projects and grants for more than 25 years.

This data, taken together with the information collected by the cyanobacteria volunteer monitoring program operated by the Lake Champlain Committee (and supported by the LCBP), provides important information that is used to protect the health of beach-goers throughout the Basin.

Grant/Project Categories in progress

Enhanced Best Management Practices: Support for two types of projects that reduce nutrient pollution to Lake Champlain: Those that are shovel-ready (up to $125,000) and those that require planning or prioritization before construction can begin (up to $50,000). This continues to be one LCBP's most successful and competitive grant categories. **Pages 7-12**

Innovative Agriculture: Supports innovative and alternative agricultural practices for phosphorus reduction that have not yet been implemented in the Lake Champlain Basin. **Pages 13-16**

Pollution Prevention and Habitat Conservation: Supports projects that reduce the impacts of non-point nutrient runoff, toxic substances, and/or improve habitat areas and flood resilience. Non-profit organizations are encouraged to apply for support of up to $20,000. **Page 17-34**

Technical Projects: LCBP supported the second year of the new technical budget process, where partners were invited to submit proposals to implement *Opportunities for Action*. Selected projects include floodplain and wetland restoration research, aquatic habitat improvements, and a stormwater demonstration project. **Pages 35-46**

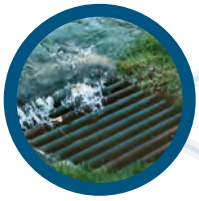
Program Highlights

- The LCBP and NEIWPCC worked in collaboration with Organisme de Bassin Versant de la Baie Missisquoi to develop a literature review in support of an International Joint Commission exploratory project to examine **water quality and cyanobacteria blooms in Missisquoi Bay**.
- LCBP staff coordinated the planning and hosting of the **Lake Champlain Research Conference,** which brought together more than 200 stakeholders for interdisciplinary sessions on lake science and management.
- The LCBP coordinated with the U.S. Army Corps of Engineers to evaluate alternatives for reducing phosphorus loading in St. Albans Bay. The project received financial and technical support as part of the **Section 542 Watershed Environmental Assistance Program**.
- Staff coordinated the release and external peer review process for **eight technical Requests for Proposals,** including the Enhanced BMP pollution reduction implementation and planning grants, a project to improve stability and function of the Rock River in Vermont and Québec, and a project to provide chloride-reducing winter road maintenance training for public works officials.
- Completed the development of new content and data for the **2018 State of the Lake and Ecosystem Indicators Report.**

Workshops and Committees

- Coordinated nine Technical Advisory Committee meetings, with agendas focused on final report reviews, technical presentations, and budget discussions.
- Communicated all technical project task items, reports, and initiatives to the LCBP Executive and Steering Committees.
- Coordinated public meetings in Québec, New York, and Vermont to inform stakeholders and gather public comments on the International Joint Commission Lake Champlain-Richelieu River flood study.
- Held public meetings in New York and Vermont to explain the revised technical budget development process to interested partners.
- Participated in the Vermont Dam Task Force to coordinate removal of dams that serve no useful purpose, prevent aquatic species passage, and limit natural geomorphic river function.
- Coordinated confidential peer review committees to evaluate the **2018 Local Implementation Grant categories,** including pollution prevention and habitat conservation, aquatic invasive species spread prevention, watershed organizational support grant categories. Submitted recommendations for funding to the Executive and Steering Committees for consideration. Circulated award notification letters, reviewed and approved workplans, and worked with NEIWPCC to execute contracts. More than 20 reviewers were recruited for these processes.
- Staff coordinated the review and approval process for over 20 new and two recurring **quality assurance project plans (QAPPs)** for projects requiring data collection or analysis.

Grant Highlights



Stormwater Mapping and Master Planning: The City of Vergennes worked with contractors and the regional planning commission to map sewer infrastructure in an effort to prevent combined sewer overflows.

Farm-P Reduction Planner: Stone Environmental, Inc. developed and piloted a web-based tool to help farmers identify changes to their field operations that will help reduce the amount of phosphorus leaving the farm.

Stormwater Mitigation Project: Friends of the Winooski River worked with Smilie School in Bolton to install a rain garden and bio-retention area, and converted an access road to a footpath to reduce stormwater runoff.

Stormwater Infrastructure: The Village of Lake George installed a hydrodynamic separator, trench drain, and bioretention basin in the Lower Amherst Street subwatershed, which is located directly on Lake George.

Cover Cropping Workshop: The Clinton County Soil & Water Conservation District worked with local farms to implement cover crops on 219 acres to improve soil health, prevent erosion, and reduce phosphorus loss.

2016 Technical Project

BMP Prioritization & Design in the Mad River Headwaters

Project Summary

Friends of the Mad River (FMR) proposes launching a program that will position FMR to more strategically and efficiently guide BMP projects through the scoping, design, and implementation phases and to quickly access implementation funding as it arises. The overall goal of this program is to improve the water quality of the Mad River and Lake Champlain watersheds by reducing damaging stormwater runoff from sensitive, headwater residential development. Specific objectives include: a list of prioritized implementation sites, an established Storm Smart program, a queue of engaged landowners, and a suite of "shovel ready" projects.

Outputs:

- Contract with a stormwater professional to identify ten common plans of development (CPODs are defined as two or more residences accessed from one private roadway) and fifteen sites for engineering focus
- conduct thirty stormwater property audits, and complete 30% engineering designs for six priority properties.

Outcomes:

- Planning to reduce stormwater runoff in the Mad River watershed.

Organization: Friends of the Mad River

Contact Person: Corrie Miller

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Waitsfield, VT 05673

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E-mail: friends@madriver.com

Website: www.friendsofthemadriver.org

Storm Smart driveway in action

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-054
EPA	
Start Date:	9/21/2017
Grant Amount:	$49,865.00
Non-federal Match:	$14,945.00
Total Amount:	**$64,660.00**

Technical Project 2018

Chazy River Watershed Management Plan

Project Summary

The Isle La Motte lake segment, which is made up of the Great Chazy and Little Chazy Rivers, as well as approximately 40 square miles of nearshore land, is one of the last watersheds on the New York side of the Lake Champlain Basin without a designated watershed management plan. This creates a scenario of reactive water quality improvement implementation instead of proactive water quality improvement implementation. To address this, the Lake Champlain – Lake George Regional Planning Board (LCLGRPB) will work with state, county and local entities to create an Isle La Motte Lake Segment Management Plan. The LCLGRPB will use its extensive knowledge in comprehensive watershed planning to develop a vision and goals for the subwatershed, identify priority resource concerns, compile information on the watershed, and identify on-the-ground projects and programs that will help achieve water quality goals for the subwatershed and Lake Champlain.

Outputs:

- Watershed Management Plan to improve water quality in the Isle La Motte lake segment that can be utilized by resource managers, local municipalities, and local associations.
- develop and implement a framework for Critical Source Area analysis that will serve as a basis for targeting management actions in order to achieve the greatest phosphorus reduction and address Lake segments furthest from their water-quality targets

Outcomes:

- phosphorus and pollution reduction
- building awareness and understanding among residents about resources and behaviors that contribute to pollution

Organization: Lake Champlain—Lake George Regional Planning Board

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Website: www.lclgrpb.org

Lake Champlain Basin Program

NEIWPCC Code:	LS-2018-011
EPA	
Start Date:	8/9/2018
Grant Amount:	$50,000.00
Non-federal Match:	$ 5,000.00
Total Amount:	**$55,000.00**

2016 Technical Project

Clinton County Shared Vacuum Trailer

Project Summary

The mission of the Clinton County Soil & Water Conservation District (CCSWCD) is to protect and improve the lakes, rivers, streams, soils and other natural resources of Clinton County through locally-led conservation projects and programs. Special emphasis is aimed at reducing phosphorus runoff into Lake Champlain through the implementation of numerous projects and practices throughout the New York side of the Lake Champlain watershed. These reductions will have a long-term positive impact upon the water quality and ecology of the lake and its many tributaries.

CCSWCD has worked with the local highway departments, and identified some situations that would benefit from equipment that individual towns or villages cannot afford. Runoff from roads and roadside erosion is a significant contributor of sediment and nutrients into the watershed. Permanent infrastructure such as catch basins, sediment basins, and culverts often become plugged with sediment, causing overflowing or possible failure. Maintenance of these sediment traps can be done by hand or with conventional equipment, but is often not possible in towns with less manpower. The purchase of a vacuum excavator, for use by all Clinton County municipal crews, will reduce these negative impacts on local water bodies and preserve the natural assets of local communities and the regional economy.

Outputs:

- purchase a sediment vacuum trailer for use of 15 NY towns and 3 villages
- newspaper articles

Outcomes:

- decreased sediment and phosphorus runoff to Lake Champlain

Organization:	Clinton County SWCD
Contact Person:	Peter Hagar
Mailing Address:	6064 Route 22 Plattsburgh, NY 12901
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Website:	http://clintoncountyswcd.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-035
EPA	
Start Date:	4/17/2017
Grant Amount:	$72,996.00
Non-federal Match:	$10,000.00
Total Amount:	**$82,996.00**

Technical Project 2018

Foster Brook Culvert Replacement

Project Summary

This project will remove a culvert that is perched above the stream and isn't wide enough to handle storm events for this watershed. It will be replaced by an open bottom aluminum box culvert that is over twice the width of the old culvert.

The output of the project is the. The outcome will be that.

Outputs:

- a new open bottom culvert

Outcomes:

- the new culvert will eliminate the firehose effect that was created in the old culvert during storm events that will greatly improve erosion issues downstream

Organization: Lake George Association

Contact Person: Randy Rath

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Lake George, NY 12845

Phone: 518 668-3558

E-mail: rrath@lakegeorgeassociation.org

Website: www.lakegeorgeassociation.org

This photo shows the current culvert in its current state taken in summer of 2017.

Lake Champlain Basin Program

NEIWPCC Code:	LS-2018-006
EPA	
Start Date:	5/23/2018
Grant Amount:	$54,585.00
Non-federal Match:	$17,880.00
Total Amount:	**$73,465.00**

2016 Technical Project

Inventory and Assessment of Roof Drains in the Combined Sewer Service Area of Montpelier, Vermont

Project Summary

The City of Montpelier's Department of Public Works will update its inventory of connected rooftops located within the City's combined sewer service area, verify the status of rooftop connection or disconnection for each building in the area, develop alternatives and property-specific estimates to complete disconnections, and draft ordinance language to support disconnection program implementation. Completion of this work will leave the City of Montpelier with necessary information regarding the remaining work needed to separate enough remaining roof drain connections to substantially reduce or ultimately eliminate CSO events, the costs associated with completing that work, and a policy option for disconnection program implementation.

Outputs:

- inventory of connected rooftops within Montpelier's combined sewer service area

Outcomes:

- Eventually, decreased CSOs and phosphorus pollution to Lake Champlain, sharing of information on water quality impacts.

Organization: City of Montpelier

Contact Person: Kurt Motyka

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Montpelier, VT 05602

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Website: http://www.montpelier-vt.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-048
EPA	
Start Date:	6/12/2017
Grant Amount:	$49,843.00
Non-federal Match:	
Total Amount:	**$49,843.00**

Technical Project 2016

Retrofit of Pinnacle at Spear Stormwater Pond A

Project Summary

The Pinnacle at Spear Stormwater Pond A project aims to bring an existing stormwater pond up to current stormwater treatment standards. In its current condition, this detention pond does not provide the flow reduction and nutrient removal that modern stormwater treatment systems regularly achieve. Pond A will be upgraded to function as a subsurface gravel wetland, which will result in a significant reduction of phosphorous delivered to Lake Champlain from the neighborhood, as well as reduce peak flows to the stormwater impaired Bartlett Brook. Successful implementation of this project will result in the construction of the pond retrofit, which will provide improved stormwater treatment to 4.5 impervious acres within the Bartlett Brook watershed.

Outputs:

- Implementation of a hydrodynamic separator, bioswale, and bioretention basin in the Village of Lake George. Preliminary runoff reductions calculated through the STEPL program indicate that by installing these practices there will be a 15% sediment reduction, 5% phosphorus reduction and 5% nitrogen reduction. This equates to a reduction of 800 pounds of sediment, 2.5 pounds of phosphorus and 17 pounds of nitrogen per year.

Outcomes:

- Stormwater nonpoint source run-off pollution reduction to Lake George in the Lake Champlain Basin

Organization: South Burlington Stormwater Utility

Contact Person: Thomas J. DiPietro Jr.

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South Burlington, VT 05403

Phone: (802) 658-7961 x6108

E-mail: tdipietro@sburl.com

Website: www.sburlstormwater.com

An example of a subsurface gravel wetland completed by the City in 2017.

Lake Champlain Basin Program

NEIWPCC Code:	LS-2018-013
EPA	
Start Date:	8/22/2018
Grant Amount:	$125,000.00
Non-federal Match:	$ 18,900.00
Total Amount:	**$143,900.00**

2016 Technical Project

South Lake Champlain Shoreline Stabilization and Runoff Reduction Project

Project Summary

In 2012, the Town of Putnam acquired a 13-acre property on the shoreline of South Lake Champlain for the creation of a Town Park. The property, which was actively farmed until the purchase, has a drainage pattern that slopes to the Lake, which has created a series of head-cuts at the top of the bank and gullies cutting down the bank. This runoff pattern, which includes 5.5 acres of the property, has destabilized the top of approximately 600 feet of bank with a 15% slope composed of Vergennes silty clay loam soil.

To stop the runoff from reaching the bank, the Town will install a large, gradual vegetated berm along the top of the bank with a sloping bioretention area behind it to capture and infiltrate the runoff from the field. The goal of this project is to reduce sediment input into South Lake Champlain, which the LCBP states in the most recent State of the Lake Report is "one of the most compromised parts" of the Lake and "where the water tends to be quite muddy." The project tasks and objectives will be achieved through an existing partnership between the Town, Washington County Soil and Water Conservation District and Lake Champlain – Lake George Regional Planning Board, who will assist with project and grant management to ensure that the project is completed efficiently and in a timely manner.

Outputs:

- Surveys, engineering design, permits, completed construction project, and final report.

Outcomes:

- Reduced erosion and sediment load to Lake Champlain

Organization: Town of Putnam

Contact Person: Gary Treadway

Mailing Address: 10 Putnam Center Road
Putnam, NY 12861

Phone: (518) 547-8297

E-mail: grtreadway@gmail.com

Website: http://www.townofputnamny.com/

Lake Champlain Basin Program

NEIWPCC Code: L-2017-039
EPA
Start Date: 6/1/2017
Grant Amount: $104,520.00
Non-federal Match:
Total Amount:

Technical Project 2016

Village of Fort Ann Wastewater Treatment Plant Upgrade Plan and Concept Design

Project Summary

The Village of Fort Ann was awarded a $50,000 Lake Champlain Basin Program (LCBP) grant to perform an analysis of their publicly-owned wastewater treatment plant (WWTP). This funding will be utilized to provide the Village with a comprehensive engineering analysis to move the Village forward with rebuilding or upgrading the WWTP. The condition of the current facility will be analyzed along with options for rehabilitation and upgrades. This WWTP discharges into Halfway Creek, approximately 250 feet from the Champlain Canal.

Planning for improving the WWTP is imperative to the health of the surface waters in the Lake Champlain watershed. Halfwway Creek, the Champlain Canal, and South Lake Champlain are all listed by the NYS Department of Environmental Conservation (NYSDEC) as "impacted." Most notably, the Champlain Canal is listed as impaired due to decreased dissolved oxygen/oxygen demand, nutrients (phosphorus), and pathogens from known municipal sanitary discharges. In addition, the Lake Champlain – Lake George Regional Planning Board (LCLGRPB) began a NYS Department of State funded effort in 2014 to identify subwatersheds on the New York portion of the Basin that are the highest priority for phosphorus reduction. Of the 79 HUC-12 subwatersheds, 19 were deemed high priority. Of these high priority locations, the Wood Creek/Lake Champlain Canal subwatershed ranked #4, and contains the site where the Fort Ann WWTP is located. The planning for and retrofitting of the Village's WWTP is not only identified as a project for phosphorus reduction within the subwatershed, but was deemed the highest priority project for funding in that subwatershed.

Outputs:

- WWTF Engineering report and WWTF concept designs

Outcomes:

- reduced phosphorus loading to Lake Champlain via Halfway Creek

Organization: Village of Fort Ann

Contact Person: Beth Gilles

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Fort Ann, NY 12827

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Website: N/A

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-044
EPA	
Start Date:	5/25/2017
Grant Amount:	$50,000.00
Non-federal Match:	$ 1,000.00
Total Amount:	**$51,000.00**

2016 Technical Project

Development of an Approach and Tool to Optimize Farm Scale P Management and Achieve Watershed Scale Loading

Project Summary

The goal of this project is to successfully demonstrate an innovative approach and tool designed to identify optimal land and nutrient management options at the farm scale that meet watershed-scale water quality metrics required to achieve the phosphorus load reductions established in the Lake Champlain Phosphorus TMDL. The current approach to meeting phosphorus reduction goals established in the total maximum daily load (TMDL) for Lake Champlain from agricultural sources includes the implementation of best management practices (BMPs). A scenario tool, developed by the US Environmental Protection Agency (EPA), has been used to assess whether or not selected BMPs could achieve in-lake water quality goals. While this approach establishes that a suite of BMPs exist that could realize the intended reduction in phosphorus loads, it has not been explicitly translated to a target phosphorus loading rate (kg/ha/year) that would support attainment and maintenance of in-lake water quality standards.

Outputs:

- Project advisory committee formation, web-based farm phosphorus management tool, tool user guide, final report.

Outcomes:

- Reduced phosphorus loading to Lake Champlain from agricultural sources

Organization: Stone Environmental

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Montpelier, VT 05602

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Website: https://www.stone-env.com/

Lake Champlain Basin Program

NEIWPCC Code: L-2017-051
EPA
Start Date: 6/15/2017
Grant Amount: $189,945.00
Non-federal Match:
Total Amount: **$189,945.00**

Technical Project 2016

Feasability Evaluation of P Removal via Engineered Ecosystems in the St Albans Bay Watershed

Project Summary

This project will analyze the regulatory feasibility of an engineered ecosystem to reduce P loading to St. Albans Bay. For many years, a top priority for lake managers and the agricultural sector has been reducing tributary P loading through the implementation of agricultural conservation practices. This work recently took on a renewed urgency due to deteriorating conditions in St. Albans Bay and the completion of the Lake Champlain Phosphorus TMDL (US EPA, 2016), which specifies P load reductions required to meet the in-lake P standard for the Bay (0.017 μg/L). The time has now arrived when innovative treatment approaches should be considered—among management options for specific, priority watersheds—to complement agricultural conservation practices and deliver more certain, near-term P reductions. Drawing off and treating a portion of the flow in Jewett Brook through a combination of engineered and biotechnical systems has the potential to significantly reduce P loading to St. Albans Bay.

Outputs:

- A summary report on the findings of the regulatory feasibility of an engineered ecosystem to reduce phosphorus loads to St. Albans Bay

Outcomes:

- An increased understanding of alternative and innovative options to reduce phosphorus loading to Lake Champlain.

Organization: Stone Environmental

Contact Person: Dave Braun

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Website: https://www.stone-env.com/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-038
EPA	
Start Date:	6/1/2017
Grant Amount:	$36,000.00
Non-federal Match:	
Total Amount:	**$36,000.00**

2018 Local Implementation Grant

Tile Drain Base Flow Phosphorus Removal Using St George Black

Project Summary

Tile drain effluent is a poorly understood and potentially significant source of phosphorus loading to Lake Champlain. End of tile treatments require different approaches based on changing flow conditions. This project proposes an experimental set-up to evaluate the efficacy of a locally-sourced shale material (St. George Black) as an adsorptive media filter exclusively for low-flow conditions.

Outputs:

- data evaluating water quality exiting tile drains during base-flow and mass removal efficiency and hydraulic performance of the adsorptive media filter.

Outcomes:

- improved understanding of tile drain effluent water quality and potential treatment system efficacy

Organization: Watershed Consulting Associates, LLC

Contact Person: Becky Tharp

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E-mail: becky@watershedca.com

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Image of tile ditch with perforated corrugated pipe for drainage (tile drain). Photo credit: Deerbuilder.com

Lake Champlain Basin Program

NEIWPCC Code:	L-2018-009
EPA	
Start Date:	7/9/2018
Grant Amount:	$45,850.00
Non-federal Match:	$ 820.00
Total Amount:	**$46,670.00**

Local Implementation Grant 2018

Tile Drainage Systems Monitoring and Assessment in the Northern and Southern Lake Champlain Basin, and Comparing two active Media Filters to Remove Phosphorus from Tile Drainage Water in the St Albans Bay Watershed, VT

Project Summary

Stone Environmental, Inc. (Stone) will work in close consultation with the Lake Champlain Basin Program (LCBP) on an innovative project aimed at increasing scientific knowledge and understanding concerning the impacts of subsurface agricultural tile drainage systems on water quality and exploring cost-effective methods to remove phosphorus from tile drainage water in the Lake Champlain Basin (*Opportunities for Action*, Objectives I.A and I.C). In this project, we combine two studies – a Tile Drain Monitoring Study and a Tile Drain Treatment Study

Outputs:

- evaluate nutrient outputs from agricultural tile drains in the northern and southern Lake Champlain Basin and assess the significance of these loadings to Lake Champlain.
- extend monitoring of five of the twelve existing tile drain stations in the Jewett Brook watershed to build a more robust dataset
- expand monitoring to five new tile drains in Addison and Rutland Counties to represent typical field conditions in the southern Lake Champlain Basin.
- dataset produced through this study will help the State understand the scope of the potential problem as well as the effects of field management and conservation practices.
- the design, construction, and evaluation of an innovative, in-ground phosphorus (P) removal system using different locally sourced filter media to treat tile drainage water on a commercial dairy farm in the St. Albans Bay watershed

Outcomes:

- to inform decision making regarding installation and management of tile drainage systems in the Lake Champlain Basin
- The filter design and associated procedures and guidance will provide managers and technicians in the LCB with a tested and documented approach for reducing P contributions from tile drains.

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Montpelier, VT 05602

Phone: (802) 229-4541

E-mail: dbraun@stone-env.com

Website: http://www.stone-env.com/

Phosphorus filters filled with media, prior to placing on lids. Filter B (left) was comprised of limestone "bedding sand" and Filter A (right) contained drinking water treatment residuals.

Lake Champlain Basin Program

NEIWPCC Code:	L-2018-008
EPA	
Start Date:	7/17/2018
Grant Amount:	$226,400.00
Non-federal Match:	$ 6,101.00
Total Amount:	**$232,501.00**

2018 Local Implementation Grant

Carriage Hill Stormwater Retrofit Project

Project Summary

This project will reduce erosion issues by capturing and treating stormwater that is flowing down and then off of Carriage Hill Road. Currently stormwater flows down road in either a paved swale alongside the road or on the road itself. The paved swale enters a culvert and directs the runoff into a 20′ stormwater easement between two private properties. The easement is owned by the town of Lake George. The stormwater from the road flows down Carriage Hill, then onto a private driveway. The stormwater from the driveway and the stormwater flowing to the 20′ easement are both causing erosion issues.

Outputs:

- soil stabilization and stormwater capture and infiltration in a small sub-watershed of Lake George.

Outcomes:

- reduced quantity of stormwater and improved water quality of runoff that reaches Lake George.

Organization: Lake George Association

Contact Person: Randy Rath

Mailing Address: PO Box 408
Lake George, NY 12845

Phone: 518-668-3558

E-mail: rrath@lakegeorgeassociation.org

Website: www.lakegeorgeassociation.org

Lake Champlain Basin Program

NEIWPCC Code:	PO 12511
EPA	
Start Date:	2/22/2018
Grant Amount:	$15,000.00
Non-federal Match:	$ 5,690.00
Total Amount:	$20,690.00

Local Implementation Grant 2018

Cost-Benefit Analysis of Proposed Actions Needed to Reduce Phosphorus Loads from the Rock River Subwatershed to Missisquoi Bay by 40%

Project Summary

The Rock River subwatershed has among the highest phosphorus and sediment export rates of the Missisquoi Bay Basin, mainly due to agricultural activity. The projects purpose is to locate critical source areas, identify necessary actions and produce a cost-benefit analysis of scenarios proposed to reduce phosphorus exports in order to promote acceptability and support the adoption of BMPs by the farming community.

NOTE: IRDA has accepted to add the Vermont portion of the Rock River subwatershed to the initial portrait and the resulting reduction scenarios. The cost-benefit analysis will however be completed only for the Québec portion because of socio-economic differences.

Outputs:

- description the Rock River subwatershed's critical source areas of sediment and nutrients to surface waters
- identification of BMPs best adapted to reduce pollution exports
- quantification of potential pollutant reductions resulting from variable scenarios and BMP combinations with a 40% reduction goal
- production of cost-benefit estimates for various scenarios of implementation of BMPs

Outcomes:

- reduction of phosphorus loads from the Rock River subwatershed to Missisquoi Bay.

Organization: OBVBM

Contact Person: Johanne Bérubé

Mailing Address: 104 Landfill Road
South Burlington, VT 05403

Phone: 802 658-7961

E-mail: tdipietro@sburl.com

Website: http://www.sburl.com/

Rock River tributary riparian assessment, 2015

Lake Champlain Basin Program

NEIWPCC Code:	L-2018-002
GLFC	
Start Date:	3/12/2018
Grant Amount:	$20,000.00
Non-federal Match:	$18,000.00
Total Amount:	**$38,000.00**

2018 Local Implementation Grant

Enhancing the Benefits of Cover Crops through Innovative Roller-Crimper Technology

Project Summary

Cover cropping and reduced tillage practices have expanded in the Lake Champlain Basin from hundreds of acres to many thousands of acres over the last five years. This exponential increase creates challenges for the farmers such as timely spring termination of winter rye cover crops. This often causes farmers to get behind in fieldwork, reduces corn yields, and may deter further expansion of this practice. The UVM Extension plans to demonstrate roller-crimper technology to introduce farmers to a new cover crop technology that will reduce spring time stress and substantially reduce erosion during the growing season. UVM Extension will host field days and develop outreach materials that outline the benefits and challenges associated with this practice.

Outputs:

- roller-crimper technology demonstrations
- evaluation of roller-crimper technology effectiveness
- field days, outreach materials including instructional video, research report and fact sheet

Outcomes:

- an increase of a minimum 100 acres of corn planted using a cover crop/no-till system
- reducing risk of nutrient loss through erosion and surface runoff from fields in the Champlain Valley.

Organization: UVM Extension

Contact Person: Heather Darby

Mailing Address: 278 South Main St.
St Albans, VT 05478

Phone: 802-524-6501

E-mail: heather.darby@uvm.edu

Website: uvm.edu/extension/cropsoil

Lake Champlain Basin Program

NEIWPCC Code:	LS-2018-004
EPA	
Start Date:	6/29/2018
Grant Amount:	$23,381.00
Non-federal Match:	0.00
Total Amount:	**$23,381.00**

Local Implementation Grant 2018

Franklin Watershed Committee Pollution Prevention and Habitat Conservation

Project Summary

This project will generate a scientific analysis and report of Lake Carmi stream phosphorus and turbidity data. The scientific report will then be used to create a reader-friendly data summary for release to the general public. This document will be in a highly visual form targeted at quick reading and easy understanding. Both reports (deliverables) will be made accessible to the public via the Franklin Watershed Committee website and shared with the DEC for their coordinating efforts as well. The outcome of this project will be to utilize existing data sources to track progress of TMDL efforts and report those findings back to the community.

Outputs:

- scientific report
- public outreach summary

Outcomes:

- improved water quality and phosphorus reduction in the Lake Carmi watershed

Organization: Franklin Watershed Committee

Contact Person: Emily Porter-Goff

Mailing Address: PO Box 79
Franklin, Vermont 05457

Phone: 802-448-0554

E-mail: emily.franklinwatershed@gmail.com

Website: www.franklinwatershed.org

Lake Champlain Basin Program

NEIWPCC Code:	PO 12514
GLFC	
Start Date:	2/26/2018
Grant Amount:	$5,264.00
Non-federal Match:	0.00
Total Amount:	**$5,264.00**

2018 Local Implementation Grant

Great Chazy-Saranac Watershed Culvert Assessment

Project Summary

The District is always evaluating and monitoring for water quality issues and planning ways to improve them. This project will provide the funds to assess culverts in the Great Chazy-Saranac Watershed and identify the ones that are in most need of repair. The crossings will be assessed using the NAACC (North Atlantic Connectivity Collaborative) Protocol. The structures that will specifically be identified are the ones that are undersized, causing failures of infrastructure, endangering human welfare, impeding aquatic organism passage and that are causing unnecessary erosion. This information will be uploaded to the NAACC Database and summarized in a report with pictures and copies of the NAACC analysis and provided to the municipalities for future repair and replacement.

Outputs:

- assessment of approximately 134 road-stream crossings in the Great Chazy-Saranac watershed
- identification of the areas throughout the watershed that are having an impact on the on aquatic organism habitat and passage and stream bank stability
- identification of culverts in need of replacement

Outcomes:

- improve aquatic passage throughout the watershed
- implementation of BMPs
- reduction of pollution and sedimentation

Organization: Franklin County SWCD

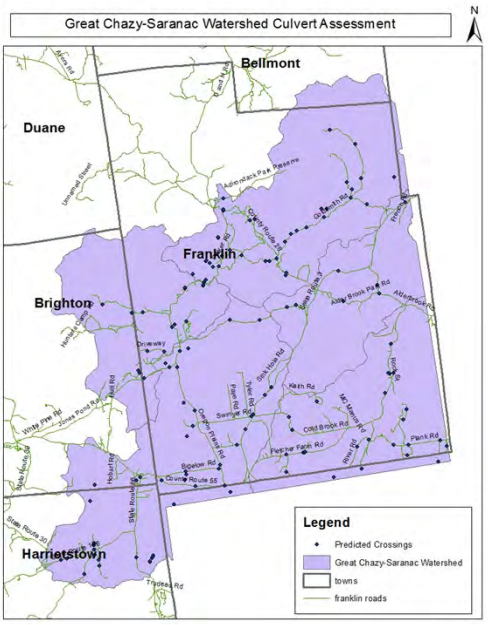
Contact Person: Kristin Ballou

Mailing Address: 151 Finney Blvd.
Malone, NY 12953

Phone: 518-651-2097

E-mail: kballou@fcswcd.org

Website: www.fcswcd.org



Lake Champlain Basin Program

NEIWPCC Code:	PO 12507
GLFC	
Start Date:	2/5/2018
Grant Amount:	$14,460.00
Non-federal Match:	$ 2,261.50
Total Amount:	**$16,721.50**

Local Implementation Grant 2016

Green Stormwater Infrastructure in the Moon and Tenney Brook Watersheds

Project Summary

The RNRCD will hire an Engineering Consultant to complete an existing conditions base map, take soil cores and run Hydro CAD/winSLAMM models in order to develop design alternatives for GSI to be implemented at Rutland High School and Stafford Technical Center located in the Moon and Tenney Brook watersheds in Rutland City, Vermont. Implementing GSI at Rutland High School and Stafford Technical Center will help the City of Rutland be compliant with the Vermont Clean Water Act and TMDLs for both the Moon Brook and Lake Champlain. The focus will be on improving water quality by reducing and treating stormwater runoff in the Moon and Tenney Brook watersheds. This project will protect and restore fish habitat, protect streambanks, and reduce phosphorus and other urban pollutant loading and sedimentation by installing bioretention practices and enhancing vegetation for buffering runoff, leading to an overall increase in the health of the brooks.

Outputs:

- At least two Green Stormwater Infrastructure practices.

Outcomes:

- Reduction of stormwater volume and pollution in the Moon and Tenney Brook watersheds, student involvement and a demonstration of Rutland Public School's commitment to innovation.

Organization: Rutland NRCD

Contact Person: Nanci McGuire

Mailing Address: 170 South Main St., Ste 4
Rutland, VT 05701

Phone: 802 775-8034

E-mail: Nanci.mcguire@vt.nacdnet.net

Website: https://www.vacd.org/conservation-districts/rutland/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-020
EPA	
Start Date:	4/19/2017
Grant Amount:	$16,875.00
Non-federal Match:	
Total Amount:	**$16,875.00**

2016 Local Implementation Grant

Hazardous Soil Removal from the Boquet River Banks

Project Summary

This is part of a larger project on the Boquet River to stabilize the riverbank where the former Georgia Pacific paper mill was located. Following plant demolition some of the construction demolition (C&D) debris was used as fill to cover foundation remnants and other material including ash cinders, roofing, smokestack tile concrete and metal. During Hurricane Irene the river overtopped its banks and eroded portions of the site exposing debris which includes brick, concrete/rebar, asbestos roofing tile, transite pipe, and smokestack tile and undermined old foundations creating a public safety concern at this unofficial public fishing site located at the base of the bedrock cascades where the river meets Lake Champlain. The project incorporates NYS DEC WQIP funding for streambank stabilization, a NYS State Smart Growth Grant for an ACA compliant handicap fishing platform and various partner contributions of time, materials (Stone), and a permanent fishing easement from the landowner (John Lease III) to create a safe recreational resource as well as a regional destination for landlocked salmon fishing.

Outputs:

- stabilized streambank
- improved fishing access
- removal of hazardous materials from site

Outcomes:

- reduced phosphorous pollution from eroding banks
- reduction of hazardous material deposition into the waters of Lake Champlain
- improved recreational access to the public
- support fisheries restoration efforts by improving riparian habitat and creating a sustainable local economy that enhances ecological services.

Organization: Town of Willsboro

Contact Person: Shaun Gilliland

Mailing Address: 5 Farrell Rd.
Willsboro, NY 12996

Phone: 518 963 8668

E-mail: supervisor@townofwillsborony.gov

Website: https://www.townofwillsboro.com/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-046
EPA	
Start Date:	6/1/2017
Grant Amount:	$ 19,662.00
Non-federal Match:	$163,206.00
Total Amount:	**$182,868.00**

Local Implementation Grant 2018

Headwaters to South Lake, Implementation without Borders

Project Summary

This project supports pollution prevention programs from the forested headwaters to the lakeshores in the South Lake watershed. In the headwaters, the District will work with contiguous property owners in two priority areas, enhancing the ability of the landowners to coordinate efforts and ensure that the forest retains sediments, attenuates phosphorus, and enhances water quality. Around our local lakes, a District team will follow our LEAP model to educate youth and landowners about water quality issues and install buffers and raingardens on shoreline properties. The outputs will include

Outputs:

- at least five forestry practice projects
- 6-10 lakeshore water quality improvement projects
- cross-boundary project coordination opportunities for landowners.

Outcomes:

- reduced phosphorus loading to Lake Champlain
- providing watershed and water-quality education programs for K-12 youth, teachers, and adults
- increase resident awareness about local resources and behaviors that contribute to pollution
- opportunities for hands-on citizen action

Organization: Poultney-Mettowee NRCD

Contact Person: Hilary Solomon

Mailing Address: PO Box 209
Poultney, VT 05764

Phone: (802) 287-8339

E-mail: hilary@pmnrcd.org

Website: http://www.pmnrcd.org/

The 2014 LEAP planting crew, including 2 college interns and 4 high school interns.

Lake Champlain Basin Program

NEIWPCC Code:	L-2018-010
GLFC	
Start Date:	7/23/2018
Grant Amount:	$25,000.00
Non-federal Match:	$ 4,460.00
Total Amount:	**$29,460.00**

2018 Local Implementation Grant

Montpelier Chestnut Hill Stormwater Mitigation Design

Project Summary

Stormwater runoff in the Chestnut Hill area of Montpelier is responsible for significant erosion above and below a culvert under Chestnut Hill Road. This project seeks to identify solutions that will reduce the sediment load to receiving Blanchard Brook and protect private property and municipal infrastructure. A consulting stormwater engineer will be employed to assess the drainage, develop a preliminary list of recommended stormwater management practices, and present alternatives to residents and municipal officials. A subset of these practices will be selected to bring to 100% design. The Friends of the Winooski River will partner on the project to provide outreach and education to the landowners in the neighborhood to build support for eventual implementation of stormwater solutions and promote voluntary residential stormwater management.

Outputs:

- drainage assessment
- list of recommended stormwater management practices
-

Outcomes:

- reduction of sediment loads

Organization: City of Montpelier

Contact Person: Shawn White

Mailing Address: P.O. Box 777
Montpelier, VT 05601

Phone: 802-371-8988

E-mail: tmcardle@montpelier-vt.org

Website: www.winooskiriver.org

Satellite view of the project which encompasses an area of approximately 42 acres.

Lake Champlain Basin Program

NEIWPCC Code:	PO 12599
EPA	
Start Date:	6/27/2018
Grant Amount:	$18,007.00
Non-federal Match:	$ 2,480.00
Total Amount:	**$20,487.00**

Local Implementation Grant 2018

Montpelier High School Green Stormwater Design

Project Summary

This project provides funding for design of three green stormwater solutions on the campus of Montpelier High School, in order to reduce phosphorus loading to Lake Champlain through the Winooski River. It will engage high school students in design work that meshes with a real project. The facilities directors for the school and VSECU will talk to the class about the goals and challenges of the projects.

Outputs:

- stormwater master plan for the High School campus, including three complete engineered designs, developed with student involvement

Outcomes:

- decrease in annual sediment and phosphorus loads
- youth engagement in stewardship opportunities

Organization: Friends of the Winoosk Riveri

Contact Person: Michele Braun

Mailing Address: PO Box 777
Montpelier, VT 05602

Phone: 802-279-3771

E-mail: michele@winooskiriver.org

Website: winooskiriver.org

A view of the "mud lot"

Lake Champlain Basin Program

NEIWPCC Code:	LS-2018-003
EPA	
Start Date:	5/17/2018
Grant Amount:	$24,424.00
Non-federal Match:	$ 300.00
Total Amount:	**$24,724.00**

2015 Local Implementation Grant

Phosphorus Loading in the Flower Brook Subwatershed

Project Summary

The goal of this project is to collect phosphorus-loading data for a target watershed that is the currently the focus of Stormwater Master Planning and has been the focus of ongoing water quality monitoring. The District will collect comprehensive phosphorus data for one year to help determine the flow conditions that carry the highest phosphorus loads and facilitate the identification of projects that alleviate the greatest amount of phosphorus draining to Lake Champlain. A landscape and ecosystem survey and mapping assessment will be completed in tandem with the nutrient monitoring to help identify conservation and restoration projects to mitigate or attenuate phosphorus sources and conserve or enhance phosphorus sinks. In addition, previously-identified projects that meet phosphorus reducing criteria will be implemented.

Outputs:

- A landscape and ecosystem survey and mapping assessment
- nutrient monitoring
- implementation of phosphorus reducing projects
- Critical source area analysis
- Develop list of high-priority habitats in need of protection.
- Complete an ecosystem assessment of a sub-watershed in the Lake Champlain Basin.

Outcomes:

- Increase resident awareness about local resources and behaviors that contribute to pollution.
- Hands-on citizen action
- Reduce agricultural phosphorus loads
- Reduce phosphorus loads from developed lands
- Protect and restore forests, wetlands, floodplains, and stream corridors to maximize phosphorus storage.
- Empower the public through education.
- Changes due to climate
- Enhance and conserve riparian and wetland habitat.
- Focus on landuse changes; effects of Stormwater runoff on water quality.
- Promote sustainable agricultural practices.

Organization: Poultney Mettowee NRCD

Contact Person: Hilary Solomon

Mailing Address: PO Box 209, Poultney, VT 05764

Phone: 802 287-8339

E-mail: pmnrcd@gmail.com

Website: http://www.pmnrcd.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2016-017
GLFC	
Start Date:	2/1/2016
Grant Amount:	$20,001.00
Non-federal Match:	$ 4,127.00
Total Amount:	**$24,128.00**

Local Implementation Grant 2018

Pollution Control and Preserving Water Quality by Promoting the Replacement of Outdated Septic Systems

Project Summary

The purpose of this project is to prevent pollution and improve water quality by encouraging residents to use best practices to limit pollution particularly from septic seepage. During the course of 2018 algal samples will be collected and photographed during the annual snorkel swims and tested using the Palmer Pollution Index and other metrics. The Palmer Pollution Index or the Palmer algal genus index is used to rate the organic pollution of a water body. The test results will be examined in conjunction with septic system information collected by the Town of Queensbury.

Outputs:

- algal sample collection
- test results and spreadheet inventory
- underwater photos
- spreadsheet inventory of the Town of Queensbury septic system information

Outcomes:

- better understanding of threats to water quality and one's personal responsibility for curbing pollution
- direct citizen involvement

Organization: Assembly Point WQ Coalition

Contact Person: Beverly Pozzi

Mailing Address: 66 Bay Parkway
Lake George, NY 12845

Phone: 518-656-9440

E-mail: bjpozzi@hotmail.com

Website: www.assemblypt.com

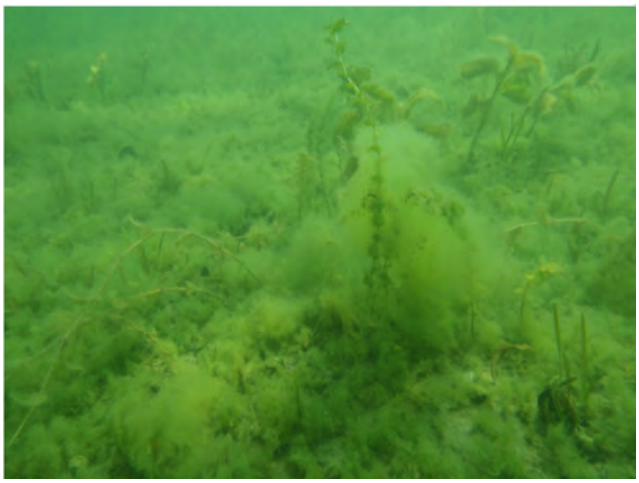


Photo taken between 2014-17 by a professional diver swimming with APWQC residents showing what the bottom of the lake around Assembly Point increasingly looks like due to septic, fertilizer and stormwater runoff.

Lake Champlain Basin Program

NEIWPCC Code:	PO 12516
GLFC	
Start Date	2/27/2018
Grant Amount:	$ 7,240.00
Non-federal Match:	$ 2,445.00
Total Amount:	**$ 9,685.00**

2016 Local Implementation Grant

Protecting Northern Lake Champlain through Farmer-to-Farmer Implementation of Agricultural Practices

Project Summary

The Farmers Watershed Alliance (FWA) is a farmer driven non-profit organization focused on implementing water quality improvement practices on dairy farms in Franklin and Grand Isle Counties. In 2016, with the Pollution Prevention Grant from LCBP, the FWA installed three grassed waterways. This practice has proven to be integral to reducing soil and nutrient erosion from agricultural land, especially in heavily sloped critical source areas. FWA has observed that even those farms implementing optimal conservation practices (reduced tillage, cover crops, crop rotation, etc.) may still have significant erosion issues.

Grassed waterways are constructed graded channels that are seeded to grass. The principal of a grassed waterway is simple—plant a vegetative strip in an area of a field to slow the movement of water across the surface of the field to prevent the erosion of soil. In some situations, the cropping of the grassed waterway can provide feed from previously unproductive land. Also, in addition to benefitting aquatic habitats through reduced soil erosion and improved water quality, grassed waterways may also be utilized as habitat for feeding, nesting, and resting wildlife as well as travel corridors for animals to move safely between habitats.

FWA's goal is to draw attention to this conservation practice by quickly implementing grassed waterways on three key farms in its area and then utilize farmer peer networks to demonstrate the effectiveness of this practice, educate farmers and service providers about its use, and motivate farmers to adopt grassed waterways on their farms by encouraging enrollment in existing NRCS programs.

Outputs:

- 3 on-farm grassed waterway installations
- educational articles published in local newspapers

Outcomes:

- Decreased nutrient pollution to Lake Champlain
- education enrollment in existing NRCS programs

Organization: Farmer's Watershed Alliance

Contact Person: Darlene Reynolds

Mailing Address: PO Box 298
St. Albans, VT 05478

Phone: 802-752-5156

E-mail: farmerswatershedallianceNW@gmail.com

Website: http://farmerswatershedalliance.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-032
EPA	
Start Date:	4/21/2017
Grant Amount:	$20,000.00
Non-federal Match:	$ 3,300.00
Total Amount:	**$23,300.00**

Local Implementation Grant 2018

Quarry Dam Removal Project

Project Summary

The Quarry Dam will be removed, providing several beneficial outcomes. Historic/natural upstream fish passage will be restored as will the natural flow and sediment transport dynamics. The changes in channel morphology will also help maintain cooler water temperatures during hot, sunny summer weather. Warm water is deleterious to fish species, especially trout, which inhabit this portion of the river. This is especially critical due to recent global warming trends. The Ausable River is a nationally famous fishery. This action will be a win for fish, for habitat, and for responsible economic and recreational development.

Outputs:

- removal of barrier to upstream fish passage
- sediment and silt removal
- publicity campaign

Outcomes:

- improved aquatic habitat
- enhanced fish movement for spawning, access to winter habitat, and summer cool water refugia
- restoration of historic flow and sediment transport dynamics
- reduction of flood impact
- Improved public understanding of natural resource,
- strengthen the local economy by providing increased and revitalized recreational opportunities for anglers

Organization: Lake Champlain Chapter Trout Unlimited

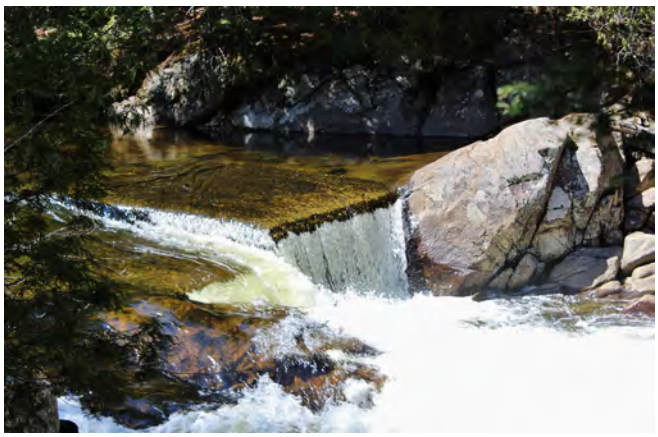
Contact Person: William Wellman

Mailing Address: 7 Helen Street
Plattsburgh NY12901

Phone: 518 563 1985

E-mail: wellman1985@gmail.com

Website: https://www.tu.org/connect/groups/node-21



Project site

Lake Champlain Basin Program

NEIWPCC Code:	PO 12504
EPA	
Start Date	2/4/2018
Grant Amount:	$ 3,925.00
Non-federal Match:	$36,075.00
Total Amount:	**$40,000.00**

2018 Local Implementation Grant

Reducing Stormwater Runoff and Improving Access to the Lamoille River

Project Summary

This project will address stormwater run-off while improving public access at two sites along the Lamoille and North Branch of the Winooski Rivers. Projects include:

North Branch Cascades Trail Stormwater Management (Worcester, VT) The capture and treatment of stormwater run-off through the installation of sediment traps, improvement of cross drainage, and other erosion control measures along a section of the former Rt 12 now used as a hiking trail.

Five Chutes Access (Georgia, VT) The reduction of stormwater run-off and the development of a river access trail through the installation of timber infiltation steps at this popular access point.

Outputs:

- install a series of cedar infiltration steps at this location to slow down and treat run-off at Five Chutes
- removal of sediment, installation of sediment traps, lowering of berms, improving cross-drainage, filling and stabilize eroded sites and ruts, stabilizing scour, and the replacement of failed culverts at the North Branch Cascades Trail

Outcomes:

- reduction of the nonpoint source phosphorus load that is being generated by runoff from developed lands in the Basin.
- education to empower the general public to reduce phosphorus contributions
- hands-on citizen action opportunities to improve the watershed and change behaviors that contribute to pollution.

Organization: VT River Conservancy

Contact Person: Noah Pollock

Mailing Address: 29 Main St
Montpelier VT 05602

Phone: 802 540-0319

E-mail: noah@vermontriverconservancy.org

Website: www.vermontriverconservancy.org

Project Sites – Before (Five Chutes, North Branch Cascades Trai

Lake Champlain Basin Program

NEIWPCC Code:	PO 12606
EPA	
Start Date:	7/11/2018
Grant Amount:	$ 9,529.00
Non-federal Match:	$ 7,050.00
Total Amount:	**$16,579.00**

Local Implementation Grant 2018

Riparian Forest Stewardship in the Winooski and Missisquoi Watersheds

Project Summary

The Intervale Center will complete stewardship and maintenance on 30 acres of riparian forest buffer restoration projects in the Winooski and Missisquoi watersheds in Vermont. These sites vary in size, need, and time of original planting but have been identified as in high need of stewardship activities to ensure their long-term success. Typical maintenance activities include clearing competing vegetation around planted trees and controlling aggressive invasive species that threaten site integrity. Funding will result in maps and stewardship plans for six sites, completion of work documented by photographs, and follow-up monitoring to determine effectiveness of our work after the 2018 growing season. Monitoring these sites after treatment will help inform best practices for our stewardship work moving forward, and any future maintenance needs at these sites.

Outputs:

- clearing of competing vegetation around trees, removing vines and other plants covering the trees themselves, and keeping invasive species, like Japanese knotweed, Buckthorn, and Honeysuckle, from dominating the site
- maps and stewardship plans for six sites
- photo documentation
- follow-up monitoring to determine effectiveness

Outcomes:

- improvment in the diversity of native aquatic and riparian species in the Lake Champlain Basin
- protection and enhancement of river corridors by restoring and managing riparian corridor habitat
- improvement of water quality via bank stability in critical areas of the watershed

Organization: Intervale Center

Contact Person: Mandy Fischer

Mailing Address: 180 Intervale Road
Burlington, VT 05401

Phone: 802-660-0440 x 108

E-mail: mandy@intervale.org

Website: http://www.intervale.org

Planted trees overtaken by vines.

Lake Champlain Basin Program

NEIWPCC Code:	LS-2018-001
EPA	
Start Date	3/21/2018
Grant Amount:	$21,300.00
Non-federal Match:	
Total Amount:	**$21,300.00**

2016 Local Implementation Grant

Shelburne Community School Stormwater Retention

Project Summary

Lewis Creek Association will finish the construction design plans and implementation of a rain garden on the Shelburne Community School campus in Shelburne, Vermont. The Town of Shelburne is stormwater impaired; this project will implement a bioretention area on campus that will both physically mitigate stormwater and act as a demonstration site for the citizens and municipalities of Shelburne. This project is one of fourteen "Ahead of the Storm" optimal flood resiliency and pollution prevention practices to be displayed at strategic locations throughout the LaPlatte watershed region. The outputs of this award are a completed engineered design, the construction of the "Ahead of the Storm" bioretention area in the entrance island on campus, photos and reports. The anticipated outcomes are: a high public visibility rain garden that will reduce pollutant inputs into nutrient impaired McCabe's Brook and Shelburne Bay, and increased student and community understanding of how and where to address non-point stormwater related pollution such as phosphorus in the LaPlatte River watershed.

Outputs:

- Education and outreach to four Shelburne Community School classrooms about stormwater runoff prevention, selection of a contractor and site plans for a raingarden, implementation of the raingarden at the Shelburne Community School.

Outcomes:

- Reduction of stormwater runoff in the Lake Champlain Basin and education and outreach about non-point nutrient reduction.

Organization:	Lewis Creek Association
Contact Person:	Krista Hoffis
Mailing Address:	442 Lewis Creek Road Charlotte, VT 05445
Phone:	513-470-7554
E-mail:	kristahoffsis@yahoo.com
Website:	http://www.lewiscreek.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-045
EPA	
Start Date:	5/10/2017
Grant Amount:	$19,255.00
Non-federal Match:	$ 6,046.00
Total Amount:	**$25,301.00**

Local Implementation Grant 2018

Trees for Streams 2018: Riparian Restoration on Muddy Brook, Allen Brook, and LaPlatte River within the Lake Champlain Watershed

Project Summary

With help from partner organizations and the local community, the WNRCD will plant forested riparian buffers along three impaired waterways in Chittenden County within the Lake Champlain Watershed: Muddy Brook, Allen Brook, and LaPlatte River. Five sites have been identified and landowners have signed support letters for this 5.25 acre riparian restoration project. WNRCD will work closely with partners and municipal staff to coordinate two community planting events at the WVPD Muddy Brook site and Allen Brook site on Friday May, 4th (VT Arbor Day).

Outputs:

- Signed landowner agreements, with a 10 year minimum O&M plan
- Planting plans
- before and after planting photo documentation.
- 2 community events

Outcomes:

- reduction of sediment and nutrient runoff into impaired waterways
- restoration of aquatic and wildlife uses in these areas
- long-term (a minimum of 10 years) river corridor protection along these riparian areas
- community engagement and raised awareness of the environmental benefit of this work.

Organization: Winooski NRCD

Contact Person: Holly Kreiner

Mailing Address: 617 Comstock Road
Berlin, VT 05602

Phone: 802-288-8155 ext 104

E-mail: Holly@winooskinrcd.org

Website: www.winooskinrcd.org

An example before photo of the Laplatte River

Lake Champlain Basin Program

NEIWPCC Code:	LS-2018-005
EPA	
Start Date	4/27/2018
Grant Amount:	$20,625.00
Non-federal Match:	$18,144.00
Total Amount:	**$38,769.00**

2014 Technical Project

Agricultural Practice Monitoring and Evaluation in the Vermont Portion of the Lake Champlain Basin

Project Summary

Vermont farmers have shown strong and lasting interest in implementing agricultural conservation practices such as conservation tillage, manure and nutrient management, and cover crops. Although producers often attribute significant agronomic and water quality benefits to these management practices, reductions in nutrient and sediment losses from agricultural land due to practice implementation are not well documented. Few studies have been completed at sites with similar climate and landscape settings to those in Vermont. In addition, many of the reported studies were conducted at the plot-scale and with simulated rainfall; such results may not apply directly to the field or watershed scales.

USDA-NRCS, the Vermont Agency of Agriculture (VTAAFM), the Vermont Department of Environmental Conservation (VTDEC), and the Lake Champlain Basin Program (LCBP) are currently cooperating to evaluate the effects of several agricultural conservation practices on runoff water quality. These organizations initiated a program in 2012 to monitor field runoff at fourteen stations located on six farms in the Vermont portion of the Lake Champlain Basin. Monitoring facilities and procedures were designed in accordance with the USDA-NRCS Interim Conservation Practice Standard 799 – Monitoring and Evaluation. The monitoring facilities and procedures are described in a Quality Assurance Project Plan (Stone Environmental, 2013), approved by the New England Interstate Water Pollution Control Commission.

Outputs:

Stone Environmental is under contract with the Vermont Agency of Agriculture to complete the fieldwork, data management and analyses, and reporting for this study. The agricultural practices being evaluated include:

- Soil aeration on hayland (VT NRCS Practice Standard 633) prior to manure application.
- Reduced tillage (VT NRCS Practice Standard 329) with manure injection and cover cropping on corn land
- Cover cropping (VT NRCS Practice Standard 340) on corn land.
- A water and sediment control basin (WASCoB) (VT NRCS Practice Standard 638) treating runoff from corn land.
- A grassed waterway (VT NRCS Practice Standard 412) treating runoff from agricultural fields.

Outcomes:

- The results of this study will inform pre-strategies and policies for conservation practices in the Lake Champlain Basin.

Organization:	Stone Environmental, Inc
Contact Person:	David Braun
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Phone:	802 229-5379
E-mail:	dbraun@stone-env.com
Website:	http://www.stone-env.com/

Lake Champlain Basin Program

NEIWPCC Code:	L-2014-062
GLFC	
Start Date:	7/1/2014
Grant Amount:	$120,000.00
Non-federal Match:	
Total Amount:	**$120,000.00**

Technical Project 2015

Assessment of Tile Drainage System Impacts to Lake Champlain and Phosphorus Loads in Tile Drainage Water in the Jewett Brook Watershed of St. Albans Bay

Project Summary

The project team of Stone Environmental, Inc. and Friends of Northern Lake Champlain is working in close consultation with the Lake Champlain Basin Program (LCBP) to review published research documenting phosphorus (P) loading impacts of tile drainage systems that can be related to conditions commonly found in the Lake Champlain Basin (LCB), monitor representative tile drainage systems in the Jewett Brook watershed, estimate P loading to Jewett Brook from these tile systems, and to assess the significance of this loading to the overall P export from the Jewett Brook watershed and similar areas of the LCB.

Outputs:

- Deliver a summary report based on peer-reviewed, published literature and other quality resources documenting reported contributions of agricultural tile drainage to phosphorus loading to surface waters, and relating these impacts to the LCB;
- Monitor representative tile outlets for discharge (continuous) and P concentrations in the JBW, provide a GIS layer of the selected tile drainage systems based on best available information, as well as information more broadly on the extent and type of tiles systems in the JBW; and
- Generate an estimate of annual P loading from these tile systems and deliver a report describing nutrient loading to Jewett Brook from tile drainage systems in this sub-watershed of St. Albans Bay.

Outcomes:

- Enhance the knowledge of tile drainage effects on water quality and soil health within the LCB.
- Inform strategies and policies to reduce P loading from tile-drained agricultural lands.

Organization: Stone Environmental, Inc

Contact Person: David Braun

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Montpelier, VT 05602

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E-mail: dbraun@stone-env.com

Website: http://www.stone-env.com/

Lake Champlain Basin Program

NEIWPCC Code: L-2016-060
EPA/GLFC
Start Date: 6/1/2016
Grant Amount: $100,000./$100,000.
Non-federal Match: $ 12,900.00
Total Amount: **$212,900.00**

2018 Technical Project

Cedar Valley Farm Farmstead Milk House Waste BMP

Project Summary

Cedar Valley Farms is a first generation dairy farm owned and operated by the Trombley family. The farm operates by a comprehensive nutrient management plan that lists the highest priority of environmental concern as the milk house waste disposal. This project will assist the Trombley's in implementing a properly designed and sited milk house waste storage system. Waste will be collected in a buried concrete tank, and then pumped onto the solid manure once it is loaded in a spreader. From there the milk house waste will be field applied as recommended.

Outputs:

- milk house waste storage and pumping system

Outcomes:

- reducing nonpoint source phosphorus load that is being generated by agricultural runoff from developed lands in the Basin

Organization: Clinton County SWCD

Contact Person: Peter Hagar

Mailing Address: 6064 Route 22, Suite 1
Plattsburgh, NY 12901

Phone: 518-561-4616 ext 3

E-mail: peter.hagar@ccsoil-water.com

Website: http://clintoncountyswcd.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12604
EPA	
Start Date:	7/10/2018
Grant Amount:	$6,040.00
Non-federal Match:	
Total Amount:	**$6,040.00**

Technical Project 2018

Clinton County Cover Crop Implementation

Project Summary

The Clinton County SWCD Cover Crop Implementation project will be focused on implementing cover crops on new users in the targeted area that have not used cover crops to help reduce erosion, scavenge nutrients and improve soil health. The goal is to enroll at least 5 farms and 150 acres of cropland into the program.

Outputs:

- 150 acres of no-till winter cover crops
- use of no-till drill at no charge to the farmer

Outcomes:

- reducing nonpoint source phosphorus load that is being generated by agricultural runoff from developed lands in the Basin
- provide cost-share support to farmers for BMP projects in critical sub-watershed

Organization: Clinton County SWCD

Contact Person: Peter Hagar

Mailing Address: 6064 Route 22, Suite 1
Plattsburgh, NY 12901

Phone: 518-561-4616 ext 3

E-mail: peter.hagar@ccsoil-water.com

Website: http://clintoncountyswcd.org/

An example of a winter rye cover crop established in the fall following corn silage harvest.

Lake Champlain Basin Program

NEIWPCC Code:	PO 12605
EPA	
Start Date:	7/10/2018
Grant Amount:	$10,606.00
Non-federal Match:	
Total Amount:	**$10,606.00**

2018 Technical Project

Cyanobacteria Monitoring Program 2018

Project Summary

This program covers the Lake Champlain Committee's (LCC) portion of the on-going Lake Champlain cyanobacteria monitoring program for the period between April, 2018 and December 31, 2018, and focuses on program development and revisions, recruitment, training, and oversight of volunteer monitors. Possible program revisions include updating training and outreach materials with additional cyanobacteria identification information, and references to new research on public health impacts and New York State's harmful algal bloom (HAB) initiative. LCC will refine its cyanobacteria monitoring tools, coordinate with partners on a 2018 monitoring schedule and program, and recruit, coordinate, train, oversee and support volunteers, as well as provide quality control of monitor data entered to the Vermont Department of Health database. All aspects of LCC's volunteer monitoring program are coordinated with and supplement monitoring conducted by the Vermont Department of Environmental Conservation (VT DEC) and the Vermont Department of Health (VDH). LCC will also coordinate with New York Department of Environmental Conservation (NY DEC) and key personnel involved with the Lake Champlain Harmful Algal Bloom (HAB) effort initiated in 2018.

Outputs:

- develop monitor training and educational tools for the 2018 season with updates and revised information

Outcomes:

- support of local level implementation and involving the public
- long-term monitoring of water resources
- continuous monitoring and tracking the extent of HABs and their alert level

Organization: Lake Champlain Committee

Contact Person: Lori Fisher

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Bldng. 3, Studio 3F
Burlington, VT 05401

Phone: 802-658-1421

E-mail: lorif@lakechamplaincommittee.org

Website: https://www.lakechamplaincommittee.org/

Lake Champlain Basin Program

NEIWPCC Code:	LS-2018-007
EPA	
Start Date:	6/26/2018
Grant Amount:	$60,000.00
Non-federal Match:	
Total Amount:	**$60,000.00**

Technical Project 2018

Environmental Monitoring and Recreational Assessment

Project Summary

The MRBA will work in partnership with the Upper Missisquoi and Trout Rivers Wild & Scenic Committee to monitor environmental conditions on the river, and do research into developing accessible launch sites for recreational boaters.

Outputs:

- coordinate water sampling program along the Missisquoi River, Trout River, and tributaries
- water quality monitoring datasheets
- river access assessment including maps and photo documentation
- river access and water quality outreach (notes, flyers, photos)

Outcomes:

- improved water quality and access for recreationists

Organization: Missisquoi River Basin Association

Contact Person: Lindsey Wight

Mailing Address: 2839 VT Route 105
East Berkshire, VT 05447

Phone: 802-393-0076

E-mail: mrba@pshift.com

Website: https://www.mrbavt.com/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12565
NPS	
Start Date:	4/9/2018
Grant Amount:	$6,000.00
Non-federal Match:	
Total Amount:	**$6,000.00**

2018 Technical Project

Essex County Rotational Grazing and Cover Crop Project

Project Summary

The purpose of this project is to promote rotational grazing and cover crop use in the Lake Champlain Basin. Farms will be assisted in fence purchase and installations in order to implement rotational grazing as a regular best management practice on farms that are currently grazing. Farms will get assistance in the purchase and planting of cover crop seed in order to encourage new and continued implementation of this practice.

Outputs:

- cover crops planted at 7 farms
- fences installed for rotational grazing at 7 farms

Outcomes:

- reduce of erosion and nutrient runoff into nearby streams and waterbodies

Organization: Essex County SWCD

Contact Person: Alice Halloran

Mailing Address: PO Box 407
Westport, NY 12993

Phone: (518) 962-8225

E-mail: ahalloran@westelcom.com

Website: http://www.essexcountyswcd.org/

Fence and supplies from a previous project at a farm that rotates cows daily

Lake Champlain Basin Program

NEIWPCC Code:	PO 12620
EPA	
Start Date:	8/3//2018
Grant Amount:	$20,000.00
Non-federal Match:	
Total Amount:	**$20,000.00**

Technical Projects 2014

Little Chazy Tributary Gage

Project Summary

The primary purpose for this work is to provide river discharge data from the Little Chazy River for resource managers to calculate nutrient loading rates into Lake Champlain from this tributary. The USGS will operate the Little Chazy River streamgage (Station # 04271815), publish the information on-line in near real-time, and make the data available for download. Further information regarding Intended Uses of Data can be found in the relevant section of the QAPP.

Outputs:

- Real-time accurate discharge date for the Chazy River that will be publicly available on the USGS website.

Outcomes:

- This discharge date will inform estimates of phosphorus loading to Lake Champlain.

Organization: USGS

Contact Person: Gerard Butch

Mailing Address:

Phone: 518 285-5673

E-mail: gkbutch@usgs.gov

Website: https://www.usgs.gov/

Lake Champlain Basin Program

NEIWPCC Code:	L-2015-063
GLFC	
Start Date:	10/1/2015
Grant Amount:	$49,950.00
Non-federal Match:	
Total Amount:	**$49,950.00**

2016 Technical Project

North Country Creamery Grazing Improvement Project

Project Summary

This project will assist this farm in expanding and improving their existing rotational grazing program. It will allow them to increase the production of the forages through better pasture management of nutrient distribution from the animals themselves, and to share what has been implemented and learned through this project with an outreach event.

Outputs:

- upgraded fencing to improve and expand the existing rotational grazing program. Specifically, this funding would finance the purchase of additional grazing supplies to expand the rotational grazing program
- supplies and administrative costs to host a grazing workshop open to regional farmers.

Outcomes:

- continue to serve the community as a model of productive, healthy, and sustainable farming practices

Organization: Essex County SWCD

Contact Person: Alice Halloran

Mailing Address: PO Box 407
Westport, NY 12993

Phone: (518) 962-8225

E-mail: ahalloran@westelcom.com

Website: http://www.essexcountyswcd.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12365
EPA	
Start Date:	8/24/2017
Grant Amount:	$3,025.00
Non-federal Match:	
Total Amount:	**$3,025.00**

Technical Project 2016

North Country School Grazing Improvement Project

Project Summary

This project will assist this farm in expanding and improving their existing rotational grazing program. It will allow them to increase the land available for grazing through more fencing, improve pasture forages through seeding with a better pasture forage mixture, and to share what has been implemented and learned through this project with an outreach event.

Outputs:

- perennial seed mixes for the enhancement of pasture fertilization and health
- purchase of additional grazing supplies to expand the rotational grazing program
- supplies and administrative costs to host a grazing workshop open to regional farmers.

Outcomes:

- serve the community as a model of productive, healthy, and sustainable farming practices

Organization: Essex County SWCD

Contact Person: Alice Halloran

Mailing Address: PO Box 407
Westport, NY 12993

Phone: (518) 962-8225

E-mail: ahalloran@westelcom.com

Website: http://www.essexcountyswcd.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12364
EPA	
Start Date:	8/24/2017
Grant Amount:	$3,788.00
Non-federal Match:	
Total Amount:	**$3,788.00**

2016 Technical Project

Operation and Maintenance of Lake Champlain Meteorological Stations

Project Summary

This funding will be used to maintain and operate three Lake Champlain meteorological stations - Colchester Reef, Diamond Island and Burton Island (for the period October, 15, 2017 to December 31, 2018. These stations have been operating and producing high quality, near real-time meteorological data for nearly two decades. Meteorological stations at will be maintained by staff at the University of Vermont, Rubenstein School of Environment and Natural Resources. This will include all instrument recalibrations or replacement as needed and/or maintenance, and overall site maintenance.

Outputs:

- Equipment and sensor maintenance and calibration will be conducted in accordance with manufacturer recommendations. Communications and solar-recharged battery power will be maintained (barring events during winter months when access to the stations may not be possible). Automated failure reporting systems will be maintained by the FEMC.
- Long-term data collection at Colchester Reef, Diamond Island and Burton Island will continue, capturing air temperature, relative humidity, barometric pressure, wind speed, wind direction, total radiation and water temperature, stored as 15-minute averages.
- Data will be retrieved hourly and made immediately accessible through the FEMC website (https://www.uvm.edu/femc/data/live) and to NWS for ingest into their systems (http://www.weather.gov/btv/recreation). Data will undergo daily automated QA/QC procedures provided by FEMC to remove errant values outside expected ranges. These inspected data will be archived in the FEMC database and made publicly available at no charge through the FEMC website or by special request to the FEMC data management staff. Real-time data visualizations will also be maintained via the FEMC website.

Outcomes:

- Production of high quality, near real-time meteorological data collection to inform management decisions.

Organization: UVM - Rubenstein School of Environment and Natural Resources

Contact Person: Jennifer Pontius

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85 South Prospect Street
Burlington, VT 05405-0160

Phone: (802) 656-3091

E-mail: Jennifer.Pontius@uvm.edu

Website: https://www.uvm.edu/rsenr

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-055
EPA	
Start Date:	10/16/2017
Grant Amount:	$15,055.00
Non-federal Match:	
Total Amount:	**$15,055.00**

Technical Projects 2016

Streamflow monitoring of the West Branch Little River, Stowe, VT

Project Summary

This streamgage is part of a paired-watershed study on the east slope of Mt. Mansfield, in Stowe, Vermont. Two adjacent watersheds are being studied: Ranch Brook, a 10.5-km^2 nearly pristine forested basin, and West Branch Little River, a 12.0 km^2 basin containing the entire Mt. Mansfield Ski Resort and bisected by Vermont State Highway 108. The Ranch Brook streamgage is being funded through an interagency agreement between the US Forest Service and USGS. The two basins have similar geology, size, elevation, slope, aspect, soils, and forest cover; the principle difference between them is the sharp contrast in land use. The purpose of this project is to continue data collection at West Branch Little River and to develop a long-term sustainable funding plan for the two gages.

Outputs:

- Real-time accurate discharge data for the Chazy River that will be publicly available on the USGS website.

Outcomes:

- This discharge data will help determine the effects of land use change on water quality in the Lake Champlain Basin.

Organization: USGS

Contact Person: Richard Kiah

Mailing Address: USGS New England Water Science Center
331 Commerce Way
Pembroke, NH 03275

Phone: 603-226-7819

E-mail: rkiah@usgs.gov

Website: https://newengland.water.usgs.gov/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-002
GLFC	
Start Date:	4/30/2017
Grant Amount:	$30,000.00
Non-federal Match:	
Total Amount:	**$30,000.00**

2016 Local Implementation Grant

Lake George Stormwater Runoff Direct Discharge Reduction Project

Project Summary

The Village of Lake George installed a hydrodynamic separator, trench drain, and bioretention basin in the Lower Amherst Street subwatershed, which is located directly on Lake George. This subwatershed is approximately 1.2 acres, and encompasses large buildings and several public and private parking lots. This subwatershed is approximately 95% impervious, and conveys stormwater directly into the lake in two distinct runoff patterns, both of which were addressed within this project.

A hydrodynamic separator was installed by the Village of Lake George Highway Department at the base of Lower Amherst Street, which now collects all of the runoff from two large restaurants and their associated parking lots, as well as the extra-wide road. Now, sediment and debris is filtered out of the stormwater before the water is discharged to the lake.

The second runoff pattern, which includes stormwater from the large Old Courthouse Building and its parking lot, is now conveyed to a bioretention area via a trench drain along the sidewalk's edge, where the stormwater is collected and then piped into a catch basin. Here, additional sediment is allowed to settle out before the stormwater enters an overflow pipe that is connected to a three tier bioretention basin that was built along the shoreline of the lake. In addition, an educational sign was created to explain the benefits of the projects, as well as the project partners.

Outputs:

- Several stormwater BMPs were installed: a hydrodynamic separator, trench drain, and bioretention basin.

Outcomes:

- Decreased sediment and nutrient runoff into Lake George; education for public via project signage

Organization: Village of Lake George

Contact Person: Dave Harrington

Mailing Address: PO Box 791
Lake George, NY 12845

Phone: (518) 668-5771

E-mail: lgwtp@hotmail.com

Website: www.villageoflakegeorge.us

Finished trench drain and catch basin.

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-047
EPA	
Close Date:	7/10/2018
Grant Amount:	$ 71,621.92
Non-federal Match:	$ 30,600.00
Total Amount:	**$102,221.92**

2016 Local Implementation Grant

Pinnacle at Spear Stormwater Improvements

Project Summary

The City of South Burlington retained Aldrich + Elliott, PC to provide final engineering specifications and plans for upgrade of four Stormwater Treatment Practices (STPs) in the Pinnacle at Spear neighborhood. This stormwater system improvement project is located in a suburban neighborhood and sits along the impaired stormwater watersheds of Munroe Brook and Bartlett Brook and treats water flowing to both watersheds. These practices were built in the 1990's and are not currently up to stormwater design standards. The purpose of this improvement project is to retrofit these existing STPs so that they will meet the current design standards according to the Vermont Stormwater Management Manual (VSMM) for stormwater treatment. Two of the sites proved conducive to supporting stormwater treatment wetlands. The remaining two sites are designed to provide stormwater detention.

These STPs are currently owned and maintained by the Pinnacle at Spear Homeowners Association. The City of South Burlington has agreed to provide permit coverage of the STPs after improvements have been performed. The City will provide coverage under the existing MS4 permit. These improvements are planned for 2018 construction season.

Outputs:

- Project plan, conceptual plans, all necessary permits, final design, and a final report.

Outcomes:

- Upgraded stormwater ponds will reduce sediment and nutrient loads to Lake Champlain.

Organization: South Burlington Public Works

Contact Person: Thomas J. DiPietro Jr.

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South Burlington, VT 05403

Phone: (802) 658-7961 x6108

E-mail: tdipietro@sburl.com

Website: http://www.sburl.com/index.

Drainage area map

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-040
EPA	
Close Date:	7/10/2018
Grant Amount:	$40,000.00
Non-federal Match:	$10,832.00
Total Amount:	**$50,832.00**

Local Implementation Grant 2016

Sanitary Sewer Utility Mapping to Reduce Occurrence of Combined Sewer Overflows and Stormwater Master Planning for Vergennes, VT

Project Summary

Watershed Consulting Associates, LLC (WCA), and project partners Addison County Regional Planning Commission (ACRPC) and Urban Rain | Design (URD) comprehensively mapped sanitary sewer infrastructure in the City of Vergennes in an effort to mitigate Combined Sewer Overflows (CSOs), and conducted a stormwater master planning (SWMP) study to identify and prioritize green stormwater infrastructure (GSI) to assist Vergennes in reducing its stormwater runoff and improve water quality in the Otter Creek and its tributaries. The City of Vergennes has indicated that mapping of its sanitary infrastructure and reducing its stormwater discharges are major priorities for the City. The project area is defined as the municipal boundaries of the City of Vergennes. The watershed area is the Otter Creek and Lake Champlain Direct. Landuses in the watershed are a mix of urban, suburban, and open and forested parks.

Outputs:

- Comprehensive GIS-based maps of the City of Vergennes sanitary sewer infrastructure and a GIS geodatabase of sanitary sewer infrastructure using VT DEC's database structure for easy integration with VT DEC's Statewide dataset
- Tables and Maps illustrating sanitary sewer pipe and other infrastructure replacement priorities. Preliminary stormwater management practice opportunities maps and field sheets.
- A list of top 20 initial priority sites selected from preliminary opportunities in consultation with City staff with modeling results (hydrologic, hydraulic, and water quality) for each site and preliminary cost projections.
- Top three (3) sites selected with input from stakeholders
- Recommendations regarding further design and implementation steps for the remaining sites (to be incorporated in the final SWMP report)
- Three (3), 30% Concept Design engineering plans

Organization: Watershed Consulting Associates, LLC

Contact Person: Andres Torizzo

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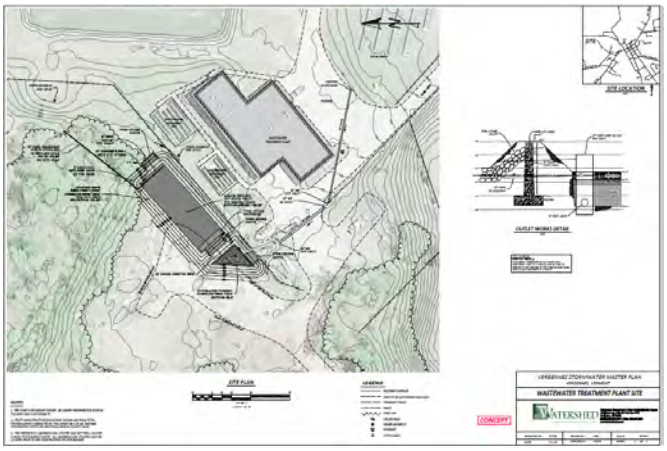
Burlington, VT 05406

Phone: 802.497.2367

E-mail: andres@watershedca.com

Website: https://watershedca.com/



One of the 30% concept design engineering plans

- Detailed landscape architectural renderings for each of these sites design/layout sheets for each site

Outcomes:

- Reduced or eliminated combined sewer overflows in the City of Vergennes, Vermont

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-031
EPA Close Date:	7/10/2018
Grant Amount:	$49,786.00
Non-federal Match:	$10,224.00
Total Amount:	**$60,010.00**

Local Implementation Grant 2015

Building a Flood Resilient Northfield

Project Summary

As a result of damage done by Tropical Storm Irene, the Town of Northfield acquired seven contiguous properties (~5 acres) along the Dog River, adjacent to the village center. These properties were restored to enhance the floodplain functions, and provide passive recreation amenities. A significant amount of funding and effort was put toward the physical restoration of the floodplain. This project complemented the physical transformation of the floodplain park with an education and outreach program developed by an interdisciplinary team. The team, which participated in the Summit at ECHO in March 2015, created a series of outreach activities that focus on a key goal from the Summit: to help the community move from disaster recovery to a new relationship and respect for the river that runs through its core.

Friends of the Winooski River brought their model stream table to Northfield schools, to educate faculty and students in river dynamics. It was also set up at the Northfield Observances Labor Day celebration on the village green, and many community members were able to engage with the model stream. There were ten pieces published in the Northfield News regarding the park project, river dynamics, and flood remembrances. Students from Norwich University and Northfield public schools have been using the floodplain park as an outdoor classroom to explore environmental topics through hands-on projects. The project team's education consultant worked with the Northfield Middle/High School YES program to plan a two-week curriculum that included planting a pollinator garden in the floodplain park.

Outputs:

- Model stream table demonstrations at a public event in Northfield and other public events
- Ten published articles in the Northfield News local newspaper
- Engagement of Norwich University students with Northfield High School students to educate them on flood resilience.

Organization: Friends of Winooski River

Contact Person: Ann Smith

Mailing Address: PO Box 777
Montpelier, VT 05602

Phone: 802 882-8276

E-mail: ann@winooskiriver.org

Website: http://www.winooskiriver.org/

Model stream table deomonstration.

Outcomes:

- The Town of Northfield is better informed on flood resilience issues.

Lake Champlain Basin Program

NEIWPCC Code:	L-2016-035
EPA Close Date:	5/9/2018
Grant Amount:	$19,844.00
Non-federal Match:	$10,400.00
Total Amount:	**$30,244.00**

2015 Local Implementation Grant

New Haven River Watershed Flood Adaptation Project

Project Summary

VRC has been working in several Vermont watersheds to explore approaches to cooperative flood adaptation amongst individual towns that make up a watershed. Historically Vermont towns have enacted land-use planning and regulatory programs that begin and end at the town borders. This individual town planning / regulatory scope has not recognized the potential benefits of planning for and adapting to long term flooding that ignores town boundaries and can be addressed at the whole watershed scale.

Outputs:

- establishment of a collaboration between the conservation commissions of the three New Haven River watershed towns: Lincoln, Bristol, and New Haven.
- engagement with the local school systems to incorporate watershed knowledge and climate change adaptation in curricular programming
- creation of an interactive watershed map that will plot and describe on-going and completed flood adaptation projects
- implementation of residential scale stormwater management projects in Bristol village
- completion of a river corridor easement project in Bristol
- continued exploration of opportunities for high elevation wetland restoration in Lincoln.

Outcomes:

- increased awareness and effective response to future flooding events in the New Haven River watershed

Organization: Vermont River Conservancy

Contact Person: Steve Libby

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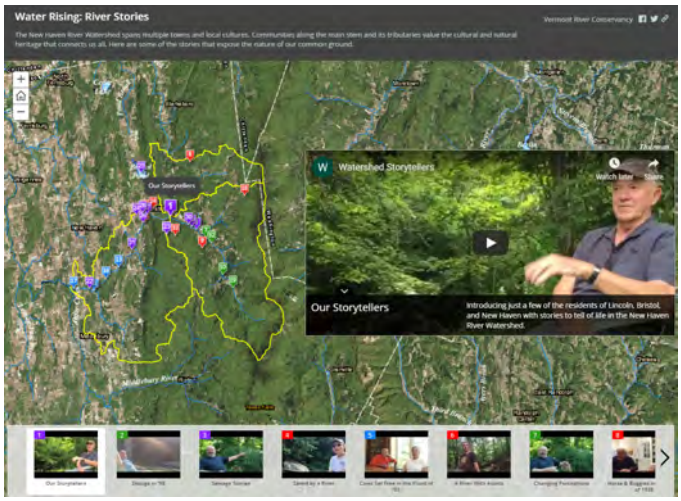
Montpelier, VT 05602

Phone: 802 229-0820

E-mail: slibby@vermontriverconservancy.org

Website: http://www.vermontriverconservancy.org/



https://uvm.maps.arcgis.com/apps/MapTour/index.html?appid=9b633ace9a-97490caf8f0560c0705b06

Lake Champlain Basin Program

NEIWPCC Code: L-2016-014
EPA
Close Date: 8/21/2018
Grant Amount: $18,500.00
Non-federal Match: $ 5,400.00
Total Amount: **$23,900.00**

Local Implementation Grant 2015

Northwest Vermont Climate Navigators

Project Summary

The intent of this project was to develop a local, common language and understanding around climate change and impacts to water quality for Northwestern Vermont; an area that encompasses towns in Franklin and Grand Isle Counties. This was accomplished by training community leaders through a series of workshops held in 2016 that explored climate impacts to different sectors (i.e. agriculture, transportation, land development, etc.) and mitigating actions necessary to improve water quality. Leaders were engaged in conversation to identify how this information should be conveyed to their constituents and what public outreach information and tools would aid their efforts. The feedback collected from the workshop series was used to develop concise new messaging and visual tools as well as a centralized resource for bringing together a clearing house of existing tools (i.e. factsheets, infographics, case studies) from Vermont and national resources. Regional partners plan to utilize these tools during their outreach and education to their constituents and the general public around the impacts of climate change and how they can better mitigate and prepare for it at all levels.

Outputs:

- 7 workshops for community leaders about climate change that will lead towards a local (or regional) common language and understanding about climate change.
- Series of materials using messaging and graphics to better understand and explain climate change and resilience strategies to the public which include a climate change community toolkit for water quality partners and healthy soils and resilient transportation posters.

Outcomes:

- Developing adaptive management capacity to manage the anticipated impacts of climate change, particularly on the changing dynamics between hydrological processes and eutrophication.

Organization: Friends of Northern Lake Champlain

Contact Person: Kent Henderson

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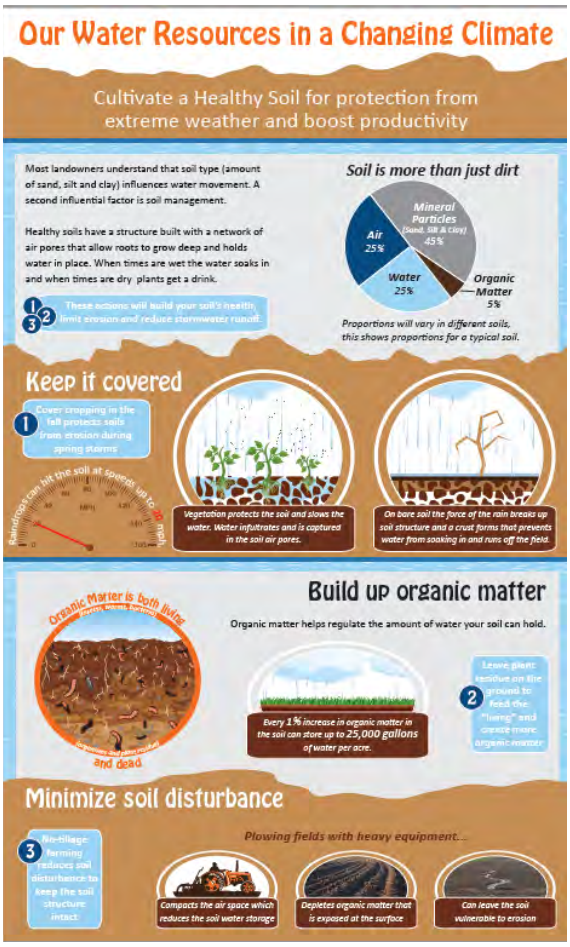
Swanton, VT 05488

Phone: 802 373-1998

E-mail: nugamoo@comcast.net

Website: http://www.northernlakechamplain.org/



Lake Champlain Basin Program

NEIWPCC Code: LS-2016-011
EPA
Close Date: 10/11/2017
Grant Amount: $20,000.00
Non-federal Match: $ 5,850.00
Total Amount: **$25,850.00**

2015 Local Implementation Grant

Tools for Resilience in the Mad River Watershed

Project Summary

Stormwater runoff is one of the highest priority challenges the Mad River Valley (MRV) faces as Friends of the Mad River (FMR) works to build flood resilience in our five towns. It is a collective problem calling for collective planning and action. To meet these challenges, FMR formed an active, volunteer, watershed-wide stormwater taskforce comprised of municipal leaders and interested citizens from each of the five Mad River watershed towns, called the Ridge to River Taskforce. This grant enabled FMR to develop a suite of tools (and establish the foundation for a Homeowner Toolkit) that support the Storm Smart program by translating technical information into a variety of formats accessible to a range of diverse stakeholders. They developed, . Using these tools, the Ridge to River Taskforce can now more effectively engage the broader community to: 1) build their awareness around stormwater runoff and its role in poor water quality and flooding; and 2) provide them with action steps towards resilience.

Outputs:

- three short videos
- two infographics
- Ridge to River website

Outcomes:

- increased awareness of flooding and stormwater threats to the Mad River and to Lake Champlain
- education and outreach opportunities for FMR to reach citizens and users in the Mad River sub-basin.

Organization: Friends of the Mad River

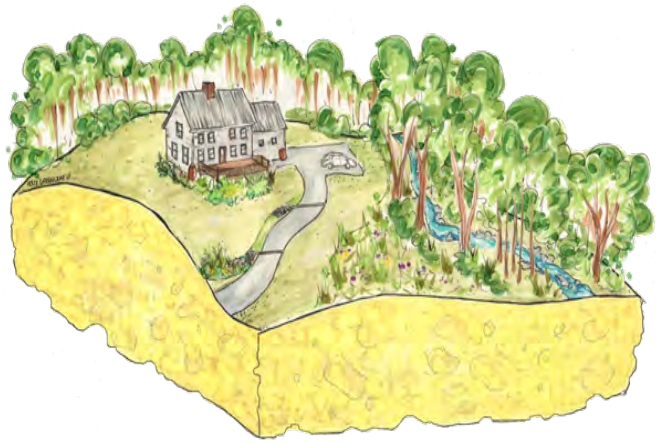
Contact Person: Corrie Miller

Mailing Address: PO Box 255, Waitsfield, VT 05673

Phone: 802 496-9127

E-mail: friends@madriver.com

Website: http://www.friendsofthemadriver.org/



Lake Champlain Basin Program

NEIWPCC Code:	L-2016-024
EPA Close Date:	8/21/2018
Grant Amount:	$19,026.00
Non-federal Match:	$ 5,000.00
Total Amount:	**$24,026.00**

Local Implementation Grant 2015

Cabot School Stormwater Reduction Project

Project Summary

The Cabot School Stormwater Reduction Project, funded by the Lake Champlain Basin Program, involved implementation of one of the priority practices developed from a 2014 Friend's of the Mad River Ecosystem Restoration Grant stormwater master plan. This involved reshaping and renovation of an eroding ditch built to divert stormwater away from school buildings to create a functioning stormwater swale. The ditch was re-shaped, the bottom lined with rock, check dams installed, and the edges stabilized with erosion-control matting and grass seed. Environmental Science students later planted edible berries on the edges of the swale, and created a list of next steps for the stormwater project, including suggestions for maintenance and monitoring of the swale. Another swale on the school campus was constructed at the same time as part of a larger stormwater mitigation effort.

This project also included a school and community education component where students at Cabot School used stormwater issues at the school as an entrée to study local, state, and global water issues. Students then informed the wider Cabot community about the stormwater problems via a community event styled after TEDx talks and titled FLOW. The general public was invited, and students explained the stormwater reduction work at the school as well as the wider implications of stormwater run-off to the Winooski watershed and Lake Champlain.

Outputs:

- An inventory of the critical areas or hot spots for ARG and ARB in the Lake Champlain Basin, and strategic implementation plans to control the spread of antibiotic resistance.

Outcomes:

- reduce the pollutant load of stormwater run-off from the school
- raised awareness of students and the wider Cabot community about stormwater issues and solutions

Organization: Cabot School

Contact Person: David Schilling

Mailing Address: 25 Common Road, Cabot VT 05647

Phone: 802 563-2289

E-mail: dschilling@cabotschool.org

Website: http://www.washnesu.org/cabot/

Lake Champlain Basin Program

NEIWPCC Code: L-2015-070
EPA
Close Date: 9/12/2017
Grant Amount: $ 8,740.00
Non-federal Match: $ 2,850.00
Total Amount: **$11,590.00**

2015 Local Implementation Grant

School Stormwater Audits

Project Summary

The Lake Champlain Committee conducted stormwater assessments for four schools in the Lake Champlain watershed and provide recommendations about ways to increase infiltration and water quality treatment. We provided in-classroom and on-site education about stormwater and involved the school in the on-site stormwater assessments. The assessments evaluated the current state of each school's stormwater management and made recommendations for ways to increasing infiltration and mitigate stormwater runoff. The participating schools were located in Burlington and St. Albans Vermont and two schools were located in Plattsburgh, New York. Each school was provided with a report that outlined stormwater issues and provided recommendations.

Outputs:

- Four stormwater audits for LCB schools.

Outcomes:

- Decreased sediment and phosphorus runoff to Lake Champlain; educational opportunities for students and teachers.

Organization: Lake Champlain Committee

Contact Person: Lori Fisher

Mailing Address: 208 Flynn Avenue, Building 3 Studio 3F, Burlington, VT 05401

Phone: 802 658-1421

E-mail: lorif@lakechamplaincommittee.org

Website: https://www.lakechamplaincommittee.org/

Two Rock Point School students work on their stormwater assessments while walking the campus grounds.

Lake Champlain Basin Program

NEIWPCC Code:	L-2016-027
EPA Close Date:	7/25/2018
Grant Amount:	$16,000.00
Non-federal Match:	$14,107.50
Total Amount:	**$30,107.50**

Local Implementation Grant 2015

Stormwater Mitigation at Cambridge Elementary School

Project Summary

The Cambridge Conservation Commission on behalf of the Town of Cambridge, was awarded funding to address stormwater runoff from impervious surfaces at the Cambridge Elementary School (CES), to prevent direct discharge into the Brewster River. The project had two main goals; 1) to develop designs for two identified stormwater remediation measures, and 2) provide outreach and education to the school and community. The designed measures will reduce and filter stormwater runoff from the school buildings and parking lot that previously discharged directly into the Brewster River from an outflow pipe.

Outputs:

- Two designs for stormwater mitigation projects
- a list of other possible stormwater BMPs
- constructed stormwater infiltration system
- two installed rain barrels

Outcomes:

- reduced stormwater runoff to the Brewster River and to Lake Champlain
- educational opportunities for students, teachers, and community members at Cambridge Elementary School.

Organization: Cambridge Conservation Commission

Contact Person: Jean Jenkauskas

Mailing Address: PO Box 127
Jeffersonville, VT 05464

Phone: 802 644-5048

E-mail: jaheba@myfairpoint.net

Website: https://www.facebook.com/cambridgeconservation/

Lake Champlain Basin Program

NEIWPCC Code: L-2016-016
EPA
Close Date: 8/29/2018
Grant Amount: $20,154.00
Non-federal Match: $ 5,334.00
Total Amount: **$ 24,998.00**

2015 Local Implementation Grant

Bank Stability and Invasive Species Assessment on the Ausable River

Project Summary

In 2016, AsRA assessed two parameters essential to understanding the ecological and hydrological stability of the Ausable River system, and to informing ongoing stream restoration efforts and those of its partners: municipalities, non-profit organizations, and others focused on work in the watershed. The first goal for this project was to identify areas of significant bank instability - using the bank erosion index rating methodology developed by the Vermont Agency of Natural Resources (VANR) and described in their Vermont Stream Geomorphic Assessment Phase 1 Handbook. This method had been used by AsRA in an initial pre-Tropical Storm Irene assessment published in its Ausable River Watershed Management Plan (https://www.ausableriver.org/watershed/watershed-management-plan). AsRA was interested to understand changes in the wake of the storm. Secondly, it cataloged infestations of non-native invasive plant species that could threaten healthy riparian buffers, compromise bank stability, and create erosion – using methods established by the Adirondack Park Invasive Plant Program (APIPP) through the Weed Information Management System. Resulting data was compared to 2006 – 2009 surveys published in Ausable River Watershed Management Plan funded by the NY State Department of State.

Outputs:

- Completion of both the VANR and BANCS River Stability surveys led AsRA to conclude that the latter is the preferred method for determining bank stability and sedimentation loads.
- re-confirmation that non-native invasive plants have a strong presence on the East Branch of the Ausable

Outcomes:

- Prioritization of aquatic and streambank habitat for protection
- Areas of sediment reduction
- Identified invasive species to increase spread prevention

Organization: Ausable River Association

Contact Person: Kelley Tucker

Mailing Address: PO Box 8, 1181 Haselton Road
Wilmington, NY 12997

Phone: 518 637-6859

E-mail: ktucker@ausableriver.org

Website: https://www.ausableriver.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2016-031
GLFC	
Close Date:	8/30/2018
Grant Amount:	$12,520.00
Non-federal Match:	$ 2,500.00
Total Amount:	**$15,020.00**

Local Implementation Grant 2015

BTV Blue®: Enhanced Residential Stormwater Management Cost-Sharing Framework Development and Implementation

Project Summary

In partnership with Lake Champlain Basin Program, Lake Champlain International, Inc., and the UVM SeaGrant Program, the City of Burlington implemented a pilot incentive program for installing stormwater retrofits on residential properties, referred to as BLUE® BTV. The program was designed around the existing framework of Lake Champlain International's BLUE® program, with specific updates to evaluation criteria for the urban environment.

Participants were able to request an evaluation from the Program via a simple online form and were then contacted directly by BLUE® staff to schedule a visit. After the evaluation was completed, the participant received a summary of their evaluation, which included recommended stormwater mitigation practices applicable to their property. If the resident chose to pursue one of these recommendations, they were given the option of installing the practice themselves or hiring a contractor to do the install. Upon final installation, the participant was then eligible to apply for a rebate from the program to cover a portion of the cost for installation.

The pilot ran from the spring of 2017 through the early summer of 2018, with 58 properties evaluated in total. As of July 15, 2018, the pilot has successfully incentivized retrofits on 14 properties, resulting in the disconnection of 12,746 square feet of impervious surface from the City's collection system by August 31, 2018.

Outputs:

- White paper describing stormwater cost sharing practices in other US cities
- List and map of properties identified for "simple" rooftop disconnection
- Online training videos and testing portal for three practice types
- Disconnection of 12,746 square feet of impervious surface from Burlington's collection system

Outcomes:

- Decreased nutrients and other pollutants to the lake through disconnection of impervious surface.

Organization: City of Burlington Public Works

Contact Person: Jenna Calvi

Mailing Address: 234 Penny Lane
Burlington, VT 05401

Phone: 802 540-1748

E-mail: jcalvi@burlingtonvt.gov

Website: https://www.burlingtonvt.gov/DPW

An example of an impervious driveway installation

Lake Champlain Basin Program

NEIWPCC Code:	L-2016-015
EPA	
Close Date:	2/1/2016
Grant Amount:	$18,220.00
Non-federal Match:	$18,220.00
Total Amount:	**$36,440.00**

2016 Local Implementation Grant

CWICNY Rain Harvesting Project

Project Summary

This project was designed to install five 1,000 gallon rain harvesting systems in each of the five counties (Clinton, Essex, Franklin, Warren and Washington) that make up the New York portion of the Lake Champlain Watershed. It was modelled after a project in the Town of Lake George that installed a 1,000 gallon tank at the courthouse building that captured roof runoff and used the water in the lawn irrigation system. The Lake George system has been very effective, is visible to visitors all summer, and has reduced the amount of runoff from the building and reduced the amount of municipal water needed to irrigate the lawn.

This project resulted in ten rain harvesting systems being placed in locations where the general public can view them. Each location has an educational component, whether it be a school or educational facility. The Lake Champlain Basin Program grant was awarded in 2017 with an extension given to extend the grant to 2018. The ten rain harvesting systems purchased and placed throughout the watershed are smaller than originally anticipated, but will still be very effective at showing how easy it is to capture stormwater roof runoff and reuse it. All of the selected locations will have benefits to local water quality.

Outputs:

- Ten rain harvesting systems at five locations in three NY Lake Champlain Basin counties.

Outcomes:

- decreased sediment and nutrient runoff to Lake Champlain
- educational opportunities for the public

Organization: Champlain Watershed Improvement Coalition

Contact Person: David Reckahn

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Warrensburg, NY 12885

Phone: 518-962-8225

E-mail: dreckahn@westelcom.com

Website: https://www.cwicny.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-034
EPA	
Close Date:	8/22/2018
Grant Amount:	$16,570.00
Non-federal Match:	$ 4,588.57
Total Amount:	$18,570.00

Local Implementation Grant 2014

Evaluating Stormwater Pond Performance and Opportunities for Improvement: Using floating restorers to improve stormwater pond efficiency in S Burlington

Project Summary

Floating Treatment Wetland (FTW) units were evaluated for their suitability in north-eastern United States conditions to improve the pollutant removal effect of a wet extended detention stormwater basin. A stormwater pond treating runoff from a residential townhouse development was monitored for chemical and physical parameters for one year (2015) prior to FTW installation and two years (2016-2017) with FTW rafts covering 25% of the pond surface. Flow-weighted composite samples at the inlet and outlet structures of the pond resulted in representative measurements of water quality coming into and leaving the ponds. FTW rafts were designed using three layers of Polyflow biological filter material and a two-part marine foam for floatation. Four plant species were selected based on their referenced use in the FTW literature in other areas: Pondeteria cordata (pickerelweed), Schoenoplectus tabernaemontani (Softstem Bulrush), Carex comosa (Longhaired Sedge), Juncus effusus (Common Rush). Plants were evaluated for survivability through a growth season as well as over one winter. Additionally, species' biomass was measured as an indicator of robustness of growth. The raft material itself was evaluated for damage after a winter to indicate potential challenges in cold, freezing conditions. The plant that performed the best based on survival and biomass production is the Longhaired sedge (Carex comosa). Water quality performance of the pond was compared between 2015 and 2017.

Outputs:

- digital field logs, flow graphs for all storms sampled, water quality results table, photo documentation

Outcomes:

- Reduce phosphorus inputs to Lake Champlain to promote a healthy and diverse ecosystem and provide for sustainable human use and enjoyment of the Lake.
- Reduce contaminants that pose a risk to public health and the Lake Champlain ecosystem

Organization: City of South Burlington

Contact Person: Tom DiPietro

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South Burlington, VT 05403

Phone: 802 658-7961

E-mail: tdipietro@sburl.com

Website: http://www.sburl.com/

Lake Champlain Basin Program

NEIWPCC Code:	L-2015-021
GLFC	
Close Date:	4/19/2018
Grant Amount:	$20,000.00
Non-federal Match:	$18,000.00
Total Amount:	**$38,000.00**

2016 Local Implementation Grant

Huntington Garage Stormwater Practice Construction

Project Summary

The Town of Huntington Garage and Town Office sits on an approximately 8 acre parcel along the Huntington River, of which approximately one third is impervious surface. In addition to the runoff from the site's impervious surface, the site also receives runoff from the Main Road. Much of this runoff had been channeled along a driveway to a stormdrain, which discharged to the river. Under a 2015 Pollution Prevention Grant, the Town designed a mitigation practice to protect the Huntington River. The consulting engineer, Watershed Consulting Associates (WCA), completed a thorough analysis of the property and developed a design to mitigate the stormwater flow and pollutants to the river. This design was reviewed and modified based on input from the Town representatives. The final design was approved by the Selectboard in September 2016. This grant provided funds to help construct that practice. This stormwater mitigation practice is estimated to reduce sediment and phosphorus annual loads to the Huntington River by 1,057 pounds and 1.2 pounds respectively.

Outputs:

- construction of a stormwater swale
- educational student visits to the site

Outcomes:

- reduced nonpoint source phosphorus load generated from lands in the Basin to Lake Champlain.

Organization: Town of Huntington

Contact Person: Barbara Elliott

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Huntington VT 05462

Phone: (802) 434-2032

E-mail: townhunt@accessvt.com

Website: http://huntingtonvt.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-019
EPA	
Close Date:	3/29/2018
Grant Amount:	$18,098.00
Non-federal Match:	$ 4,300.00
Total Amount:	**$22,398.00**

Local Implementation Grant 2015

Nesti Swale Phosphorus Pollution Mitigation Project

Project Summary

This project involved designing, permitting and preparing for the construction of a stormwater gravel wetland in an eroded and gullied tributary of Shelburne Bay, Lake Champlain in Shelburne, Vermont. The Town of Shelburne with assistance from the Vermont Department of Environmental Conservation will construct a gravel wetland stormwater treatment system to treat runoff from a 120-acre subwatershed of Shelburne Bay in 2019. The stormwater gravel wetland will be constructed on the border of Shelburne and South Burlington along a small unnamed tributary stream (aka Nesti Swale). The wetland will be on land owned by the Vermont Electric Company and licensed for use to the Town of Shelburne. A high-tension power line traverses the property.

The gravel wetland will hold approximately 2.4 acre-feet of water. For the rainfall design storm of .9 inches of runoff in 24 hours (formerly the water quality volume storm) the gravel wetland as designed will reduce the peak erosive flows from the watershed by more than 90%. Pollutant loading from the upstream watershed to the gravel wetland was estimated to contribute about 40,000 lbs. of sediment and 25 lbs. of phosphorus per year. It is estimated that another 150 lbs. of phosphorus are currently released per year due to runoff caused erosion in the Nesti swale channel and an eroding widening shore headland cut. The gravel wetland is expected to reduce the stormwater wash-off sediment load by 90% or 36,000 lbs (18 tons) and the stormwater phosphorus load by 65% or 16.25 lbs. The gully and shoreland erosion will be significantly reduced as well because of this project but it is not possible to estimate the reduction.

Outputs:

- construction of a stormwater gravel wetland

Outcomes:

- Better managed stormwater to Shelburne Bay and reduced pollution to Lake Champlain.

Organization: Town of Shelburne

Contact Person: Chris Robinson

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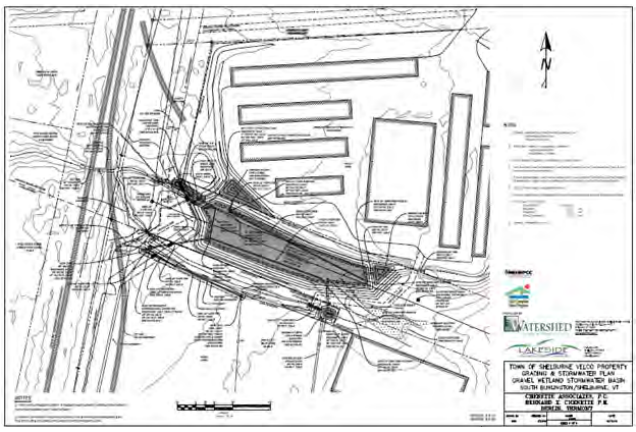
Shelburne, VT 05482

Phone: 802 985-3700

E-mail: crobinson@shelburnevt.org

Website: http://www.shelburnevt.org/



Lake Champlain Basin Program

NEIWPCC Code:	L-2016-025
EPA	
Start Date:	8/29/2018
Grant Amount:	$20,000.00
Non-federal Match:	$44,345.00
Total Amount:	**$64,345.00**

2016 Local Implementation Grant

Protecting and Restoring Floodplain Forests for Wildlife and Recreation

Project Summary

In this project, the Vermont River Conservancy enhanced three community floodplain forests, with a focus on water quality, wildlife habitat, and public recreation. Community forests are valuable natural areas that provide unique opportunities for engaging the community in land conservation and stewardship. VRC applied the community forest model - historically used primarily with upland parcels - to three floodplain forest projects in the Lake Champlain Basin. A community forest is conservation strategy that engages local residents in collective management. VRC engaged the community to help with the management of three forest parcels.

Outputs:

- Japanese knotweed removal
- corrected headcut by regrading bank
- restored 2 riparian buffers
- planted 50 trees and shrubs
- constructed stone staircase, cleared and marked trail corridor.

Outcomes:

- increased public access to Lamoille River
- decreased erosion and sediment/P runoff to Lake Champlain.

Organization: Vermont River Conservancy

Contact Person: Noah Pollock

Mailing Address: 29 Main St., Suite 11
Montpelier, VT 05602

Phone: 802-229-0820

E-mail: noah@vermontriverconservancy.org

Website: http://www.vermontriverconservancy.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-043
EPA	
Close Date	5/1/2018
Grant Amount:	$12,087.00
Non-federal Match:	$ 7,748.00
Total Amount:	**$19,835.00**

Local Implementation Grant 2016

Reducing Phosphorus Loading and Improving Fish Habitat and Connectivity within Texas Hill Tributary Huntington, VT

Project Summary

The WNRCD with partner organizations undertook the replacement of three culverts on Texas Hill Tributary, Huntington, VT that failed during storm events causing substantial washouts, adding phosphorus and sediment to the stream. By replacing the failing culverts with a bridge WNRCD completed the output of opening up 3 miles of Brook Trout habitat and allow access to 10.78 acres of wetlands and reducing 20-28 cubic yards of sediment loading a year and 0.0139 to 0.0195 metric tons of phosphorus that enters the stream during every washout.

Outputs:

- Before and after photos of the Texas Hill Rd. culvert, engineering plans, initiate re-vegetation of restored riparian habitat, 3 miles of Texas Hill Brook and 10.78 acres of wetlands opened up to Brook Trout and other aquatic organisms. An estimated 0.0139-0.0195 metric tons of phosphorus prevented from washing into the stream annually due to storm washouts.

Outcomes:

- Decreased nutrient run-off into Lake Champlain and better aquatic organism access to habitat
- improvement in stream health and flood resiliency.

Organization:	Winooski NRCD
Contact Person:	Corrina Parnapy
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Phone:	(802) 778-3178
E-mail:	corrina@winooskinrcd.org
Website:	http://winooskinrcd.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-028
EPA	
Close Date	6/30/2018
Grant Amount:	$20,000.00
Non-federal Match:	$12,150.77
Total Amount:	**$32,150.77**

2016 Local Implementation Grant

Smilie School Stormwater Mitigation Project

Project Summary

The Smilie School property in Bolton, VT, occupies over a 3-acre site on the bank of Joiner Brook, just upstream of its confluence with the Winooski River. In 2016 the Lake Champlain Basin Program funded the creation of a stormwater master plan for the property to begin to address runoff entering Joiner Brook from the school's roof and gravel parking lot. In this project, three practices recommended in the stormwater masterplan were constructed. A rain garden at the entrance to the school and a bio-retention area on one side of the school were created to absorb roof runoff, and a compacted river access road was removed and converted to a footpath to limit vehicular traffic and encourage infiltration. Implementation of these practices is expected to reduce stormwater runoff volume and associated pollutants, and improve the water quality of Joiner Brook. Students, faculty, staff, and parents at the school were engaged in the project and helped plant the rain garden and bioretention area while learning about stormwater issues and solutions.

Outputs:

- a bio-retention area collect and treat stormwater from the adjacent roof
- installation of a rain garden with a riser outlet to collect and treat runoff from adjacent roof surface and allow for infiltration
- restoration of soil permeability on the existing compacted river access road to allow infiltration of overland flow from the school's gravel parking lot.

Outcomes:

- decreased phosphorus and sediment runoff to Lake Champlain
- educational opportunities for Smilie School students, teachers, and parents.

Organization: Friends of the Winooski River

Contact Person: Shawn White

Mailing Address: P.O. Box 777
Winooski, VT

Phone: 802-882-8276

E-mail: shawn@winooskiriver.org

Website: https://winooskiriver.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-024
EPA	
Close Date	7/20/2018
Grant Amount:	$18,740.00
Non-federal Match:	$ 2,066.00
Total Amount:	**$20,806.00**

Local Implementation Grant 2015

St Albans City Stormwater Reduction and Treatment

Project Summary

The Friends of Northern Lake Champlain used this grant, St. Albans City Stormwater Reduction and Treatment, to further analyze and treat issues of urban nutrient runoff within the City of St. Albans. Spatial analysis and in-person inspection of sites with significant stormwater runoff issues was performed, yielding calculations of site priority based on potential amount of impervious surface treated. A landowner at a high-priority site was consulted and designs were developed for green stormwater implementation. A building permit was acquired and construction workplans were developed in coordination with a local contractor with experience in landscaping and green stormwater infrastructure development. Due to a stated change of plans in the future of the property, the landowner backed out from the project in the days before construction was set to occur.

Outputs:

- Press release announcing project
- Detailed spatial analysis, mapping, and prioritization of stormwater runoff sites within St. Albans City
- Writing of maintenance agreement for host site of green stormwater infrastructure
- Detailed design for a rain garden to manage runoff from a high-priority stormwater site
- agreement for this rain garden

Outcomes:

- Reduction in nonpoint source phosphorous and pollutant loads entering stormwater and natural waterways.

Organization: Friends of Northern Lake Champlain

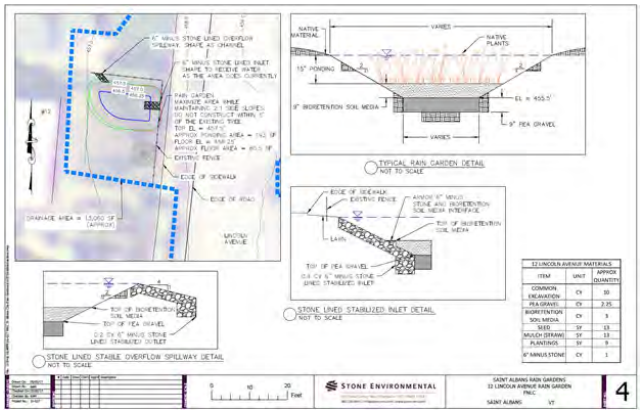
Contact Person: Kent Henderson

Mailing Address: PO Box 58, Swanton, VT 05488

Phone: 802 373-1998

E-mail: hugamoo@comcast.net

Website: http://www.northernlakechamplain.org/



Lake Champlain Basin Program

NEIWPCC Code: L-2016-023
EPA
Close Date: 8/30/2018
Grant Amount: $20,000.00
Non-federal Match: $20,316.75
Total Amount: **$40,316.00**

2016 Local Implementation Grant

Stormwater Pond Floating Treatment Wetland -Season III

Project Summary

Floating Treatment Wetland (FTW) units were evaluated for their suitability in north-eastern United States conditions to improve the pollutant removal effect of a wet extended detention stormwater basin. A stormwater pond treating runoff from a residential townhouse development was monitored for chemical and physical parameters for one year (2015) prior to FTW installation and two years (2016-2017) with FTW rafts covering 25% of the pond surface. Flow-weighted composite samples at the inlet and outlet structures of the pond resulted in representative measurements of water quality coming into and leaving the ponds. FTW rafts were designed using three layers of Polyflow biological filter material and a two-part marine foam for floatation. Four plant species were selected based on their referenced use in the FTW literature in other areas: Pondeteria cordata (pickerelweed), Schoenoplectus tabernaemontani (Softstem Bulrush), Carex comosa (Longhaired Sedge), Juncus effusus (Common Rush). Plants were evaluated for survivability through a growth season as well as over one winter. Additionally, species' biomass was measured as an indicator of robustness of growth. The raft material itself was evaluated for damage after a winter to indicate potential challenges in cold, freezing conditions. The plant that performed the best based on survival and biomass production is the Longhaired sedge (Carex comosa). Water quality performance of the pond was compared between 2015 and 2017.

Outputs:

- the first full-scale, in situ study of floating treatment wetland technology in cold northern climate conditions. The study resulted in a design and method for building and installation of FTW units that showed positive results for withstanding the range of temperatures in a stormwater pond in the Northeast.

Outcomes:

- Field testing of floating wetlands, increased municipal understanding of water quality data and floating wetland treatment technology

Organization: City of South Burlington

Contact Person: Tom DiPietro

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Lake Champlain Basin Program

NEIWPCC Code:	L-2017-027
EPA	
Close Date	4/8/2018
Grant Amount:	$6,110.00
Non-federal Match:	
Total Amount:	**$6,110.00**

Local Implementation Grant 2016

Using Microbial Source Tracking to Identify and Prevent Fecal Pollution to Cumberland Bay

Project Summary

The City of Plattsburgh Environmental Services Department seeks to protect the health and safety of the public and the environment, while maximizing the recreational potential that Lake Champlain offers to the region. In 2015, closures of public bathing beaches in the region due to high levels of fecal indicating bacteria (FIB) spurred the implementation of a science based approach to monitoring the water quality of Lake Champlain with the ultimate goal of locating and mitigating sources of bacteria within the contributing watersheds (Saranac River, Scomotion Creek). The study was narrowed in 2016 by identifying the spatial and temporal aspects of the FIB observed in Cumberland Bay.

The goal of this project was to confirm the suspected source(s) of bacteria in conjunction with environmental conditions during times of elevated FIB in Cumberland Bay. Specialized laboratories have the capability of analyzing molecular DNA of indicator bacteria (bacteroidetes) in water samples through quantitative polymerase chain reaction (qPCR) methods. The results of these analyses allow identification of bacteria sources by isolating specific DNA signatures in fecal waste from human, cattle, canine, or bird origins.

Outputs:

- A report documenting water sampling procedures, environmental conditions, bacterial DNA results, source identification, and mitigation options.

Outcomes:

- Less fecal bacteria to Cumberland Bay resulting in fewer beach closures and the increased potential for recreation opportunities

Organization: City of Plattsburgh

Contact Person: Jonathan P. Ruff

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Lake Champlain Basin Program

NEIWPCC Code:	L-2017-013
EPA	
Close Date:	3/27/2018
Grant Amount:	$20,000.00
Non-federal Match:	$12,100.00
Total Amount:	**$32,100.00**

2016 Local Implementation Grant

UVM Votey Building Bioretention Garden

Project Summary

In 2016 UVM's student chapter of Engineers without Borders (EWB) applied for funding from the LCBP for reparations to the Votey Bioretention Garden. The Garden had fallen into disrepair, rendering its soil impermeable and the plants ineffective. The reparation project had three objectives: replacing the clogged soil, planting more suitable species, and initiating a sustainable long-term maintenance plan. With the help of LCBP funding, EWB was able to purchase new soil and plants that would significantly improve the functionality of the garden and offer long-term improvements to stormwater management in the area.

Outputs:

- 1,800 square feet of functioning bioretention garden

Outcomes:

- Decreased nutrient and sediment runoff to Lake Champlain
- educational opportunities for UVM students

Organization: Engineers without Borders UVM Student Chapter

Contact Person: Gabrielle Mountain

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Lake Champlain Basin Program

NEIWPCC Code:	PO 12475
EPA	
Close Date:	5/1/2018
Grant Amount:	$1,281.00
Non-federal Match:	$ 300.00
Total Amount:	**$1,518.00**

Local Implementation Grant 2016

Warren County 2017 Habitat Improvement Project

Project Summary

The focus of the Warren County Habitat Improvement Program grant was to continue the renovation efforts of previous projects to re-establish a more natural condition along these urbanized stream corridors within southern Warren County. The work on English and West Brooks were continuations of previous independent projects; work along Halfway and its tributaries are continuations of previous LCBP habitat improvement projects. These projects included construction of a 40 foot flood plain bench on the West Brook, and riparian bare root plantings on the West Brook, English Brook, and Halfway Brook, resulting in approximately 1000 feet of streambank restoration.

Outputs:

- 1000 feet of streambank restoration on the West, English, and Halfway Brooks.

Outcomes:

- decreased sediment and nutrient runoff to Lake Champlain, improved riparian and aquatic habitat for fish and wildlife, and volunteer opportunities for community members.

Organization: Warren County SWCD

Contact Person: Robert Bombard

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Warrensburg, NY 12885

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Lake Champlain Basin Program

NEIWPCC Code:	L-2017-033
EPA	
Close Date:	8/15/2018
Grant Amount:	$14,840.00
Non-federal Match:	$13,056.73
Total Amount:	**$27,536.73**

2016 Technical Projects

Garrant Farm Soil Health Tests

Project Summary

This grant supported the implementation of soil based practices that reduce phosphorus loading to Lake Champlain from small farms in the New York portion of the Basin. Practices that promote soil health, increase grazing opportunities, and reduce soil erosion and phosphorus losses were encouraged.

The 2015 AEM Strategic plan identified the Great Chazy River, Little Chazy River, and Direct –To- Lake Tributaries Feeding Lake Champlain Main – North as the CCSWCD priority watershed.

The Garrant Farm, a small certified Organic Dairy Farm, was chosen based on their location in the priority watershed, proximity to a watercourse, site slope and their interest in using the soil test results to manage nutrient applications more precisely to maintain soil health and to avoid excess applications. Knowledge of soil health and fertility will allow the farm to make better nutrient management decisions, reduce application of excess nutrients and thus reduce the potential for ag non-point pollution into Lake Champlain.

The Garrant Farm Soil Health project involved performing the Cornell Soil Health Lab's Comprehensive Assessment of Soil Health test across the entire farm to get a baseline of soil health parameters across all acres. Soil samples were collected from 22 crop fields consisting of 228.5 acres that needed testing. Test results were shared with the farmer and recommendations made with the assistance of LCBP Agronomist, Myra Lawyer.

Outputs:

- Field maps, soil maps and soil health test results

Outcomes:

- short and long-term management suggestions for addressing constraints and maintaining well-functioning soils.

Organization: Clinton County SWCD

Contact Person: Peter Hagar

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Plattsburgh, NY 12901

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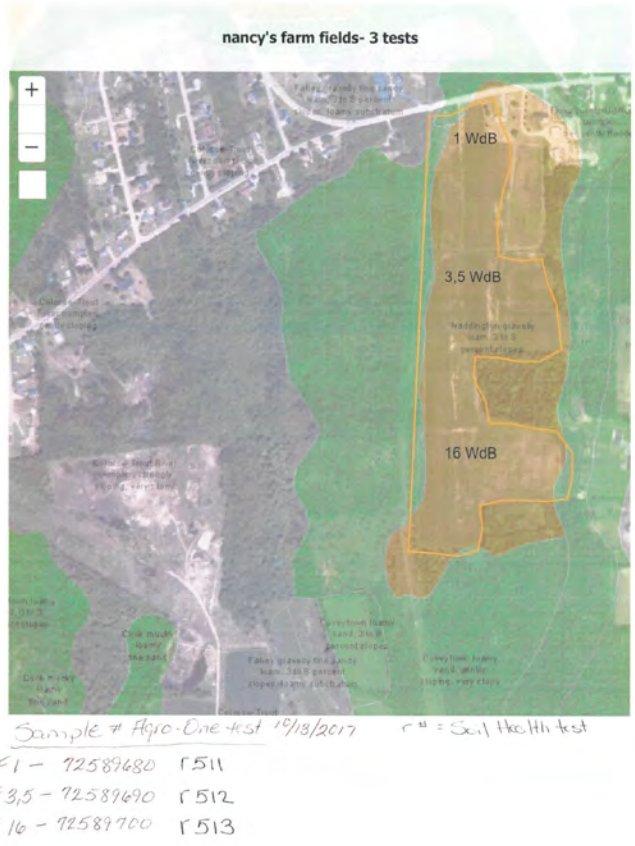
E-mail: peter.hagar@ccsoil-water.com

Website: http://clintoncountyswcd.org/



Lake Champlain Basin Program

NEIWPCC Code:	PO 12351
EPA	
Close Date:	12/14/2017
Grant Amount:	$1,500.00
Non-federal Match:	
Total Amount:	**$1,500.00**

Technical Projects 2016

High Resolution Land Use/Land Cover Mapping for the Lake Champlain Basin

Project Summary

This project yielded the most detailed and accurate land-cover dataset ever produced for the United States portion of the Lake Champlain Basin (LCB). It leveraged the considerable investments made by state, regional, and federal organizations in high-resolution imagery and LiDAR for the LCB. Over a year-long period of intensive work, land cover in the Lake Champlain Basin was mapped at a resolution 900-times more detailed than any existing Basin-wide product. This project yielded two principal output datasets. The first is a 1-meter resolution land-cover dataset. The second is a 10-meter land cover layer in which the 1-meter classes were aggregated to the National Land Cover Database (NCLD) classification schema. These related and complementary products ensure that all stakeholders in the LCB have the land-cover data they need to assess landscape status and process, from conservation managers seeking to evaluate riparian buffers to researchers modelling nonpoint source pollution. Land cover was mapped using advanced object-based image analysis techniques using high-performance computing. A detailed accuracy assessment was carried out and the overall accuracy was 91%. All products were documented with compliant metadata. These land cover products will be immediately useful to the Lake Champlain Basin Program and its collaborators and will serve as crucial input data for efforts seeking to address the issues raised in the Lake Champlain Opportunities for Action Management Plan.

Outputs:

- 1-meter resolution land-cover dataset.
- 10-meter land cover layer in which the 1-meter classes were aggregated to the National Land Cover Database (NCLD) classification schema.

Outcomes:

- these products ensure that all stakeholders in the LCB have the land-cover data they need to assess landscape status and process, from conservation managers seeking to evaluate riparian buffers to researchers modelling nonpoint source pollution.

Organization: UVM Spatial Analysis Lab

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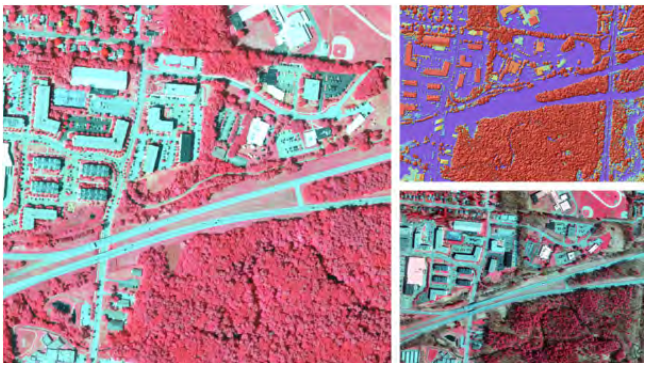

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-036
EPA	
Close Date:	8/28/2018
Grant Amount:	$150,000.00
Non-federal Match:	
Total Amount:	**$150,000.00**

2015 Technical Projects

Human and Ecosystem Health Risks of Mercury and Cyanotoxins in Lake Champlain

Project Summary

The aim of this study was two-fold, 1) to reassess fish mercury throughout the lake to determine which species at what size pose a health concern, identify areas that are disproportionally impacted by mercury and assess long-term changes, along with 2) determining if cyanotoxins are present in fish, and if so, do concentrations in fish correlate with presence in water samples.

Assessing long-term mercury trends in fish shows a significant decrease in lake trout, walleye and yellow perch from their initial mercury surveys (1987-1990). Smallmouth bass and white perch did not show a significant decrease from their initial surveys in the mid-1990s. An unexpected finding was the increase in smallmouth bass and yellow perch mercury concentrations since the 2011 study. Similar findings have been documented in the Great Lakes region and Ontario with proposed explanations including enhanced deposition from Asia, invasive species and climate change. These along with impacts of Hurricane Irene in 2011 are plausible explanations for the increase in Lake Champlain fish mercury but require additional research.

Outputs:

- More than 600 fish of five species (smallmouth bass, walleye, lake trout, yellow perch and white perch) from the seven segments of Lake Champlain (South Lake, South Main Lake, Main Lake, North Main Lake, Malletts Bay, Northeast Arm and Missisquoi Bay) were analyzed for total mercury. 81 fish were evaluated for the presence of microcystin, anatoxin-a, and cylindrospermopsin.
- A draft educational handout was compiled.

Outcomes:

- increased knowledge of mercury and cyanotoxin contamination in Lake Champlain fish.

Organization: RPI/Darrin Fresh Water Institute

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Lake Champlain Basin Program

NEIWPCC Code:	L-2016-058
GLFC	
Close Date:	6/29/2018
Grant Amount:	$56,579.00
Non-federal Match:	$26,198.00
Total Amount:	**$82,777.00**

Technical Projects 2013

Multi-Partner Agricultural Conservation Practice Tracking and Planning Database

Project Summary

An MOU was signed in 2012 between organizations working towards improving agricultural water quality. This MOU outlined common goals, including the improvement of on-farm communication and collaboration, and consistency in how we track and report on agricultural conservation practice across these organizations. This goal of this project was to help achieve the goals of this MOU through a technology solution.

At the end of 2014, VAAFM entered into a contract with Stone Environmental to develop the Multi-Partner Agriculture Conservation Practice Planning and Tracking Geospatial Database (Partner Database). This database is a cloud-based GIS solution that will allow users access to its functionalities without the need of ArcGIS software. The Partner Database has been developed and offers promise to improving collaboration among agricultural water quality field staff, creating consistency in on-farm data collection, and allowing the State of Vermont and the Vermont Agricultural Water Quality Partnership to report on progress made towards implementing agricultural conservation practices while avoiding the risk of duplicative reporting that is inherent in multi-organizational efforts.

The unique approach to developing this database attracted national attention when it received an ESRI Significant Achievement in GIS (SAG) award in 2017.

Outputs:

- functional and accessible GIS-based online BMP tracking database

Outcomes:

- partners working to improve water quality in the Lake Champlain Basin will be better able to coordinate efforts and track progress accurately.

Organization: Vermont Agency of Agriculture

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Montpelier, VT 05620

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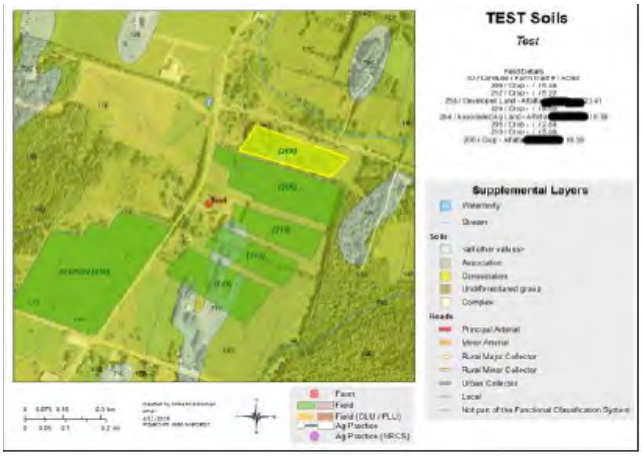
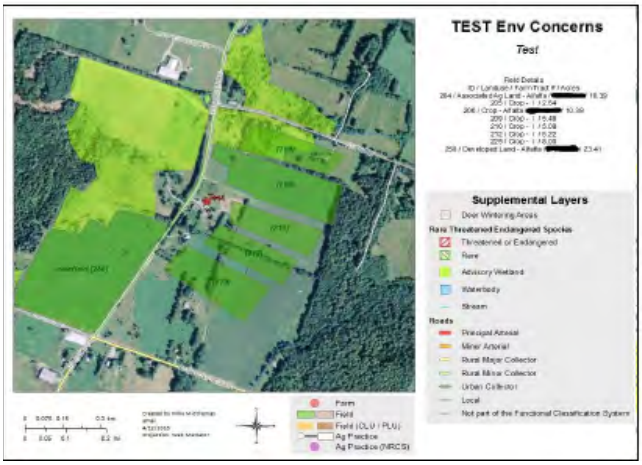
Website: http://agriculture.vermont.gov/





Lake Champlain Basin Program

NEIWPCC Code: L-2014-066
GLFC
Close Date: 4/30/2018
Grant Amount: $48,800.00
Non-federal Match:
Total Amount: **$48,800.00**

2016 Technical Projects

Volunteer Coordination and Training for the Lake Champlain Cyanobacteria Monitoring Program

Project Summary

A Lake Champlain cyanobacteria monitoring program has been in place since 2002. The Lake Champlain Committee (LCC) initiated a citizen-based near-shore monitoring program in 2003 and has expanded the network of trained volunteers and monitoring sites since that time. The monitoring program is an effective collaboration with the Vermont Department of Environmental Conservation (VT DEC), Vermont Department of Health (VDH) and participating New York agencies. The program includes New York, Vermont and Quebec monitoring sites.

Outputs:

- Expanded online cyanobacteria resources, 23 formal cyanobacteria training sessions around the Lake Champlain Basin, an average of 74 approved cyanobacteria reports per week, weekly email reports to volunteers and interested citizens.

Outcomes:

- Better coordinated monitoring of cyanobacteria blooms in Lake Champlain.

Organization: Lake Champlain Committee

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Lake Champlain Basin Program

NEIWPCC Code: L-2017-041
EPA
Close Date: 6/28/2018
Grant Amount: $47,000.00
Non-federal Match:
Total Amount: **$47,000.00**

Technical Projects 2015

Wastewater Treatment Facility Asset Management

Project Summary

In an effort to protect the Lake Champlain Basin, technical assistance was requested to develop and implement asset management plans (AMPs) and training for up to thirteen (13) small and medium-sized wastewater treatment facilities (WWTFs) in Vermont and New York. The objective of this project was to provide municipalities, wastewater treatment governing boards and plant operators with the necessary tools for effective asset management. With proper operational maintenance, and financial guidance, meeting the goal of long-term sustainability of the sewer infrastructure systems, specifically the WWTFs, can be accomplished. Improvements in the operation and maintenance of the sewer infrastructure systems will also decrease the risk of pollution to the lake.

Outputs:

- developed and implemented asset management plans (AMPs) for up to thirteen (13) small and medium-sized WWTFs in Vermont and New York.
- asset management purpose, procedures, and responsibilities training was provided to the wastewater treatment facility operators and municipal officials
- Identification and mapping of wastewater system assets
- Evaluation of existing condition and current level of service
- Development of a management plan to maintain and replace equipment based on life cycle costs
- Optimization of phosphorus removal.
- Improved WWTF efficiency to reduce O&M costs
- Establishment of a long-term funding plan for present and future improvements.

Outcomes:

- Point source pollution from wastewater treatment facilities will be reduced. WWTFs will be able to manage their facilities more effectively.

Organization: MJ Engineering and Land Surveying, PC

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Lake Champlain Basin Program

NEIWPCC Code:	L-2016-066
EPA	
Close Date:	8/21/2018
Grant Amount:	$379,200.00
Non-federal Match:	
Total Amount:	**$379,200.00**

SECTION TWO:

HEALTHY ECOSYSTEMS

Two much-anticipated events—with opposite ecological consequences—shaped the Lake Champlain ecosystem in 2018. The Quarry Dam on the West Branch of the Ausable River was removed. Removal of the dam is expected to improve aquatic connectivity and fish passage in this nationally renowned trout stream.

On a less auspicious note, the 51st known aquatic invasive species was discovered in Lake Champlain. Fishhook waterflea, a small crustacean is an aggressive predator of zooplankton and fouls fishing lines.

Both events were marked by collaboration among many partners—for funding and planning of the dam's removal and response to the fishhook by the Lake Champlain Aquatic Invasive Species Rapid Response Task Force.

Grant/Project Categories in progress

supports projects with total budgeted costs up to $15,000 that aim to prevent the introduction of aquatic invasive species to and/or from the Lake Champlain Basin and to limit the impact and spread of these species within the Basin.

Aquatic Invasive Species:
Eleven AIS spread prevention grants were awarded in NY and VT. Three lake associations received funding to conduct targeted diver assisted suction harvesting management for Eurasian watermilfoil. Five lake and one river association received funding for stewards to inform boat launch and river users of the threats of aquatic invasive species to the ecosystem and the economy, to collect data on user behavior, and reinforce spread prevention messaging. The other two grants addressed water chestnut control and backcountry water monitoring for aquatic invasive species. **Pages 78-88**

Healthy Ecosystem Projects:
Lake Champlain boat launch stewards conducted their twelfth year of courtesy aquatic invasive species watercraft inspections and decontaminations of high risk watercraft. Stewards greeted visitors, collected data on AIS spread prevention behaviors, removed all aquatic organisms hitchhiking on boats and equipment, and identified the last body of water visited by the watercraft in the previous two weeks.
Pages 89-91

The Champlain Canal aquatic invasive species barrier feasibility study description progressed with an on-site visit with key partners including the NYS Canal Corporation, NYSDEC, USFWS, USACE and their contractors, and LCBP staff to review the hydrology in and surrounding the canal and to better refine the scope of the project.
Page 90

Program Highlights

- Thirteen Lake Champlain Boat Launch Stewards greeted 26,808 visitors, inspected watercraft from 35 states and 2 provinces, and intercepted aquatic invasive species on 609 vessels. This includes two stewards that worked for the second season on Missisquoi Bay in QC.
- Staff served on several ecosystem and water quality management committees for issues including invasive species and dam removal.
- The AIS Coordinator served as President of the Northeast Aquatic Plant Management Society and planned for the 20th anniversary meeting held in January 2019 and completed a two-year term as co-chair of the Northeast Aquatic Nuisance Species Panel.
- Staff coordinated a multi-state effort to survey for and conduct genetics analyses of hydrilla in the Connecticut River.
- As part of the Lake Champlain Basin Aquatic Invasive Species Rapid Response Task Force, staff helped assess and recommend management actions in response to the discovery of alewife in Lake Carmi and fishhook waterflea in Lake Champlain.

Aquatic Invasive Species (AIS) Management Collaborations

The AIS Management Coordinator worked with management partners on the following initiatives:

- Participated in the New York State Invasive Species Council Advisory Committee meetings and began to participate in the Vermont Exotic Invasive Plant Committee workgroup to review species that may need to be added to the watch and prohibited lists.
- AIS Coordinator continued to participate in Adirondack regional AIS spread prevention partnership meetings to coordinate andto review priority placement of boat launch stewards and decontamination stations, reviewed level of coverage for the program based on different funding scenarios.
- Held a water chestnut workgroup meeting with state, federal, and local partners to debrief the 2017 field season and planned for the 2018. field season.
- The LCBP procured two new travelling, self-contained high pressure-hot water decontamination units to be used at Vermont boat launches in the basin.
- Staff coordinated the review and approval process for 11 new quality assurance project plans (QAPPs) for projects requiring data collection or analysis.
- LCBP staff began to coordinate the 2019 NALMS meeting as a co-host of the conference.
- AIS Coordinator and LCBP staff hosted the USACE Invasive Species Leadership Team meeting with AIS USACE experts from across the country. LCBP presented on Lake Champlain water chestnut work, the boat launch steward program, and the Champlain Canal barrier project.

Grant Highlights

Riparian Forest Stewardship: The Intervale Center cleared vegetation and contained aggressive species to maintain 30 acres of riparian forest buffer restoration projects and to ensure long-term success.

Great Chazy-Saranac Culvert Assessment: Franklin County SWCD, NY assessed more than 134 road-stream crossings to identify bridges and culverts that are priorities for improving aquatic connectivity and stream bank stability.

DASH Harvesting: Lake Hortonia Property Owner Association in VT controlled Eurasian watermilfoil using diver assisted suction harvesting (DASH) near the lake's outlet dam, helping to prevent the movement of the species downstream.

Water Chestnut Control: The Friends of the Missisquoi National Wildlife Refuge continued to help control invasive water chestnut, removing 8,644 rosettes and protecting an important wetland over the last five years.

Backcountry Water Monitors Project: Volunteers for the Adirondack Mountain Club (ADK) in NY surveyed remote ponds for the presence of aquatic invasive species. ADK also conducted an awareness campaign.

2018 Local Implementation Grant

AIS River Steward for the Ausable River/Northern Champlain Region, NY

Project Summary

AsRA's river steward program protects the Ausable River, its tributaries, lakes, and the riverine corridor from aquatic invasive species to ensure healthy aquatic and riparian ecosystems. Over its seven years, the primary outcome of the river steward program has been an increase in human awareness and action that is integral to spread prevention, early identification, and a reduction in invasive species infestations in the watershed. In 2018 the river steward will continue to deliver critical AIS education and prevention on-stream and at public events during the angling and river recreational season by distributing the spread prevention message in conversations, serving as an information resource to the public (especially river users), monitoring the river's condition for presence or absence of AIS, overseeing the distribution of educational materials, and maintaining wader wash stations across the watershed.

Outputs:

- AIS education and prevention on-stream and at public events
- information resource to the public (especially river users)
- monitoring of the river's condition for presence or absence of AIS
- and maintaining wader wash stations across the watershed.

Outcomes:

- increase in human awareness and action that is integral to spread prevention, early identification, and a reduction in invasive species infestations in the watershed.

Organization: Ausable River Association (AsRA)

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Lake Champlain Basin Program

NEIWPCC Code:	PO 12396
EPA	
Start Date:	2/2/2018
Grant Amount:	$15,000.00
Non-federal Match:	$ 2,000.00
Total Amount:	**$17,000.00**

Local Implementation Grant 2018

Aquatic Invasive Species Spread Prevention Activities of the Rainbow Lake Water Quality Protection Program

Project Summary

The LCBP AIS Spread Prevention Grant will help underwrite the full cost of the Adirondack Watershed Institute Stewardship Program's watercraft inspection and AIS monitoring efforts at the NYSDEC campground and Buck Pond, in the headwaters of the Lake Champlain Basin. Stewards prevent the spread of AIS by performing careful inspections of all watercraft launched and retrieved at these sites, as well as educating the public in order to increase visitor understanding of AIS issues and spread prevention measures that they can take themselves.

Outputs:

- inspection & cleaning of boats
- collection of data
- education of boaters

Outcomes:

- AIS spread prevention

Organization: Adirondack Watershed Institute Stewardship Program

Contact Person: Dr. Eric Holmlund

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Paul Smiths, NY 12970

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Lake Champlain Basin Program

NEIWPCC Code: PO 12395
EPA
Start Date: 2/2/2018
Grant Amount: $15,000.00
Non-federal Match: $ 4,376.00
Total Amount: **$19,376.00**

2018 Local Implementation Grant

Backcountry Water Monitors, Year Four

Project Summary

The Backcountry Water Monitors Project (BCWM) seeks to educate and recruit volunteers who can monitor backcountry waters of the Lake Champlain Basin and the Adirondack Park which are currently not effectively surveyed by other efforts. Working with the Adirondack Park Invasive Plant Program (APIPP), NYS Department of Environmental Conservation (DEC), and iMapInvasives, the BCWM project will educate and train ADK members and supporters 1) to identify Aquatic Invasive Species (AIS) in backcountry waters; and 2) to record and report their work to project staff and through iMapInvasives. The BCWM project will conduct two workshops to train volunteers in backcountry monitoring for AIS. The project will also conduct at least four outings to survey backcountry ponds. ADK's membership, volunteers, and various print and social media platforms will help increase attendance at these workshops and outings. In year four of the BCWM project, ADK will educate its membership about aquatic invasives through a comprehensive awareness campaign resulting in 25 volunteer stewards who will identify, monitor, and report AIS in 15 backcountry areas of the Lake Champlain Basin and the Adirondack Park.

Outputs:

- recruitment and training of volunteers
- 2 workshops, 4 outings, 15 ponds surveyed Number and location of wader wash stations active along the rivers
- Outreach to local organizations and businesses, and number of events attended and people engaged.

Outcomes:

- Aquatic invasive species monitoring, spread prevention, and education and outreach.

Organization: Adirondack Mountain Club

Contact Person: Cathy Pedler

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Website: https://www.adk.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-018
GLFC	
Start Date:	4/10/17
Grant Amount:	$12,486.00
Non-federal Match:	$ 5,797.00
Total Amount:	**$18,474.00**

Local Implementation Grant 2018

Boat Launch Stewards at Lake Carmi

Project Summary

The purpose of this project is to prevent the spread of aquatic invasive species by establishing a VT DEC or LCBP trained Boat Launch Steward at both boat launches on Lake Carmi. Lake Carmi is designated an impaired lake by the State of Vermont. The lake is plagued by a heavy infestation of Eurasian watermilfoil (EWM) and Curly leaf pondweed. Continuing the presence of a Boat Launch Steward at the boat access to inspect boats will help prevent the spread of EWM and other potential invasive species from being transported into and out of Lake Carmi. It will also present the opportunity for the Boat Launch Steward to educate boaters in proper practices that prevent the spread of invasive species.

Outputs:

- Number of steward days of coverage
- Number of boats surveyed
- Spread prevention measures taken
- Invasive species collected
- Last body of water visited in previous two weeks.

Outcomes:

- Aquatic invasive species spread prevention and education.

Organization: Franklin Watershed Committee

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Website franklinwatershedcommittee.org

Lake Champlain Basin Program

NEIWPCC Code:	PO 12547
EPA	
Start Date:	4/18/2018
Grant Amount:	$ 9,888.00
Non-federal Match:	
Total Amount:	**$ 9,888.00**

2018 Local Implementation Grant

Chazy Lake Watershed Initiative / Chazy Lake Environmental Committee

Project Summary

Chazy Lake Watershed Initiative's (CLWI) primary objective is to prevent the spread of aquatic invasive species. Since Chazy Lake is part of the Lake Champlain Basin, there is a need to coordinate among the different partners to address early detection, rapid response to new infestations, and management of invasive species populations. CLWI will work with a contracted service to reduce the amount of Eurasian water milfoil (EWM) in the lake. CLWI will target DASH efforts in the densest deep-water populations of EWM as guided by plant survey work in 2008, 2012, and 2015 by DFWI. By working closely with the Lake Champlain Basin Program (LCBP) we will protect the aquatic ecosystem, develop efforts to manage EWM and reduce the risk of introduction of new invasive species.

Outputs:

- 15 day diver assisted suction harvesting (DASH) of Eurasian water milfoil
- daily harvest reports and harvest map, including percentage of EWM present pre and post treatment
- composted cubic yards

Outcomes:

- Support and conduct AIS Management and Research.
- Reduce and contain AIS populations in the Basin. Eliminate or prevent the expansion of AIS populations using control techniques such as hand pulling, benthic barrier matting, suction harvesting and pesticides.

Organization: Chazy Lake Watershed Initiative

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Website: https://www.adk.org/

Deep water Eurasian Water Milfoil prevalent during the summer of 2016. Photo taken by Lisa LaPoint Napper, August 2016.

Lake Champlain Basin Program

NEIWPCC Code:	PO 12397
GLFC	
Start Date:	2/2/2018
Grant Amount:	$15,000.00
Non-federal Match:	$ 2,700.00
Total Amount:	**$17,700.00**

Local Implementation Grant 2018

Lake Eden Greeter Program

Project Summary

Lake Eden Association proposes to continue its greeter program established in 2009 at the three public boat launches on Lake. The greeters at each location will talk to boaters on the invasive species problem in Vermont. Educational materials will be distributed and boaters asked to inspect their boats before and after entering a body of water. A daily log of boater activity will be kept. VIP Patrollers continue to monitor Lake Eden to assist in the early detection of milfoil or other invasive species, a program started in 2008.

Outputs:

- data collection
- distribution of AIS prevention handouts
- watercraft and trailer inspections

Outcomes:

- Aquatic invasive species spread prevention and education and outreach.

Organization: Lake Eden Association

Contact Person: Gary Durett

Mailing Address: PO Box 203
Eden, VT 05652

Phone: 802 760-0841

E-mail: gmdurett@myfairpoint.net

Website: http://www.edenvt.org/recreation/lake-eden-association-greeter-program/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12530
EPA	
Start Date:	3/22/2018
Grant Amount:	$15,000.00
Non-federal Match:	$13,663.05
Total Amount:	**$28,633.05**

2018 Local Implementation Grant

Lake George AIS Outreach Program

Project Summary

The Lake George AIS Outreach Program will conduct invasive species public education and outreach throughout the Lake George watershed in order to expand individual and community awareness of the threats of invasive species and ways they can help prevent their spread. One summer staff person will be hired to provide education and outreach at events and cartop launches. Outputs will include number of canoe and kayak inspections and number of people interacted with about invasive species spread prevention. Through education programming the organization hopes to expand individual and community awareness of the threats of invasive species and ways they can help prevent their spread.

Outputs:

- canoe & kayak inspections
- data collection
- delivery of educational AIS spread prevention messages to boaters and other recreationalists
- distribution of AIS print materials,
- identify and attend community events at which to have an invasive species display and information table

Outcomes:

- Aquatic invasive species spread prevention
- increased community awareness and education and outreach.

Organization: The Lake George Association

Contact Person: Kristen Wilde

Mailing Address: P. O. Box 408
Lake George, NY 12845

Phone: 518 668-3558

E-mail: kwilde@lakegeorgeassociation.org

Website: www.lakegeorgeassociation.org

Lake Champlain Basin Program

NEIWPCC Code:	PO 12532
EPA	
Start Date:	3/22/2018
Grant Amount:	$ 8,400.00
Non-federal Match:	$ 1,700.00
Total Amount:	**$10,100.00**

Local Implementation Grant 2018

Lake Hortonia Milfoil Management

Project Summary

Lake Hortonia Property Owner Association (LHPOA) seeks funding from LCBP to support Diver Assisted Suction Harvesting (DASH) of Eurasian water milfoil on 1.3 acres located at the boat launch. The specific outputs of the project will be an approved QAPP, calendar of the treatments, map and size of the treatment area, map/photos of disposal site, VT ANR permit for DASH, three quotes for DASH harvest, # of cubic yards of EWM collected, harvesting rate, progress and photos, # of composted cubic yards of EWM, photos and compost practices, copies of education and outreach materials and releases, and final report including the native plant regrowth in treatment area. Quarterly reports will be submitted during the period of the grant indicating progress through the project as well as a year summary discussing the suction harvesting conducted in the targeted area of Lake Hortonia and the results from subsequent invasive weed survey to be conducted by the Darrin Fresh Water Institute.

Outputs:

- DASH harvesting of 1.3 acres
- Calendar of treatments, map of treatment area, map of potential "green" disposal areas.
- Data collection

Outcomes:

- Reduce the population of Eurasian water milfoil and prevent spread and further impact.

Organization: Lake Hortonia Property Owner Association

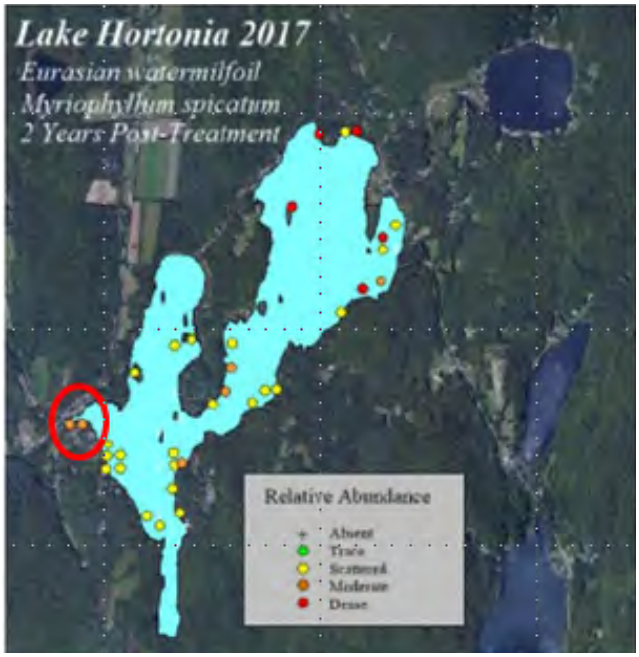
Contact Person: Thomas Batzinger

Mailing Address: 12 Kelly Meadow Road
Burnt Hills, New York 12027

Phone: 518 669-9828

E-mail: tmbatzinger@nycap.rr.com

Website: https://lakehortonia.org/



The area circled in red highlights the focus region for LCBP funded DASH harvesting.

Lake Champlain Basin Program

NEIWPCC Code:	PO 12531
GLFC	
Start Date:	3/22/2018
Grant Amount:	$15,000.00
Non-federal Match:	$ 4,973.00
Total Amount:	**$19,973.00**

2018 Local Implementation Grant

Lake Iroquois Eurasian Water milfoil Control via Diver Assisted Harvesting

Project Summary

The diver assisted suction harvesting (DASH) will be conducted in areas of the lake with dense beds of the invasive species Eurasian Watermilfoil (EWM). Three areas will be targeted. One surrounding a rock island in the center of the lake, an area that generates fragments, worsening the infestation. The second will be near the state fishing access, reducing the likelihood EWM is transported by vessels and vehicles departing the lake and decreasing the risk of spread to other water bodies. Last will be near the Lake Iroquois Recreation District. The Lake Iroquois Association will contract with a DASH operator to conduct the harvesting of EWM. A Harvesting Report will be written and include photographs to document the work, amount of EWM harvested and lake conditions. The primary goal of DASH is to prevent the worsening of the EWM infestation within Lake Iroquois, reducing the risk of spreading EWM elsewhere within the Lake Champlain watershed and reduce impact on recreation. This work is permitted under an Aquatic Nuisance Control permitted by the Vermont Department of Environmental Conservation in 2016.

Outputs:

- DASH harvesting of three dense beds
- data collection

Outcomes:

- prevent the worsening of the EWM infestation within Lake Iroquois, reducing the risk of spreading EWM elsewhere within the Lake Champlain watershed and reducing impact on recreation.
- increase in aquatic invasive species (AIS) spread prevention awareness

Organization: Lake Iroquois Association

Contact Person: Jamie Carroll

Mailing Address: PO Box 569
Hinesburg, VT 05461

Phone: 802-635-2528

E-mail: JamieCarroll@gmail.com

Website: http://www.lakeiroquois.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12619
GLFC	
Start Date:	8/3/2018
Grant Amount:	$15,000.00
Non-federal Match:	$ 1,263.00
Total Amount:	**$16,263.00**

Local Implementation Grant 2018

Upper Saranac Lake Watershed Steward Program

Project Summary

This project encompasses posting lake stewards at the major points of entry and egress for boat traffic on Upper Saranac Lake with the goal of preventing the spread of Aquatic Invasive Species (AIS). Steward's prevent the spread of AIS by performing careful inspections of all watercraft launched and retrieved at these sites. The steward will decontaminate watercraft when appropriate, utilizing a decontamination wash station at the Back Bay Boat launch site. They will also educate lake users to increase visitor understanding of AIS issues and spread prevention measures that can be utilized by the general public. Steward's will collect detailed data to be used in Paul Smith's College Watershed Stewardship Program's (WSP) comprehensive summary report.

Outputs:

- data collection
- decontamination wash station operation
- watercraft and trailer inspections
- public Water Shield workshop

Outcomes:

- Increased invasive species awareness and prevention of invasive species spread.

Organization: Upper Saranac Foundation

Contact Person: Guy Middleton

Mailing Address: P.O. Box 564
Saranac Lake, NY 12983

Phone: 518 796-1052

E-mail: lakemanager@usfoundation.net

Website https://www.lakegeorgeassociation.org/

AWI Steward at the USL Back Bay decontamination station. Photo: Guy Middleton

Lake Champlain Basin Program

NEIWPCC Code:	PO 12534
EPA	
Start Date:	3/22/2018
Grant Amount:	$15,000.00
Non-federal Match:	$ 1,000.00
Total Amount:	**$16,000.00**

2016 Local Implementation Grant

Water Chestnut Control at Missisquoi National Wildlife Refuge

Project Summary

The Friends of Missisquoi NWR (Friends) will work with the Missisquoi National Wildlife Refuge (refuge) in a continued effort to control Water Chestnut in 2018. The Friends have been working with the refuge to control water chestnut on refuge lands since 2007. Controlling populations of chestnut in this area protects one of the Basin's most significant wetland areas as well as helping prevent the spread of this aquatic invasive in the northern portion of the lake. Outputs include a press release announcing the grant award, photos of the work and a poster used at the refuge Visitor's Center. Outcomes are improving wetland habitat condition by controlling water chestnut on Missisquoi NWR. Additional outcomes are preventing the spread of water chestnut into unaffected areas in the northern lake.

Outputs:

- water chestnut harvest of 20 acres
- annual survey
- data collection

Outcomes:

- preventing the spread of water chestnut into unaffected areas in the northern lake.
- improving wetland habitat condition by controlling water chestnut on Missisquoi NWR.

Organization: Friends of Missisquoi National Wildlife Refuge

Contact Person: Rich Kelley

Mailing Address: 29 Tabor Road
Swanton, VT 05488

Phone: (802) 475-2022

E-mail: erickt@lcmm.org

Website: http://www.lcmm.org/

Contractor pulling water chestnut rosettes at Missisquoi NWR

Lake Champlain Basin Program

NEIWPCC Code:	PO 12577
GLFC	
Start Date:	4/30/2018
Grant Amount:	$4,000.00
Non-federal Match:	$1,250.00
Total Amount:	**$5,250.00**

Healthy Ecosystems Project 2018

Boat Launch Stewards

Project Summary

The 2017 season was the 11th year of the Lake Champlain Boat Launch Steward Program on Lake Champlain. The Lake Champlain Basin Program's three pronged approach to overland transport of aquatic invasive species (AIS) spread prevention is boat inspection and AIS removal, AIS education, and data collection and analysis.

Outputs:

- Twelve lake stewards greeted, interviewed, and shared AIS information with boaters at 12 different launch sites around Lake Champlain, including two new sites on Missisquoi Bay, Québec.
- The stewards spent a total of 534 days at the launches from Memorial Day weekend until the end of September. Stewards talked with 25,636 boaters and inspected 12,314 vessels launching and retrieving, averaging 21 survey records a day per steward.
- Of the 11,148 vessel groups surveyed, 11.5% of their vessels were found to harbor aquatic plants, animals, or detritus, and 2.8% were found to harbor one or more aquatic invasive species. 86.4 percent of all boaters, when interviewed, reported to have taken one or more aquatic invasive species spread prevention measure.

Outcomes:

- Reduce the spread of AIS within the Lake Champlain Basin.
- Prevent the introduction of aquatic invasive plants, animals, and pathogens via overland transport.
- Increase public understanding of, involvement in, and behavior change related to the spread, prevention, and control of AIS through education and outreach programs.

Organization: LCBP

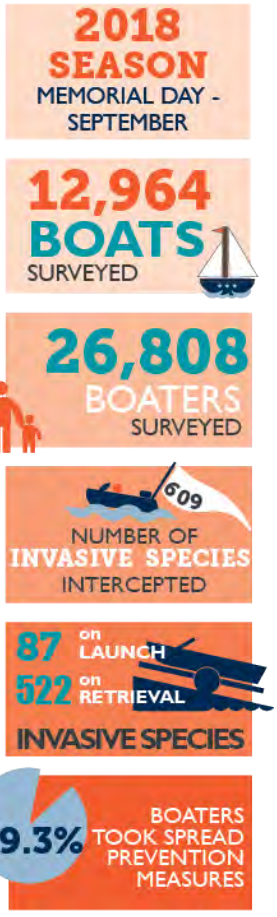
Contact Person: Meg Modley

Mailing Address: 54 West Shore Road
Grand Isle, VT 05458

Phone: 802 372-3213 x 215

E-mail: mmodley@lcbp.org

Website: https://www.lcbp.org



Lake Champlain Basin Program

NEIWPCC Code: N/A
EPA/GLFC
Start Date: 4/1/2018
Grant Amount: $130,200 / $24,800
Non-federal Match:
Total Amount: **$155,000.00**

2018 Healthy Ecosystems Project

Champlain Canal Barrier

Project Summary

Senator Leahy secured $200,000.00 in Great Lakes Fishery funds to use as match for the Champlain Canal Barrier Feasability Study. Funds will be used to leverage a USACE Section 542 grant with the NYSCC to conduct the study.

In October 2018 NEIWPCC, USACE, Prince Hydro, LCBP, NYSDEC, USFWS, NYSCC met on site to review canal hydrology and operation.

Outputs:

- An executed agreement between the USACE and a local sponsor to initiate the Champlain Canal barrier feasability study.
- A draft alternatives report is under development

Outcomes:

- The feasibility study will outline options to reduce the risk of AIS transport through the Champlain Canal.

Organization: LCBP/NEIWPCC

Contact Person: Meg Modley

Mailing Address: 54 West Shore Road
Grand Isle, VT 05458

Phone: 802 372-3213 x 215

E-mail: mmodley@lcbp.org

Website: https://www.lcbp.org

Lake Champlain Basin Program

NEIWPCC Code: N/A
EPA
Start Date: 9/10/2018
Grant Amount: $200,000.00
Non-federal Match:
Total Amount: **$200,000.00**

Healthy Ecosystems Project 2018

Missisquoi Bay Boat Launch Stewards

Project Summary

Organisme de bassin versant de la baie Missisquoi (OBVBM) will support the addition of two boat launch stewards to the Lake Champlain boat launch steward program who will work in the Baie Missisquoi, Quebec portion of Lake Champlain to survey and intercept aquatic invasive species through courtesy boat inspections. OBVBM will hire two stewards to work from Memorial to Labor Day and the stewards will be trained and outfitted with equipment and uniforms by the Lake Champlain Basin Program. The data collected by the OBVBM stewards will augment the existing Lake Champlain boat launch steward program by expanding coverage to Quebec for a second year.

Outputs:

- two stewards stationed at public boat launches around Missisquoi Bay in Quebec
- data collection

Outcomes:

- control the introduction, spread, and impact of non-native nuisance species in order to preserve the biological/ecological integrity of the Lake Champlain ecosystem

Organization: OBVBM

Contact Person: Frédéric Chouinard

Mailing Address: 2 Adhemar-Cusson
Bedford, Quebec, Canada, JOJ 1AO

Phone: 450-248-0100

E-mail: Frederic.chouinard@obvbm.org

Website: http://www.obvbm.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12517
GLFC	
Start Date:	3/1/2018
Grant Amount:	$16,000.00
Non-federal Match:	$ 1,200.00
Total Amount:	**$17,200.00**

2016 Local Implementation Grant

AIS River Steward for the Ausable River/Northern Champlain Region, NY

Project Summary

The River Steward program began in 2010 and has been successfully disseminating the AIS spread prevention message and collecting survey data for six years. The goal of the program is to educate the public through multiple outlets such as direct streamside education to river users, distributing spread prevention materials to local businesses, and educating at public events. In addition to providing AIS spread prevention education, the river steward maintains wader wash stations, providing an on-site way for anglers to keep AIS out of the river, and observes and reports new terrestrial or aquatic invasive infestations in the watershed.

Outputs:

- River user surveys (n=373) were completed on 55 days between May 19 and October 9, 2017. Surveys were conducted at 13 locations along the west branch of the Ausable River, from the ski jumps in Lake Placid to Lake Everest in Wilmington.
- 84% of river users surveyed were fly anglers. Other user types include spin anglers, kayakers, and rafters. 44% of fly anglers used felt sole waders, a slight increase from 2015 and 2016 percentages.
- Distribution of AIS informational brochures on wader wash stations, at farmer's markets, two fly fishing tournaments, the ADK Trail Run, the ADK Hurricane Mountain Chapter AquaFest, the Festival of the Colors, and other local/AsRA events. Over 300 people were engaged with the river steward at the various events.

Outcomes:

- Aquatic invasive species education and outreach to anglers on rivers
- wader wash stations set up to provide best management practice washing to anglers along rivers
- spread prevention messages shared with the public.

Organization: Ausable River Association (AsRA)

Contact Person: Brendan Wiltse

Mailing Address: PO Box 8
Wilmington, NY 12997

Phone: 518-637-6859

E-mail: brendan@ausableriver.org

Website: http://www.ausableriver.org

Wader Wash Station at Monument Falls on the West Branch Ausable River

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-018
GLFC	
Close Date:	3/30/18
Grant Amount:	$13,500.00
Non-federal Match:	2,184.12
Total Amount:	**$15,684.12**

Local Implementation Grant 2016

AIS Spread Prevention Watercraft Inspector Program

Project Summary

This project supported two watershed steward FTE positions in the summer field season of 2017, deployed strategically at Second Pond, Lake Flower, and Rainbow Lake. Each of these locations is situated in the headwaters of the Saranac River, part of the Lake Champlain Basin, and are significant as popular destinations for boat visitation and as AIS spread vectors. These stewards and others funded by New York State educated a total of 15,867 visitors at the three locations and inspected a total of 8,603 watercraft. Stewards detected and removed a total of 203 confirmed AIS from boats at the three locations. Stewards were on duty from Memorial Day to Labor Day and concluded service on October 9.

Outputs:

- stewards engaged with 15,867 visitors at the three locations
- 8,603 watercraft inspected
- 203 confirmed AIS were detected and removed from boats

Outcomes:

- AIS spread prevention and education in the Adirondack region of the Basin.

Organization: Paul Smith's College AWISP/Rainbow Lake Association

Contact Person: Dr. Eric Holmlund

Mailing Address: c/o Paul Smith's College
P.O. Box 265, Paul Smiths, NY 12970

Phone: 518-327-6341

E-mail: eholmlund@paulsmiths.edu

Website http://www.paulsmiths.edu/

Steward Carly Haralson removes aquatic plants from a boat.

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-016
GLFC	
Close Date:	4/19/2018
Grant Amount:	$30,000.00
Non-federal Match:	
Total Amount:	**$30,000.00**

2016 Local Implementation Grant

Back Country Water Monitors, Year Three

Project Summary

The Backcountry Water Monitors Project, year three was the continuation of the initiative to canvas the many unsurveyed backcountry lakes and ponds within the Lake Champlain Basin of the Adirondack Park for aquatic invasive species (primarily plant species). The objective of the project also involved education and outreach to ADK's 30,000 members, its' many supporters and the general public about Aquatic Invasive Species (AIS) spread prevention. Since many of the organization's members are paddlers, backcountry recreationists and dedicated conservation stewards, the education, conservation, and stewardship goals of the project are very attractive. The project has continued to grow with training and educational support from partners.The location of the project includes the backcountry waters of Lake Champlain sub-basins, including unsurveyed waterbodies in the Great and Little Chazy Rivers, Saranac River, Salmon River, the Ausable and Little Ausable Rivers, Boquet River and in the small headwaters of brooks and streams that flow directly into Lake George and Lake Champlain.

Outputs:

- education of ADK membership about aquatic invasives through a comprehensive awareness campaign
- two training workshops, and four outings resulting in 21 additional volunteer stewards to identify, monitor, and report Aquatic Invasive Species (AIS)
- 15 new water bodies surveyed in Year Three for a total of 44 lakes or ponds over the three years of the project

Outcomes:

- AIS spread prevention, early detection and monitoring by citizen scientists, AIS education and outreach.

Organization: Adirondack Mountain Club

Contact Person: Cathy Pedler

Mailing Address: 814 Goggins Road
Lake George, NY 12845

Phone: 518-668-4447

E-mail: cathypedler.adk@gmail.com

Website: https://www.adk.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-022
EPA	
Close Date:	3/27/2018
Grant Amount:	$12,757.00
Non-federal Match:	$ 6,842.00
Total Amount:	**$19,599.00**

Local Implementation Grant 2017

Boat Access Greeter Program

Project Summary

The Lake Dunmore Fern Lake Association in conjunction with the LCBP established a boat launch greeter program at the Vermont Department of Fish and Wildlife Magoon State public launch. LDFL hired and trained stewards to offer courtesy boat inspections at the Magoon State boat launch on Lake Dunmore to prevent the spread of AIS.

Lake Dunmore has suffered for decades from an infestation of Eurasian Milfoil. The AIS reduction effort has been very successful since the application of herbicides during the 2016 season.

Outputs:

- inspection of a total of 1720 boats, 39 were found to be carrying an aquatic organism (~2.3%). Fewer aquatic organisms were found on boats launching (14) as retrieving (25). The species intercepted were all Eurasian water milfoil.
- Data collection

Outcomes:

- increased awareness of aquatic invasive species spread prevention at the Magoon State boat launch
- prevention of the introduction and spread of aquatic invasive species hitchhiking on boats, trailers, and other equipment.

Organization: Lake Dunmore Fern Lake Association

Contact Person: Jim Meyersburg

Mailing Address: PO Box 14
Salisbury, VT 05769

Phone: 239 272-5494

E-mail: jimmeyersburg@msn.com

Website: http://www.ldfla.com/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-023
EPA	
Close Date:	6/30/2018
Grant Amount:	$14,267.00
Non-federal Match:	$ 1,725.00
Total Amount:	**$15,992.00**

2016 Local Implementation Grant

Boat Launch Stewards at Lake Carmi

Project Summary

The purpose of the project was to prevent the spread of aquatic invasive species by establishing a VT DEC trained Boat Launch Steward at the north beach boat launch at Lake Carmi. Lake Carmi is designated an impaired lake by the State of Vermont. The lake is plagued by a heavy infestation of Eurasian Milfoil. Establishing a Boat Launch Steward/ Greeter at the boat launch to inspect boats helped prevent the spread of Eurasian Milfoil and other potential invasive species from being transported into and out of Lake Carmi. It also presented the opportunity for the Boat Launch Steward/ Greeter to educate boaters in proper practices that prevent the spread of invasive species. Each boater was briefed and made aware of the "Clean, Drain and Dry" campaign.

Outputs:

- data collection
- 21 invasive species were removed from boats Two of the plants removed were Curly Leaf Pondweed, 1 was unspecified and 18 were recorded as Eurasian Water Milfoil. Three of these incidences where found at launch. The remainder of the invasive species were found upon retrievals and thus prevented spreading to other lakes.

Outcomes:

- Increased education and outreach of aquatic invasive species spread prevention in the Lake Champlain Basin and prevention of the introduction and spread of aquatic invasive species in the basin.

Organization: Franklin Watershed Committee

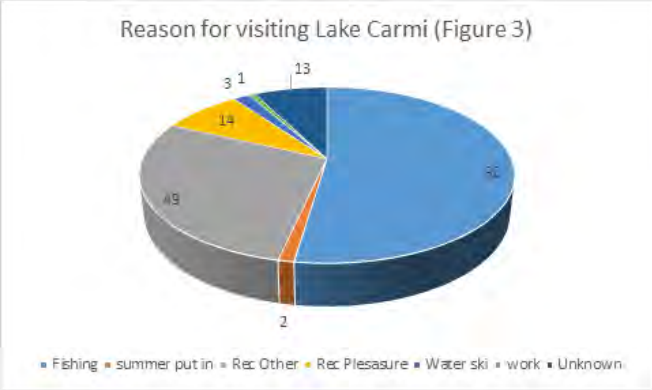
Contact Person: Peter Benevento

Mailing Address: P. O. Box 79
Franklin, VT 05457

Phone: 774-258-0216

E-mail: peterben@gmail.com

Website: https://www.franklinwatershed.org/



Lake Champlain Basin Program

NEIWPCC Code: L-2017-042
EPA
Close Date: 5/30/2018
Grant Amount: $3,323.00
Non-federal Match:
Total Amount: **$3,323.00**

Local Implementation Grant 2016

Control of Yellow Iris in Thorn Brook and Lewis Creek

Project Summary

This program is a continuation of efforts to improve plant composition of priority natural communities through the study, mapping, and treatment of Iris pseudacorus (yellow iris.) Specifically, this is a continuation of work initiated in 2015 under the LCBP grant "Aquatic Yellow Iris Removal and Spread Prevention Plan for Four Lake Champlain Tributaries" (NEI L-2015-018) to greatly reduce yellow iris populations in the Thorp/Kimball watersheds, and more generally, a continuation of ongoing stewardship efforts by the State of Vermont and Lewis Creek Association in area floodplain forests and associated wetlands.

Outputs:

- In the Lower Thorp Brook floodplain, iris was mapped in June then treated with herbicide in October. In total, 73 iris clumps were treated. This floodplain likely serves as the primary iris seed source for the fifty-three-acre Thorp/Kimball wetland complex. This work employed control methods verified in previous work, and employed a volunteer mapping protocol for the first time. While the protocol was helpful, there are opportunities to improve it prior to future mapping and control efforts.

- The 2015/16 field work provided an opportunity to evaluate treatment methods and experiment with both mechanical and chemical control of iris. Small clumps of iris, generally < 5 plants, could be easily dug out without creating excessive soil disturbance. As a result of mid-season cutting, it was determined that only mature seed pods and rhizomes need to be bagged and removed. However, once clumps progress to display a 'circular' growth pattern, digging becomes very labor-intensive and results in excessive soil disturbance, determining that fall foliar application is very effective in eliminating iris clumps.

Outcomes:

- Control and reduction of yellow iris, an invasive plant, in a sensitive habitat area of Thorp Brook in the Lake Champlain Basin will prevent establishment and the spread of this species to new areas.

Organization: Lewis Creek Association

Contact Person: Robert Hyams

Mailing Address: 442 Lewis Creek Road
Charlotte, VT 05445

Phone: (513) 470 7554

E-mail: robert@gmavt.net

Website: http://www.lewiscreek.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-017
GLFC	
Close Date:	7/31/2018
Grant Amount:	$4,906.00
Non-federal Match:	$ 702.50
Total Amount:	**$5,608.50**

2016 Local Implementation Grant

Lake Eden Greeter Program

Project Summary

The Greeter Program continued on Lake Eden this year at the three public boat launches. With the generous funding from LCBP we were able to expand the programs coverage to 7 days per week. Stewards welcomed boaters to Lake Eden and kept daily logs of all visitors through the public access points. Stewards did not detect any invasive organisms during their 131 days of steward coverage during the summer 2017 season. Stewards did remove non-invasive plants from 16 boats during their inspection process. Stewards shared with visiting boaters the prevention methods necessary to keep their watercraft clean before entering and after exiting recreational water sources. LEA was fortunate to partner with the Town of Eden who provided payroll processing for hired stewards, administrative assistance for all grant documentation and coverage of hired stewards under its payroll benefits and workers compensation insurance.

Outputs:

- 1491 courtesy inspections 16 revealed non-invasive organisms, but no invasive organisms were found on boats entering and departing Lake Eden which is very good news for Eden, Lake Eden residents and recreational users.
- data collection and entry and therefore has been a success.

Outcomes:

- AIS spread prevention and education in the Lake Champlain Basin.
- AIS prevented from entering Lake Eden

Organization: Lake Eden Association

Contact Person: Gary Durett

Mailing Address: PO Box 203, Eden, VT 05652

Phone: 802 760-0841

E-mail: gmdurett@myfairpoint.net

Website: http://www.edenvt.org/recreation/lake-eden-association-greeter-program/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-014
GLFC	
Close Date:	7/31/2018
Grant Amount:	$13,600.00
Non-federal Match:	$13,101.57
Total Amount:	**$26,701.57**

Local Implementation Grant 2016

Lake George Monitoring and Outreach Program

Project Summary

The Lake George Invasive Species Education Interns helped develop and participate in invasive species public education and outreach projects and events throughout the Lake George watershed in order to expand individual and community awareness of the threats of invasive species and ways to help prevent their spread. Interns were hired for the summer and positioned at events, cartop launches, and at strategic locations around Lake George, providing boaters, residents, and visitors with educational information about aquatic invasive species and spread prevention.

Outputs:

- The Lake George Invasive Species Education Interns interacted with 715 people from June through August 2017. The majority of interactions with people about aquatic invasive species occurred at events throughout the Lake George watershed. Eighty-six of the interactions took place at the Northwest Bay Cartop boat launch. Throughout July and August, the interns inspected 18 canoes and 49 kayaks at this boat launch finding no aquatic invasive species attached to the vessels.

Outcomes:

- AIS spread prevention education shared with communities around and using Lake George, NY.

Organization: Lake George Association

Contact Person: Kristen Wilde

Mailing Address: PO Box 408
Lake George, NY 12845

Phone: 518 668-3558

E-mail: krohne@lakegeorge association.org

Website: http://www.lakegeorgeassociation.org/

LGA AIS Spread Prevention Education Interns speak with visitors at the Lake George Visitor Center.

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-015
GLFC	
Close Date:	4/19/2018
Grant Amount:	$12,260.00
Non-federal Match:	$ 4,449.34
Total Amount:	**$16,709.34**

2015 Local Implementation Grant

Lois McClure Outreach on Aquatic Invasive Species Spread

Project Summary

Lake Champlain Maritime Museum used the canal schooner *Lois McClure* to engage the public in an orientation to the concept of invasive species, the role that the region's waterways have played as conduits to their spread and tactics to prevent further spread. This information was presented in 38 stops to ports throughout Vermont and New York over the *Lois McClure's* 2017 educational tour.

Outputs:

- The Schooner reached the first port of call July 1, ready to open to the public. As of October 10th, the schooner has docked in thirty-six towns, with 47 days open to the public. In that period, the schooner has welcomed aboard nearly 11,000 visitors.
- 542 schoolchildren from Palmyra, Phoenix, and Syracuse, St. Johnsville and Waterford, NY participated in programming, which included a discussion about aquatic invasive species and spread prevention.
- Visitors were engaged in on-board education provided by schooner interpreters who were trained with AIS materials.
- LCBP pamphlets about how to identify and prevent the spread of invasive species were handed out at every port of call.

Outcomes:

- LCMM Lois McClure visitors were educated about AIS issues and spread prevention along the canal ways and in ports of call that are connected to the Lake Champlain Basin.

Organization: Lake Champlain Maritime Museum

Contact Person: Erick Tichonuk

Mailing Address: 4472 Basin Harbor Road
Vergennes, VT 05491

Phone: (802) 475-2022

E-mail: erickt@lcmm.org

Website: http://www.lcmm.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-029
EPA	
Close Date:	4/19/2018
Grant Amount:	$15,000.00
Non-federal Match:	$51,790.00
Total Amount:	**$66,790.00**

Local Implementation Grant 2016

Upper Saranac Lake Watershed Steward Program

Project Summary

The Upper Saranac Foundation contracted the Adirondack Watershed Institute Stewardship Program (AWISP), a component of Paul Smith's College to perform work related to aquatic invasive spread prevention and early detection. The AWISP posted and professionally supervised boat launch stewards, at the Back Bay Boat Launch on Upper Saranac Lake and at the Fish Creek Boat Launch in the Fish Creek Campground. Additional funding through the NYSDEC Adirondack Park-wide Aquatic Invasive Species Prevention Program provided stewardship coverage seven days/week at both locations as well as a decontamination technician at Back Bay. In 2017 a hot water, high pressure invasive decontamination unit was deployed for the USL watershed. This required on weekends and busier days, one steward to preform inspections while a decontamination technician performed decontaminations.

Outputs:

- increased steward coverage
- 1713 boat inspections
- Intercepted 139 watercraft with some type of plant or animal fragments attached, indicating that 5.5% of boats inspected harbored some type of organism.
- Stewards discovered and removed AIS including, Eurasian watermilfoil (Myriopyllum spicatum), Variable-Leaf milfoil (Myriophyllum heterophyllum), Curry-leaf pondweed (Potamogeton crispus), Spiny Waterflea (Bythotrephes longimanus) and Zebra Mussels (Dreissena polymorpha).

Outcomes:

- AIS spread prevention and education provided in the watershed.Educate the public about AIS spread prevention methods.

Organization:	Upper Saranac Foundation
Contact Person:	Guy Middleton
Mailing Address:	PO Box 564 Saranac Lake, NY 12983
Phone:	518 796-1052
E-mail:	lakemanager@uslf.org
Website:	http://usfoundation.net/

Image of Hydrilla found on two personal watercrafts at Back Bay originating from the Potomac River
Photo: Jake Sporn

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-021
EPA	
Close Date:	3/21/2018
Grant Amount:	$15,000.00
Non-federal Match:	
Total Amount:	**$15,000.00**

2017 Healthy Ecosystems Project

Missisquoi Bay Boat Launch Stewards

Project Summary

The seasonal Québec boat launch steward interns worked to prevent the unintentional introduction or spread of aquatic invasive species in and out of Lake Champlain, inform the public of aquatic invasive species issues and how they can help with spread prevention, and gather data on boat launch and boater use of Lake Champlain to better inform resource managers about recreational use of Lake Champlain and vectors of aquatic invasive species introduction. The Québec stewards were hired by OBVBM and trained and equipped with supplies by the LCBP. Québec stewards collected the exact same data as the U.S. boat launch stewards and all data from Québec was similarly uploaded to a cloud for data management. The Québec stewards attended the Vermont boat launch steward training program and used LCBP issued iPads for data collection.

Outputs:

- In Philipsburg (Saint-Armand), a total of 150 inspections were completed, 2 of which captured Eurasian milfoil on retrieves. The total number of people reached at this boat launch is 520.
- In Venise-en-Québec, a total of 627 inspections were completed, 4 of which captured AIS including 3 Eurasian water milfoil (1 launch, 2 retrieves), 1 Zebra mussel (retrieve). The total number of people reached at this boat launch is 1919.

Outcomes:

- Two QC stewards were stationed at public boat launches around Missisquoi Bay in Québec, one in Venise-en-Québec at the Pourvoirie Courchesne, and one in Philispburg (Saint-Armand) at the dock for the first time to offer AIS spread prevention messages to users. Both stewards worked from Thursday to Sunday from June 16th to September 3rd.

Organization: OBVBM

Contact Person: Frédéric Chouinard

Mailing Address: 2 Adhemar-Cusson
Bedford, Quebec, Canada, JOJ 1AO

Phone: 450-248-0100

E-mail: Frederic.chouinard@obvbm.org

Website: http://www.obvbm.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-030
GLFC	
Close Date:	1/17/2018
Grant Amount:	$16,000.00
Non-federal Match:	$ 1,200.00
Total Amount:	**$17,200.00**

SECTION THREE:

THRIVING COMMUNITIES

GOAL:
Lake Champlain Basin communities have an appreciation and understanding of the Basin's natural and cultural resources, and the capacity to implement actions that will result in sound stewardship of these resources while maintaining strong local economies.

upport for local level implementation and public involvement is a key function of *Opportunities for Action*. Each year, the local implementation grants that support organizations' efforts to protect the Basin's unique communities are a priority for all areas of the LCBP budget, from pollution prevention to education and outreach.

The LCBP and Champlain Valley National Heritage Partnership also engaged local partners through two key annual events. The CVNHP Internation Summit included a review of projects proposed for the 2018 budget and opportunities to advance the interptetive themes of the heritage area. The watershed group meeting, held together with Watersheds United Vermont, provided time for local organizations to share strategies and successes and build new skills and knowledge.

Grant/Project Categories - in progress

Community Resilience: provides support to develop collaborative projects at the municipal level to build resilience capacity and community-level awareness to flooding and climate change-related impacts at the sub-watershed level within the Lake Champlain watershed. **Pages 107-110**

Making of Nations: One of three CVNHP interpretive themes. This grant round focuses on strategic Richelieu-Hudson-Champlain corridor. **Pages 111-116**

Local Heritage: projects that involve active participation from youth and students in the research and discovery of the cultural and/or natural heritage associated with their community, and the creation of new artistic expressions, or interpretation of those topics utilizing fresh perspectives and/or new technology. **Pages 117-123**

Organizational Support: provides support for increased organizational capacity and long-term effectiveness of watershed organizations working to implement elements of *Opportunities for Action* from early stages of development to established groups strengthening their organizational capacity. **Pages 124-134**

Program Highlights

- The Lake Champlain Maritime Museum—key partner of the CVNHP— embarked on the **Glass Barge Tour** with the Corning Museum of Glass to commemorate 150 years of glass making in Corning, NY. The canal schooner *Lois McClure* traveled 1,200 miles, providing glass blowing demonstrations and interpretation of the history of the Erie Canal to more than 33,000 people.
- The 7th annual **International Heritage Summit** in Lake George, NY included a discussion of options to retrieve, conserve, and interpret the history of the gunboat Spitfire, which sank during the 1776 Battle of Plattsburgh.
- The LCBP partnered with the Friends of the Saranac River Trail to develop a series of **seven wayside exhibits** that highlight the significance of the river in the community of Plattsburgh, NY, including the importance of the wastewater treatment facility and contemporary efforts to restore the river.
- The CVNHP served as the liaison with the **Upper Missisquoi and Trout Rivers Wild and Scenic Rivers Program** to enhance the use and enjoyment of these waterways. The program monitored water quality, assessed potential access sites, and constructed access facilities.
- LCBP staff managed **100 local implementation grants** that provided financial and technical assistance to watershed groups, municipalities, natural resource conservation districts, and other organizations.

People line up to board the 1863-class canal schooner in Medina, New York.

Approach to Partnerships

The Champlain Valley National Heritge Partnership (CVNHP) is the only National Heritage Area that uses "partnership" in its name. Prior to the establishment of the CVNHP, the LCBP had a long history of collaboration with and grant support for scores of partners ranging from small historical societies to world-class museums. The LCBP was instrumental in developing region-wide efforts to encourage cooperation among diverse communities, organizations, and heritage sites. In addition to fostering teamwork among stakeholders and local organizations, the LCBP supported hundreds of local recreation and cultural heritage projects through technical assistance and small grants programs. This approach to developing meaningful and productive partnerships continues and significantly expanded through implementation of the CVNHP Management Plan.

The CVNHP relies on partnerships ranging from formal agreements with major stakeholders to simple grant award contracts. The LCBP has identified three types of partnerships for the purpose of CVNHP Management Plan implementation: 1) Key Partnerships, 2) State and Federal Agency Partnerships, and 3) Collaborative Partnerships.

Grant Highlights

Shared Vacuum Truck: Clinton County (NY) towns are sharing equipment to clean catch basins and other stormwater infrastructure, reducing sediment and pollutant loading to Lake Champlain.

Capital Resilience Initiative: Friends of the Winooski River used water quality monitoring data to inform the community about how water moves through Montpelier, and the environmental impacts of stormwater.

Battenkill Inspired: The Crandall Public Library Folklife Center worked with students to develop a series of videos interpreting the history of the Battenkill River and the cultural activities that occur along the famous waterway.

Logging Along the Bend of the River: The Warren County Historical Society created interpretive exhibits about the history of logging on the Hudson River in Glens Falls, NY for display at their new buildling.

Lamoille River Paddlers' Trail: The Vermont River Conservancy restored a river access, led a community paddle, trained seven site stewards, and organized a river cleanup as part of an effort to create a paddlers' trail.

2018 Local Implementation Grant

Capital Resilience Initiative

Project Summary

This project will deliver a program of communications and community activities that will leverage stormwater design work in Hubbard Park, volunteer monitoring data, and highly visible riverfront development to support Montpelier residents' connection to stormwater and river issues and increase their engagement with climate adaptation.

Outputs:

- development of communications stories to effectively connect climate-driven erosive damage on public and private lands to water quality in Montpelier and to watershed health beyond the capital
- publish a series of articles in our blog and in local newspapers, on climate change, stormwater, stream health and dynamics, and ways landowners can manage excess stormwater on their property
- host stream table demonstrations in middle school and high school science classes, a public open house, and 2 field visits

Outcomes:

- reducing erosive damage to upland areas
- reducing sediment, nutrient, and bacteria loading to rivers
- reduction of the impact that Montpelier has on Lake Champlain.

Organization: Friends of the WInooski River

Contact Person: Michele Braun

Mailing Address: PO Box 777
Montpelier, VT 05602

Phone: 802-279-3771

E-mail: michele@winooskiriver.org

Website: https://winooskiriver.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12566
GLFC	
Start Date:	4/12/2018
Grant Amount:	$ 9,395.00
Non-federal Match:	$ 1,764.00
Total Amount:	**$11,159.00**

Local Implementation Grant 2018

Face the River: Montpelier

Project Summary

The purpose of this project is to provide community decision makers in Montpelier the information they need to inform an urban planning process and a vision in which with adequate resilience, *we face our rivers*. With a highly graphic, visual and engaging pamphlet, video and podcast, Vermont River Conservancy (VRC) will reach a minimum of 3,000 viewers, listeners and readers and will bring rivers to the forefront of discussions and decisions related to urban planning in Montpelier. Additionally, VRC will hold at least 3 public presentations encouraging community members and officials alike to *face our rivers*.

Outputs:

- 3-5 minute video and podcast or radio episode and shared via social media
- informational printed hand-out
- Interpret technical information for the public.

Outcomes:

- protection or enhancement of river corridors for nutrient reduction and flood resilience
- reduce impact from land use and climate change including intense run-off and maintain connectivity in the face of climate change
- enhance flood resilience and climate change adaptation in community planning and development
- sustainable and accessible recreational opportunities for everyone within the CVNHP

Organization: Vermont River Conservancy

Contact Person: Richarda Ericson

Mailing Address: 29 Main St., Ste 11
Montpelier, VT 05602

Phone: (802) 229-0820

E-mail: vrc@vermontriverconservancy.org

Website: www.vermontriverconservancy.org

Lake Champlain Basin Program

NEIWPCC Code:	PO 12515
EPA	
Start Date:	2/28/2018
Grant Amount:	$10,165.00
Non-federal Match:	
Total Amount:	**$10,165.00**

2018 Local Implementation Grant

Restoring the Ausable River's East Branch - Building a Road Map for Resilience

Project Summary

AsRA is advancing a multi-year effort to restore equilibrium and habitat diversity to the East Branch of the Ausable River. In 2016-17, we completed a stream stability assessment on the 33-mile East Branch study reach that identified and quantified erosional areas, and classified stream types and stability indicators by subreach. In 2018-19, with LCBP support through this grant, AsRA will gather and assess detailed geomorphic data describing the physical characteristics of the 33-mile study reach.

Outputs:

- graphics and data describing the slope and riffle pool pattern of the study reach
- detailed geomorphic surveys of three reference reaches
- a network of temperature loggers, and additional comparative cross-sections
- drone imagery will be collected for mapping and illustration.
- compilation of data captured in graphics, maps, and written summaries to share among practitioners of natural channel design, management agencies, towns, landowners, and other stakeholders.

Outcomes:

- detailed road-map for systematically restoring the East Branch that: is based in river science; is informed and discussed by the community and stakeholders
- will benefit stream health, habitat diversity; and will create compatible flood and climate change resilience in communities.

Organization: Ausable River Organization

Contact Person: Kelley Tucker

Mailing Address: PO Box 8
Wilmington, NY 12997

Phone: 518.637.6859

E-mail: ktucker@ausableriver.org

Website: www.ausableriver.org

Assessing a severely eroded and actively eroding bank that blocks access to a key floodplain in the Town of Jay on the East Branch of the Ausable River.

Lake Champlain Basin Program

NEIWPCC Code:	PO 12512
EPA	
Start Date:	2/23/2018
Grant Amount:	$19,980.00
Non-federal Match:	$ 2,250.00
Total Amount:	**$22,230.00**

Local Implementation Grant 2018

Town of Westport Culvert Replacement

Project Summary

The Essex County Soil and Water Conservation District (SWCD) will work together with the Town of Westport to replace the culvert on McMahon Road. The culvert is on a tributary to Hoisington Brook and will stabilize the road crossing, provide aquatic organism passage and make the crossing more flood resilient for the Town. The grant will purchase a new culvert sized for large storm events with the Town installing the culvert with permitting and design assistance from the District.

Outputs:

- purchase and installation culvert and other erosion and sediment control structures to iclude a sediment basin
- restoration of one mile of stream habitat above the culvert

Outcomes:

- reduction of phosphorous and sediment loading into Lake Champlain
- reduction of storm water runoff
- protection and restoration of native species
- preserve and connect critical habitat areas of native species
- reduction of fragmentation by man-made structures such as roads, culverts, and other human landscape features

Organization: Essex County SWCD

Contact Person: Dave Reckahn

Mailing Address: 3 Sisco St.
Westport, NY 12993

Phone: 518-962-8225

E-mail: dreckahn@westelcom.com

Website: http://www.essexcountyswcd.org/

The two pipes are not working in this application/ site. During storm events this culvert clogs up, backs up water, which then washes out the road. This is a problem area that causes crews to attend to it every time Westport gets a large storm. Photos of the inlet also depict an unstable slope due to past washouts.

Lake Champlain Basin Program

NEIWPCC Code:	PO 12550
EPA	
Start Date:	4/2/2018
Grant Amount:	$20,000.00
Non-federal Match:	$ 5,000.00
Total Amount:	**$25,000.00**

2018 Local Implementation Grant

Battle of Plattsburgh Military Muster

Project Summary

For the 2018 Battle of Plattsburgh Commemoration the Kent-Delord House Museum is planning to switch away from the grand encampment idea and re-brand the event as a Military Muster to allow expansion of the mission. The encampment will remain, but supplemented and enhanced by live demonstrations, hands-on activities of crafts and trades and static educational exhibits. This will augment the educational aspect of the event and cater to youths and families.

Outputs:

- sponsor a Military Muster on the historic grounds - a living historic encampment filled with re-enactors plus a number of hands-on activities of period trades and crafts, live military demonstrations, trades people and static educational exhibits ranging from soldier interpretations to a full sized non-working replica of a Congreve rocket which were used by the British forces. The grounds will be open to the public for ten (10) hours during the weekend for no charge.
- The re-branding of the weekend exceeded expectations with a 38 percent increase in visitation to the museum.

Outcomes:

- opportunity to learn history, both American and local
- promote sustainable recreational activities that feature the natural, cultural, and historical resources in the CVNHP
- connect, promote, and improve cultural and natural heritage sites through interpretation
- use of interpretive themes to link resources within the CVNHP
- support historical and archeological research and documentation.
- support initiatives that highlight the relationships among stakeholder sites and programs through interpretation, while maintaining the individual character of those sites.

Champlain Valley National Heritage Partnership

Organization: Kent Delord House

Contact Person: Don Wickman

Mailing Address: 17 Cumberland Avenue
Plattsburgh, NY 12901

Phone: 518-561-1035

E-mail: kdhmdirector@gmail.com

Website: https://www.kentdelordhouse.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12614
GLFC	
Start Date:	
Grant Amount:	$1,400.00
Non-federal Match:	$8,612.00
Total Amount:	**$10,012.00**

Local Implementation Grant 2018

Lake Champlain Regional Border Map Project

Project Summary

Dotting the southern Canadian border is a line of small towns not all that different from those in Franklin and Grand Isle Counties. For each Canadian town with a signature cuisine, attraction or festival is a counterpart American town with a similar vibe. Yet, if one looks at a map of Northwest Vermont or Southern Québec, all activity stops at each country's respective border. The Conseil Économique et Tourisme Haut-Richelieu and CLD Brome-Missisquoi, the Franklin County Industrial Development Corporation, and the Franklin County Regional Chamber of Commerce began a collaboration in 2016 whose primary goal is promoting cultural and commercial exchange between the southern counties of Québec and the northwestern counties of Vermont. By its very nature the Lake Champlain Region Border Map lends itself to making connections in a region where two countries are linked by combined natural resources, a common history, a cooperative future, friendship, and tourism.

Outputs:

- 1st Lake Champlain border region map highlighting events, attractions, and destinations that speak to shared history, inviting regional travelers to connect the historical dots.

Outcomes:

- resource to continuing a dialogue around cultural destinations and traditions, education, recreation and ultimately economic development.

Organization: Franklin County Regional Chamber of Commerce

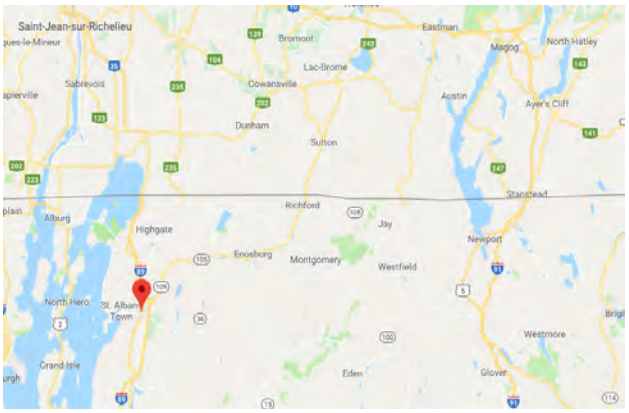
Contact Person: Lisamarie Charlesworth

Mailing Address: 2 North Main Street, Suite 101
St. Albans, VT 05478

Phone: 802-524-2444

E-mail: info@fcrccvt.com

Website: https://www.fcrccvt.com/



Map of area prior to a map being produced

Champlain Valley National Heritage Partnership

Lake Champlain Basin Program

NEIWPCC Code:	PO 12538
GLFC	
Start Date:	3/22/2018
Grant Amount:	$ 5,000.00
Non-federal Match:	$11,999.00
Total Amount:	**$16,999.00**

2018 Local Implementation Grant

Loyal Legacy: Conserving and Displaying the Camp Colors of the Royal Highland Emigrants

Project Summary

Fort Ticonderoga plans to conserve, display and develop programmatic interpretation for one of the most significant artifacts in the collection, the camp color of the Royal Highland Emigrants. This rare flag is one of just two surviving British camp colors from the 18th century and was used by a Loyalist regiment in the British army in Canada during the American Revolution.

Outputs:

- the flag will be conserved and then displayed for the first time at Scots Day in June 2018, accompanied by a public talk by the Curator of Collections, which will be open to the general public.
- digital image of stabilized flag

Outcomes:

- build on existing knowledge; make new discoveries of the history, culture, and special resources of the Champlain valley National Heritage Partnership; and make this information accessible to all.

Organization: The Fort Ticonderoga Association

Contact Person: Matthew Keagle

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Ticonderoga, NY 12883

Phone: 518-585-2821

E-mail: mkeagle@fort-ticonderoga.org

Website: https://www.fortticonderoga.org/

Champlain Valley National Heritage Partnership

Lake Champlain Basin Program

NEIWPCC Code:	PO 12503
GLFC	
Start Date:	2/13/2018
Grant Amount:	$5,000.00
Non-federal Match:	$1,600.00
Total Amount:	**$5,600.00**

Local Implementation Grant 2018

Seeds of Renewal Programming & Exhibition

Project Summary

The Vermont Historical Society (VHS) is excited to partner with Dr. Frederick M. Wiseman, an Abenaki community member and retired professor and department chair of humanities at Johnson State College, to celebrate, disseminate information, and preserve his work on the Seeds of Renewal Program, through an exhibition at the Vermont History Museum in Montpelier. Dr. Wiseman developed the Seeds of Renewal Program in 2011 to recover the produce raised and consumed by the Wabanaki communities of the Far Northeast (The Abenakis, Penobscots, Passamaquoddies, Maliseets, and Mik'maqs), and to reclaim the traditional cuisine of the Wabanaki region, along with the systems surrounding seed nurturance such as agricultural technology and engineering, song, dance, and ceremony.

Outputs:

- development of exhibit
- workshops with Abenaki communities and school teachers
- school group visits and workshops and History for Homeschoolers program

Outcomes:

- Produce coordinated education programs for students
- conduct teacher training workshops
- evaluate the success of CVNHP education initiatives.

Organization: Vermont Historical Society

Contact Person: Eileen Corcoran

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Barre, VT 05641

Phone: (802) 479-8522

E-mail: Eileen.corcoran@vermonthistory.org

Website: https://vermonthistory.org/

Champlain Valley National Heritage Partnership

Lake Champlain Basin Program

PO Box 12398

NEIWPCC Code:	
GLFC	
Start Date:	2/5/2018
Grant Amount:	$ 5,000.00
Non-federal Match:	$10,940.00
Total Amount:	**$15,940.00**

2018 Local Implementation Grant

The Abenaki Harvest Collection

Project Summary

The leadership of the Vermont Abenaki communities have expressed a need for their citizens, especially the youth, to become knowledgeable in their traditional agricultural ceremonies and the way they tie to the annual calendar. ECHO seeks support for a 2018 Spring/Fall educational experience for Vermont Abenaki community members concerning Indigenous agricultural crops, ceremonies and cuisine of the eastern flank of the Lake Champlain Basin. The focus will specifically be training for the fall Abenaki "Harvest Celebration" (hosted by ECHO), which traditionally incorporates most of the agricultural songs, dances and other ceremonies that the Vermont Band chiefs wish to see taught. Beginning in Spring 2018, training sessions will be held in the Tribal Homelands, as well as central places for Abenaki citizens with a focus on getting young people "up to speed" on their ancestral music and dance. ECHO will also work on perfecting Abenaki cuisine, using heritage Abenaki crops grown by the Seeds of Renewal project.

Outputs:

- Development of a curriculum, lesson plan, and a handbook on the ceremonies. The written lesson plan will serve as a prototype for teaching and learning other well documented Abenaki songs, dances and ceremonies.
- The Harvest Celebration and manual

Outcomes:

- Promoting public awareness of this deep, time honored, and highly endangered agricultural heritage is key to preserving Abenaki culture across the region
- revival of these deep-time knowledges of regional indigenous food systems

Organization: ECHO, Leahy Center for Lake Champlain

Contact Person: Phelan Fretz PhD

Mailing Address: 1 College St. Burlington, Vermont 05401

Phone: 802-864-1848 Ext 126

E-mail: pfretz@echovermont.org

Website: https://www.echovermont.org/

Champlain Valley National Heritage Partnership

Lake Champlain Basin Program

NEIWPCC Code:	PO 12399
GLFC	
Start Date:	2/5/2018
Grant Amount:	$ 5,000.00
Non-federal Match:	$10,700.00
Total Amount:	**$15,700.00**

Local Implementation Grant 2018

The Loyalists Trail Project

Project Summary

We aim to present to local residents and to visitors alike the origins of permanent Loyalist settlement in our village and region. By way of three historical interpretation panels, we will narrate the very beginning of the Loyalists lives on the shores of Lake Champlain in Canada, first as refugees, then as squatters and finally as legitimate settlers. We will show that their eventual prosperity stemmed from the intense commercial activities they initiated with the populations of Vermont and New York states. The text on the panels will also appear on the web on the Tour of St. Armand's Historical Landmarks website.

Outputs:

- 3 wayside exhibits
- launch of Loyalists Trail Project

Outcomes:

- Develop and/or improve natural and cultural heritage interpretative trails using wayside exhibits and other informative media.
- Support efforts to link communities through transportation routes that feature interpretation of heritage resources.

Organization: Festifolies en Armandie

Contact Person: Guy Paquin

Mailing Address: 224, chemin Saint-Armand
Saint-Armand, Qc J0J 1T0

Phone: (450) 248-0523

E-mail: gpaquin000@sympatico.ca

Website: http://baladodiscovery.com/circuits/470/a-tour-of-st-armands-historical-landmarks

Champlain Valley National Heritage Partnership

Lake Champlain Basin Program

NEIWPCC Code:	PO 12509
GLFC	
Start Date:	2/16/2018
Grant Amount:	$5,000.00
Non-federal Match:	$1,200.00
Total Amount:	**$6,200.00**

2017 Local Implementation Grant

A New Approach to Teaching the Battle of Bennington to Middle School Students of the Southwest Vermont Supervisory Union

Project Summary

This project is centered on helping young people understand how the historical memory of the Battle of Bennington has been formed and continues to be formed. Grant funds will enable the Museum and its partners to carry out a program involving study and creative work by students of the Mount Anthony Union Middle School (MAUMS). MAUMS is attended by students from Bennington and the surrounding towns of Shaftsbury, Pownal, North Bennington, and Woodford. Ninety 7th-grade students from the school will spend two weeks in May 2018 learning about the Battle through study of primary and secondary sources, including the recently completed Federal archaeological survey of the Battlefield site; through a visit to the Battlefield in nearby New York state; by discovering how the Battle has been remembered in works of art, public monuments, and official commemorations; and by producing creative work in the form of dramatic readings, artworks, videos, and maps, culminating in public performances by students and public exhibitions of their work.

Outputs:

- students field trips to the Bennington Battlefield to hear from local experts on the Battle and to re-enact
- localize Vermont's C3 7th-grade curriculum with innovative approaches to Global Citizenship; students will stage public performances and mount an exhibition of original creative work related to the Battle
- assemble a Battle of Bennington teaching toolkit using materials developed through the grant and make it available to schools in the CVNHP area and beyond.

Outcomes:

- Produce coordinated education programs for students.
- improve school access to heritage sites and events within the CVNHP.

Champlain Valley National Heritage Partnership

Organization: Bennington Museum

Contact Person: Phil Holland

Mailing Address: 72 Grouse Lane
Bennington VT 05201

Phone: 802-430-1796

E-mail: phil.holland44@gmail.com

Website: https://benningtonmuseum.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12500
NPS	
Start Date:	1/31/2018
Grant Amount:	$ 5,000.00
Non-federal Match:	$ 5,330.00
Total Amount:	**$10,330.00**

Local Implementation Grant 2016

Lake George Shipwreck Tours

Project Summary

Aware that most people are unable to experience the benthic world directly, the Lake George Association will aim to make that world and its human artifacts "come alive" through shipwreck tours on Lake George aboard the Floating Classroom. Program participants will "dive" with a Remotely Operated Vehicle (ROV) on a shipwreck at the bottom of Lake George. The program will include information on the history and archaeology of the lake and a live viewing with the ROV. The Floating Classroom shipwreck tours will expand interest and understanding of local, military and marine history, of aquatic biology and biodiversity, of commerce and cultural folklore, for a stronger vision of the nature and traditions that make up the Lake George region.

Outputs:

- Creation of the Lake George Shipwreck Tours program which will feature the natural, cultural, and historical resources in the Champlain Valley National Heritage Partnership region.

Outcomes:

- Creating a well-informed public that values the unique heritage of the CVNHP and understands the threats to its resources.

Organization: Lake George Association

Contact Person: Kristen Wilde

Mailing Address: P.O. Box 408
Lake George NY 12845

Phone: 518-668-3558

E-mail: krohne@lakegeorgeassociation.org

Website: https://www.lakegeorgeassociation.org/

NEIWPCC Code:	PO 12433
NPS	
Start Date:	2/11/2017
Grant Amount:	$ 2,500.00
Non-federal Match:	**$51,290.00**
Total Amount:	**$53,790.00**

2017 Local Implementation Grant

Lamoille River Paddlers Trail Waterproof Map and Guide

Project Summary

This project will engage students from the University of Vermont and Johnson State College in the development of a map and guide for the Lamoille River. Designed to complement an online map developed with CVNHP support, the map will blend information about the recreational opportunities with content about the region's unique natural and cultural history. With support from VRC, students will complete research, draft interpretive material, and design the map cover and layout, while creating a new product to guide recreational explorations of the Lamoille River.

Outputs:

- a map and guide for the Lamoille River

Outcomes:

- public information program that emphasizes recreational ethics, public safety, sustainable use, and stewardship of cultural and natural resources

Organization: Vermont River Conservancy

Contact Person: Noah Pollock

Mailing Address: 29 Main St
Montpelier, VT 05602

Phone: 802-540-0319

E-mail: noah@vermontriverconservancy.org

Website: https://www.vermontriverconservancy.org/

Champlain Valley National Heritage Partnership

Lake Champlain Basin Program

NEIWPCC Code:	PO 12542
NPS	
Start Date:	3/23/2018
Grant Amount:	$4,934.00
Non-federal Match:	$2,390.00
Total Amount:	**$7,324.00**

Local Implementation Grant 2017

Revitalizing Franco-American Song in the Champlain Valley of Vermont

Project Summary

This project draws together Franco-American culture bearers and holdings from the Vermont Folklife Center Archive to reinvigorate the sharing and continued transmission of French language song in the state. In an effort to promote and present Franco-American song as a vital cultural asset for all Vermonters, and to inspire its continued growth and vitality, VFC will work with two Chittenden county Franco-American traditional singers, Carmen Beaudoin Bombardier and Kim Chase, as well as Young Tradition Vermont (YTV) and folklorist Lisa Ornstein to develop and pilot a series of "Singing Schools" for regional youth over the fall of 2018.

Outputs:

- develop and pilot a series of six 90-minute "Singing Schools" for the fall of 2018 and
- create a songbook and website to support them. The songbook will contain lyrics in French, phonetic versions of the French language text for non-French readers, and sheet music for the associated tunes. The website will feature the complete content of the songbooks in digital form as well as downloadable audio recordings of the teachers singing each song.

Outcomes:

- encourage the sustainability of cultural practice and the conservation of cultural heritage

Organization: Vermont Folklife Center

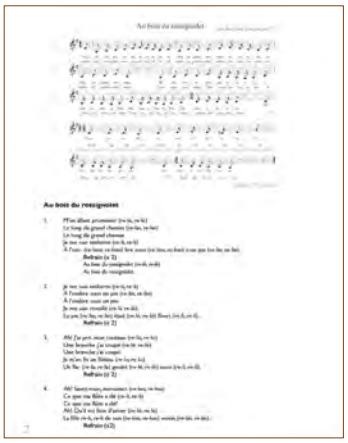
Contact Person: Andy Kolovos

Mailing Address: 88 Main Street
Middlebury, VT 05753

Phone: (802) 388-4964

E-mail: akolovos@vermontfolklifecenter.org

Website: https://www.vermontfolklifecenter.org/



Champlain Valley National Heritage Partnership

Lake Champlain Basin Program

NEIWPCC Code: PO 12541
NPS
Start Date: 3/23/2018
Grant Amount: $5,000.00
Non-federal Match: $1,910.00
Total Amount: **$6,910.00**

2017 Local Implementation Grant

The Green Mountain Boys: Founders of the Vermont Republic

Project Summary

"The Green Mountain Boys: Founders of the Vermont Republic" project is a comprehensive mobile museum exhibit. The vision for this exhibit is for it to be an educational tool to enhance the installed exhibits at the Homestead during the summer months. Itwould also convey the history of the Green Mountain Boys at other times of the year through an outreach program which would allow other institutions including schools, libraries, community centers, and other public and private venues to borrow and utilize this exhibit.

Outputs:

- mobile museum exhibit
- resource for Vermont institutions interested in the history of the state and the Green Mountain Boys.

Outcomes:

- Connect, promote, and improve cultural and natural heritage sites through interpretation.

Organization: Ethan Allen Homestead Museum

Contact Person: Daniel O'Neil

Mailing Address: 1 Ethan Allen Homestead
Burlington, VT 05408

Phone: (802) 865-4556

E-mail: info@ethanallenhomestead.org

Website: http://www.ethanallenhomestead.org/

Champlain Valley National Heritage Partnership

Lake Champlain Basin Program

NEIWPCC Code:	PO 12510
NPS	
Start Date:	2/22/2018
Grant Amount:	$ 5,000.00
Non-federal Match:	$ 6,825.00
Total Amount:	**$11,825.00**

Local Implementation Grant 2017

Warren County 360

Project Summary

This project is designed to offer a comprehensive and visually-engaging overview of the multi-layered history of Warren County via the creation of a permanent exhibit, called "Warren County 360," for the main gallery area in the facility at 50 Gurney Lane, Queensbury, as well as a complementary Powerpoint presentation that will be used for educational/lecture programs offered by the WCHS. Student interns will assist with the research and curating of the display and development of the Powerpoint, as well as a summary brochure.

Outputs:

- development of a permanent museum exhibit
- accompanying Powerpoint presentation to be developed mirroring the exhibit display and its themes
- regional community speaking engagements and lectures
- brochure will also be created to complement the exhibit and Powerpoint.

Outcomes:

- interpretation of our past to better understand and prepare for our future.

Organization: Teri Podnorszki Gay

Contact Person: Warren County Historical Society

Mailing Address: 50 Gurney Lane
Queensbury, NY 12804

Phone: 518 743-0734

E-mail: mail@warrencountyhistoricalsociety.org

Website: http://www.warrenhistory.org/

Champlain Valley National Heritage Partnership

Lake Champlain Basin Program

NEIWPCC Code:	PO 12545
NPS	
Start Date:	3/23/2018
Grant Amount:	$ 5,000.00
Non-federal Match:	$17,000.00
Total Amount:	**$23,000.00**

2017 Local Implementation Grant

Youth Experience: History & Impact of Local Interstate Road Development

Project Summary

This project is designed to engage up to ten students in grades 6-9 in a hands-on exploration in their own "back yard." During two weeks in August 2018 participants will be immersed in the discovery the history of a section of Interstate 87 (Adirondack Northway) through the Towns of Chesterfield and AuSable, NY. This section echoes that of the Golden Spike of the Transcontinental Rail Road in that, Keeseville was the final mile completed prior to the 1967 opening of the 333-mile road linking New York City and the Canadian border. The intersection of people, geography, geology, and economics parallels earlier transportation routes of the military, rail road, and waterways.

Outputs:

- 2-week summer program
- display incorporating electronic media at the museum
- student developed printed booklets
- preservation of eyewitness interviews

Outcomes:

- historical, environmental, and cultural elements of the interstate

Organization: Anderson Falls Heritage Society

Contact Person: Betty Brelia

Mailing Address: 96 Clinton St.
Keeseville, NY 12944

Phone: (518) 834-7138

E-mail: jbbre67@charter.net

Website: https://www.andersonfalls.com/

Champlain Valley National Heritage Partnership

Lake Champlain Basin Program

NEIWPCC Code:	PO12394
NPS	
Start Date:	1/31/2018
Grant Amount:	$2,500.00
Non-federal Match:	$ 870.00
Total Amount:	**$3,370.00**

Local Implementation Grant 2016

Building Membership and Managing Projects Through Database Support

Project Summary

The Farmer's Watershed Alliance (FWA) requests funds for set-up and maintenance of an online database management provider. This will enable the Farmer's Watershed Alliance to more easily track membership, send membership dues notifications, and promote outreach materials and events. With database management support the Farmer's Watershed Alliance will be able to expand membership and keep members better informed in a timely manner of water quality regulations, upcoming events, and deadlines. With increased membership, more funds will be available to the Farmer's Watershed Alliance to invest in water quality projects. The Farmer's Watershed Alliance will be able to show success through increased membership, number of emails promoting agricultural news, and generating more funds available for water quality projects or outreach materials.

Outputs:

- database management system
- staff training - CCV data management course 26 hours
- membership drive

Outcomes:

- increased membership, wider audience
- enhanced communication with members about water quality preserving practices and learning opportunities
- connecting with the farming community to help encourage change in perception and agricultural management.

Organization: Farmer's Watershed Alliance

Contact Person: Darlene Reynolds

Mailing Address: PO Box 298
St. Albans, VT 05478

Phone: (802) 752-5156

E-mail: farmerswatershedallianceNW@gmail.com

Website: http://farmerswatershedalliance.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12416
GLFC	
Start Date:	1/9/2017
Grant Amount:	$3,988.00
Non-federal Match:	$ 890.00
Total Amount:	**$4,878.00**

2018 Local Implementation Grant

Chazy Lake Watershed Initiative / Chazy Lake Environmental Committee

Project Summary

Chazy Lake Watershed Initiative (CLWI) goal is to increase its membership, solicit more volunteers and share information so that residents and visitors will possess a sense of personal responsibility that results in behavioral changes and actions to reduce pollution that may find its way into the Lake and, in turn, the Champlain Basin. CLWI seeks funds to establish a website that can that be used for information-sharing about the Lake and its watershed. CLWI also seeks funds to provide informational pamphlets to keep the public better informed about what they can do to protect and preserve the Lake. Further, CLWI seeks funds for: (a) membership dues to lake alliance groups; (b) workshops for professional development for board members and volunteers and (c) a grant writing course to help secure future funding.

Outputs:

- develop a website and informational pamphlets

Outcomes:

- Build awareness through informal learning of Lake Champlain Basin issues across all age groups
- behavioral changes and actions to reduce pollution in the Lake Champlain Basin.

Organization: Chazy Lake Watershed Initiative

Contact Person: Lisa McGinn

Mailing Address: 40 Indian Point Way
Ellenburg Depot, NY 12935

Phone: (518) 492-7537

E-mail: readingchic.lm@gmail.com

Website:

Lake Champlain Basin Program

NEIWPCC Code:	PO 12567
GLFC	
Start Date:	4/12/2018
Grant Amount:	$4,000.00
Non-federal Match:	$ 500.00
Total Amount:	**$4,500.00**

Local Implementation Grant 2018

Expanding AsRA Capacity to Prioritize Restoration and Monitoring Projects with GIS

Project Summary

AsRA River Steward Nicole Pionteck will complete a U.S. Fish and Wildlife Service National Conservation Training Center course "Watershed Analysis and Hydrologic Modeling" in June, 2018. This GIS training will extend AsRA's capacity to prioritize stream restoration projects with accurate data modeling and provide science on sources of pollution to Mirror Lake. AsRA currently uses GIS to conduct general spatial analysis on localized areas in the watershed as well as using it as a tool for public education through AsRA's online interactive map.

Outputs:

- 5-day course completed by staff person

Outcomes:

- Completion of this course will help AsRA analyze spatial data and provide insight to complex questions about water quality, quantity, aquatic habitat, restoration, and conservation.
- improve public education and outreach by better understanding the watershed and its threats and improved ability to disseminate that information.

Organization:	Ausable River Association
Contact Person:	Nicole Pionteck
Mailing Address:	PO Box 8 Wilmington, NY 12997
Phone:	518-637-6859
E-mail:	nicole@ausableriver.org
Website:	www.ausableriver.org

Nicole's maps of the Ausable River Watershed on display at the 2016 Ausable Watershed Management Plan Public Comment Session held in Jay, NY. These maps helped facilitate discussion with community members on the threats to the Ausable River watershed and the programs AsRA uses to address them.
Photo by Ausable River Association.

Lake Champlain Basin Program

NEIWPCC Code:	PO 12536
GLFC	
Start Date:	3/21/2018
Grant Amount:	$2,535.00
Non-federal Match:	$1,455.00
Total Amount:	**$3,990.00**

2018 Local Implementation Grant

Friends of Northern Lake Champlain Organizational Support Grant

Project Summary

The Friends of Northern Lake Champlain has been working to develop statewide clean water policies and priorities and broad-based adoption of water quality projects by both private land owners and municipalities for over a decade and a half. Now that the Friends has transitioned to a volunteer organization with no full time paid staff, this organizational support grant provides the funding necessary to have a full time ECO AmeriCorps volunteer implementing projects and programs in the watershed. This additional staff capacity will be a key component to support FNLC during this transitional period and to support long term sustainability of FNLC.

Outputs:

- water sampling training
- stromwater project development implementation of 2 remediation grants
- River clean up and education activities

Outcomes:

- education and outreach programming about water quality and resilience

Organization: Friends of Northern Lake Champlain

Contact Person: Dr. Kent E Henderson

Mailing Address: PO Box 58
Swanton, VT 05488

Phone: 802-373-1998

E-mail: directorfnlc@gmail.com

Website: northernlakechamplain.org

Lake Champlain Basin Program

NEIWPCC Code:	PO 12537
GLFC	
Start Date:	3/21/2018
Grant Amount:	$4,000.00
Non-federal Match:	$3,100.00
Total Amount:	**$7,100.00**

Local Implementation Grant 2018

Improving Effectiveness of Staff Through Nonprofit Management Certification

Project Summary

The Farmer's Watershed Alliance (FWA) requests funds for a newly hired staff member to attend a series of non-profit management trainings taught by Marlboro College in Vermont. In the six months she has been hired she has increased the FWA's capacity with regards to outreach, social media presence, database management, member management, event planning, and general organization efforts. These trainings will allow the Program Coordinator to refine existing skills, add new skills, and help keep the FWA moving forward by increasing their capacity to support the FWA's goals.

Outputs:

- Purchase external hard drive, backup all FWA historical member data (4TB)
- attend and complete 10 workshops
- Certificate in Nonprofit Management

Outcomes:

-

Organization: Farmer's Watershed Alliance

Contact Person: Darlene Reynolds

Mailing Address: P.O. Box 298
St. Albans, VT 05478

Phone: (802)752-5156

E-mail: FarmersWatershedAllianceNW@gmail.com

Website: http://farmerswatershedalliance.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12525
GLFC	
Start Date:	
Grant Amount:	$3,951.00
Non-federal Match:	
Total Amount:	**$3,951.00**

2018 Local Implementation Grant

Lake Champlain Committee Education & Outreach Capacity Building

Project Summary

The purpose of the project is to strengthen the Lake Champlain Committee's (LCC) organizational capacity with an ECO AmeriCorps member dedicated to educational programs and outreach. The ECO AmeriCorps Education & Outreach Coordinator will leverage LCC staff power and help us expand and implement programs throughout the watershed. They will focus on general outreach, the Lake Champlain Paddlers' Trail, cyanobacteria monitoring and aquatic invasive species, areas identified by LCC Board and staff as needing additional educational support.

Outputs:

- informational fact sheets and articles, website and social media postings, event tabling and actual hands-on events to engage citizens in stewardship activities, along with an updated stewardship guide for the Lake Champlain Paddlers' Trail

Outcomes:

- expanded capacity at the Lake Champlain Committee to educate and involve community members in water protection and a more engaged citizenry with greater awareness of personal actions they can take to protect and improve water quality.

Organization: Lake Champlain Committee

Contact Person: Lori Fisher

Mailing Address: 208 Flynn Avenue, Bldng. 3
Studio 3F
Burlington, VT 05401

Phone: 802-658-1421

E-mail: lorif@lakechamplaincommittee.org

Website: https://www.lakechamplaincommittee.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12540
GLFC	
Start Date:	3/23/2018
Grant Amount:	$4,000.00
Non-federal Match:	$2,500.00
Total Amount:	**$6,500.00**

Local Implementation Grant 2018

Lamoille River Paddlers Trail Capacity Building and Strategic Planning

Project Summary

This project will build Vermont River Conservancy's capacity to complete water quality and public access projects along the Lamoille River. We facilitate a volunteer steering committee tasked with the creation of the Lamoille River Paddlers Trail, which we seek to strengthen

Outputs:

- Recruitment of new members, expanding the committee to include more regional representation
- Development of a strategic plan to guide future public access and water quality projects
- Funding of committee members trainings in storm-water management and trail best practices
- Purchase of video equipment to develop more compelling education and outreach programs

Outcomes:

- Build awareness and understanding among residents and visitors about Lake Champlain Basin resources and behaviors that contribute to pollution.
- Provide hands-on citizen action opportunities to improve the watershed and change behaviors that contribute to pollution.

Organization: Vermont River Conservancy

Contact Person: Noah Pollock

Mailing Address: 29 Main St
Montpelier VT 05602

Phone: 802 540-0319

E-mail: noah@vermontriverconservancy.org

Website: www.vermontriverconservancy.org

Volunteers stabilizing an eroding bank along the Lamoille River. Spring 2017

Lake Champlain Basin Program

NEIWPCC Code:	PO 12559
GLFC	
Start Date:	
Grant Amount:	$3,906.00
Non-federal Match:	$1,072.00
Total Amount:	**$4,978.00**

2018 Local Implementation Grant

MRBA Equipment Update

Project Summary

As a primarily volunteer-run organization with one part-time staff member, hosting an ECO AmeriCorps member more than doubles our presence in the watershed. These grant funds will be used to replace the ancient laptop and outdated presentation equipment that are currently available for member's use. With new equipment, the ECO AmeriCorps member will be able to update programs and databases, assist with outreach mailings, map creation, updating the website and maintaining a social media presence, and be more readily able to present information to watershed residents.

Outputs:

- purchase of equipment to include computer, software and projector
- 3 outreach events
- outreach materials, public presentatiions, website update

Outcomes:

- helping management partners and members of the public become better informed about watershed issues and take actions to improve condition of the Lake
- increasing citizen understanding of LCBP and partner projects funded with public money that are implemented to clean up and protect the Lake
- better informing members of the public are about watershed issues, so they are more likely to take stewardship actions that improve the condition of the Lake
- providing a better understanding of the work and progress toward improvement of the Lake, so citizens will be more supportive of the projects undertaken with public money to clean up and protect the Lake.

Organization: Missisquoi River Basin Association

Contact Person: Lindsey Wight

Mailing Address: 2839 VT Route 105
East Berkshire, VT 05447

Phone: (802) 393-0076

E-mail: mrba@pshift.com

Website: www.mrbavt.com

A previous ECO AmeriCorps member presenting to the public.

Lake Champlain Basin Program

NEIWPCC Code:	PO 12535
GLFC	
Start Date:	3/21/2018
Grant Amount:	$2,556.00
Non-federal Match:	$2,500.00
Total Amount:	**$5,056.00**

Local Implementation Grant 2018

Project Review and Partner Assistance

Project Summary

This FAA pilots licensing project will allow the LGA to use its piloting services in the same way that we currently use our GIS training and services – to assist in documenting conditions around the watershed for the LGA and our partners, explore and explain the issues that need to be addressed, document them over time and provide full certification as pilots and operators for our staff members who are already trained on the equipment.

The technical part of the project will allow the LGA to upgrade its office space and technical capability so it can be used as a planning and operational center for these projects, and allow the LGA and our partners to better visualize our projects and explain the need for the work to potential partners and agencies.

It will also allow the LGA to have updated technical tools to work with, including the production of more modern educational and outreach materials.

Outputs:

- Completion of FAA pilot license training
- upgrade video/photo software
- select TV and technical/sound system updates

Outcomes:

- correcting nonpoint-source pollution and runoff; repairing eroding shorelines; protecting the Lake from debris that form deltas; and managing stream corridors.

Organization: Lake George Association

Contact Person: Patrick Dowd

Mailing Address: PO Box 408
Lake George, NY 12845

Phone: 518-668-3558

E-mail: pdowd@lakegeorgeassociation.org

Website: http://www.LakeGeorgeAssociation.org

Lake Champlain Basin Program

NEIWPCC Code:	PO 12539
GLFC	
Start Date:	3/23/2018
Grant Amount:	$3,300.00
Non-federal Match:	$1,580.00
Total Amount:	**$4,880.00**

2016 Local Implementation Grant

South Lake Partnership Support

Project Summary

Poultney Mettowee Natural Resources Conservation District (PMNRCD) is applying for grant funds to reach across political boundaries and revitalize previous partnerships with New York agencies and individuals, in order to participate more fully in bi-state prioritization and cooperation around water quality issues in the South Lake Champlain watershed.

Outputs:

- two meetings with bi-state partners

Outcomes:

- more participation from PMNRCD at the bi-state level in the South Lake watershed.
- Improving communication and cooperation among diverse groups within the Lake Champlain Basin through education and outreach.
- Building awareness and understanding by communicating progress made by the District.
- Providing hands-on citizen action opportunities to improve the watershed through communication and outreach.
- Increase collaboration with New York partners (River Associations, TU, TNC, CWICNY, NY Rivers, etc.) with a goal of improving the effectiveness of stream projects authorized under New York's Protection of Water Law.
- Facilitate meetings among NY and VT partners to develop a phosphorus load reduction management strategy
- Develop appropriate strategies for coping with projected changes in precipitation and runoff in collaboration with other partners in the Basin (this is an issue in the Mettowee watershed)

Organization: Poultney-Mettowee NRCD

Contact Person: Hilary Solomon

Mailing Address: PO Box 209
Poultney, VT 05764

Phone: (802) 287-8339

E-mail: hilary@pmnrcd.org

Website: http://www.pmnrcd.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12425
GLFC	
Start Date:	1/9/2017
Grant Amount:	$4,000.00
Non-federal Match:	$1,528.00
Total Amount:	**$5,528.00**

Local Implementation Grant 2018

Warren County Green Infrastructure Feasibility Assessments

Project Summary

The Warren County Soil & Water Conservation District (District) has addressed stormwater and erosion and sediment control through many different projects in the Champlain Basin. This program will assist the District with advancing its ability to design and move shovel ready Green Infrastructure projects forward by having the necessary feasibility studies for specific funders. It is anticipated that 2-4 projects will be developed with this funding and the focus is on green rather than traditional gray infrastructure. The District has had success with local highway departments in starting to utilize these types of projects but needs additional technical/engineering assistance to fully move this initiative forward.

Outputs:

- engineering agreement
- Develop project assessments with municipalities on green infrastructure feasibility for 2-4 locations between May and October.
- Project location maps will be developed with i nformation about each specific project.

Outcomes:

- Reduce Nutrient Loading
- Engage and Support Community & Management Partners
- Support Water-Wise Economic Development
- Facilitate changes in behavior and actions of citizens

Organization: Warren County SWCD

Contact Person: Jim Lieberum

Mailing Address: 394 Schroon River Rd
Warrensburg NY 12885

Phone: 518.623.3119

E-mail: jim99@nycap.rr.com

Website: www.warrenswcd.org

2017 UpYonda Farm rain garden with porous paver pretreatment.

Lake Champlain Basin Program

NEIWPCC Code:	PO 12519
GLFC	
Start Date:	
Grant Amount:	$3,000.00
Non-federal Match:	$ 525.00
Total Amount:	**$3,525.00**

2016 Local Implementation Grant

Battenkill Inspired

Project Summary

The Crandall Public Library Folklife Center received a 2017 Corridor of Commerce Interpretive Theme Grant to a series of videos interpreting the history of the Battenkill River and the cultural activities that occur along the famous waterbody. The Folklife Center developed 30 videos about the Battenkill. These two-minute, mini-documentaries will be displayed at six locations in the Battenkill Valley and online.

Outputs:

- Development of 30 new videos that focus on the cultural and natural heritage of the Battenkill River.

Outcomes:

- Develop and/or improve natural and cultural heritage interpretative trails using wayside exhibits and other informative media.
- Support pilot projects that utilize emerging interpretive technologies.
- Encourage the development of new website technologies for use on the CVNHP and stakeholder websites.
- Provide support for needed historical and archeological research, and accelerate the identification, evaluation, protection, and interpretation of heritage resources, including ethnographies of the cultures within the CVNHP.
- Connect, promote, and improve cultural and natural heritage sites through interpretation.

Organization: Crandall Public Library

Contact Person: Todd DeGarmo

Mailing Address: 251 Glen Street, Glens Falls, NY 12801

Phone: 518-792-6508 x237

E-mail: degarmo@crandalllibrary.org

Website: http://www.crandalllibrary.org/

Thirty four volunteers worked on the* Battenkill Inspired *project for a collective 334 hours!

Champlain Valley National Heritage Partnership

Lake Champlain Basin Program

NEIWPCC Code:	PO 12469
GLFC	
Close Date:	7/5/2018
Grant Amount:	$ 5,000.00
Non-federal Match:	$38,003.00
Total Amount:	**$43,003.00**

Local Implementation Grant 2016

Boats, Travel & Trains: The Kent-Delord House and Lake Champlain

Project Summary

Utilizing a 2017 CVNHP Corridor of Commerce grant, the Kent-Delord House Museum worked with three high school students to research, design and fabricate interpretive panels that focused the various aspects of the house's commercial history: the use of local goods to be sold at a village store, early 19th Century travel on the lake, and Plattsburgh becoming a transportation hub with the building of a railroad and docking facilities. The grant also funded the production of three brochures that interpret these areas of focus. Also, for Museum Days (June 17-18, 2017), volunteers set up a garden railway to both attract visitors to the museum and serve as a conduit of information to assist in telling the story of the Plattsburgh & Montreal Railroad.

Outputs:

- A new interior exhibit and three brochures for the museum. Three brochures will be produced explaining one facet of the project.

Outcomes:

- Support historical and archeological research and documentation.
- Support initiatives that highlight the relationships among stakeholder sites and programs through interpretation, while maintaining the individual character of those sites.
- Provide support for needed historical and archeological research, and accelerate the identification, evaluation, protection, and interpretation of heritage resources, including ethnographies of the cultures within the CVNHP.
- Connect, promote, and improve cultural and natural heritage sites through interpretation.

Champlain Valley National Heritage Partnership

Organization:	Kent-Delord House
Contact Person:	Don Wickman
Mailing Address:	17 Cumberland Avenue Plattsburgh, NY 12901
Phone:	518 561-1035
E-mail:	kdhmdirector@gmail.com
Website	http://www.kentdelordhouse.org/

Three local teens developed interpretation on the transportation history of the Kent-Delord House Museum.

Lake Champlain Basin Program

NEIWPCC Code:	PO 12446
GLFC	
Close Date:	1/2/2018
Grant Amount:	$1,875.00
Non-federal Match:	$3,265.70
Total Amount:	**$5,140.70**

2016 Local Implementation Grant

Establishment of Infrastructure for the *US LaVallee* Historic Dive Preserve

Project Summary

The Lake Champlain Maritime Museum received a $5,000 Corridor of Commerce grant to establish the infrastructure required for divers to safely visit the wreck site of the tugboat US LaVallee. This well-preserved shipwreck is located in 100 feet of cold, dark water at the bottom of Lake Champlain, near the mouth of Shelburne Bay on Lake Champlain. Instillation of this infrastructure enabled the US LaVallee site to be included in the Vermont State Underwater Preserve System.

During the spring and early summer of 2017, the various components of the required infrastructure were identified and ordered. The items gathered for this operation included: 3,000lb cement mooring block, Hazlett Elastic Rode System, 100 feet of mooring line, 36 inch yellow mooring buoy, various shackles and hardware, and underwater signage to place near the wreck site, which was opened to recreational divers in July 2017.

Outputs:

- A new Vermont State Underwater Preserve System was established.

Outcomes:

- Utilize new and existing research and documentation to support the evaluation, conservation, and interpretation of natural and cultural heritage resources.
- Continue to support regional, multi-jurisdictional programs that promote accessible and sustainable use of resources.
- Continue to develop and maintain the Lake Champlain Underwater Historic Preserve System.
- Provide support for needed historical and archeological research, and accelerate the identification, evaluation, protection, and interpretation of heritage resources, including ethnographies of the cultures within the CVNHP.
- Connect, promote, and improve cultural and natural heritage sites through interpretation.
- Continue to develop and maintain the Lake Champlain Underwater Historic Preserve Program

Champlain Valley National Heritage Partnership

Organization: Lake Champlain Maritime Museum

Contact Person: Christopher Sabick

Mailing Address: 4472 Basin Harbor Road
Vergennes, VT 05491

Phone: 802 475-2022

E-mail: chriss@lcmm.org

Website: http://www.lcmm.org/

Launched in Brooklyn in 1880, the US LaVallee worked the waters of New York City, Georgetown, SC, and the upper the Hudson River before coming to Lake Champlain. The vessel was scuttled in 1931.

Lake Champlain Basin Program

NEIWPCC Code:	PO 12442
GLFC	
Close Date:	1/2/2018
Grant Amount:	$5,000.00
Non-federal Match:	$2,272.00
Total Amount:	**$7,272.00**

Corridor of Commerce 2016

Missisquoi River Corridor of Commerce - Swanton Heritage Water Trail

Project Summary

The Swanton Heritage Water Trail project improved public access at historical locations along the Missisquoi River in Swanton, VT. The project included the engagement of high school and college students in site improvements and interpretive information for visitors. The river access projects and development of interpretation tie together a quarter-mile of the Missisquoi River, creating a new water-based heritage trail through the heart of town.

In spring 2017, the Northern Forest Canoe Trail (NFCT) worked with Swanton High School to create a removable set of stairs providing access from the Missisquoi River to Swanton's historic rail depot. During the summer of 2017, the NFCT engaged college student interns and community volunteers in a project to create an access trail and ramp at historic Marble Mill Park. This work was followed by creation of content for an interpretive sign at Marble Mill Park, engaging students and members of the local historical society. An interpretive sign was installed at the site in spring 2018, using a holding structure fabricated by students.

Outputs:

- Improved access at the Missisquoi River access associated with Marble Mill Park An interpretive panel at the Marble Mill foundation site.
- Trail signage linking interpretive elements of a .5-mile land/water heritage trail through the heart of Swanton and an online CVNHP public access guide.

Outcomes:

- Support initiatives that promote sustainable recreational activities that feature the natural, cultural, and historical resources in the CVNHP
- Increase and improve public access opportunities to the interconnected waterways of the CVNHP activities
- Support a public information program that emphasizes recreational ethics, public safety, sustainable use, and stewardship of cultural and natural resources
- Support the use of interpretive themes to link resources within the Champlain Valley National Heritage Partnership
- Produce coordinated education programs for students

Champlain Valley National Heritage Partnership

Organization: Northern Forest Canoe Trail

Contact Person: Walter Opuszynski

Mailing Address: PO Box 565
Waitsfield, VT 05673

Phone: 802 496-2285, ext. 2

E-mail: walter@northernforestcanoetrail.org

Website: https://www.northernforestcanoetrail.org/

Eighteen volunteers gave 156 hours to the project

Lake Champlain Basin Program

NEIWPCC Code:	PO 12454
GLFC	
Start Date:	6/14/20178
Grant Amount:	$ 5,000.00
Non-federal Match:	$ 6,479.24
Total Amount:	**$11,479.24**

2016 Corridor of Commerce

Steamboats in the Champlain Valley - A Bicentennial Project for Students

Project Summary

The Ticonderoga Historical Society received a *Corridor of Commerce* Interpretive Theme Grant to develop "Steamboats in the Champlain Valley. A Bicentennial Project for Students" was developed to encourage students to research the history of steam boating and its impact in the Champlain Valley. The project created a website and writing competition that asked students to investigate the impact of maritime commerce by creating a skit or short story related to the theme.

The website received more than 10,000 "hits," and a number of inquiries were received. In addition, there were in-person visits to the Ticonderoga Historical Society from some students.

Outputs:

- A new website on the history of steamboats in the Champlain Valley

Outcomes:

- Develop and/or improve natural and cultural heritage interpretative trails using wayside exhibits and other informative media.
- Support pilot projects that utilize emerging interpretive technologies.
- Encourage the development of new website technologies for use on the CVNHP and stakeholder websites.
- Provide support for needed historical and archeological research, and accelerate the identification, evaluation, protection, and interpretation of heritage resources, including ethnographies of the cultures within the CVNHP.
- Connect, promote, and improve cultural and natural heritage sites through interpretation.

Champlain Valley National Heritage Partnership

Organization:	Ticonderoga Historical Society
Contact Person:	William G. Dolback
Mailing Address:	6 Moses Circle Ticonderoga, NY 12883
Phone:	518-585-7868
E-mail:	tihistory@bridgepoint1.com
Website:	http://ticonderogahistoricalsociety.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12457
GLFC	
Start Date:	1/3/2018
Grant Amount:	$ 5,000.00
Non-federal Match:	$ 7,571.76
Total Amount:	**$12,571.76**

Local Implementation Grant 2016

The Feeder Canal Story

Project Summary

The Glens Falls-Queensbury Historical Association/Chapman Historical Museum and the Feeder Canal Alliance utilized a collaborated to bring educational programs to students and adults in order to expand knowledge and understanding of the Feeder Canal which played such a vital role in the history of our area. Through their individual work with schools and adult communities, it became clear that the significant role the Feeder canal played in the development and prosperity of our region is greatly underappreciated. The programs developed featured Core/STEM based curriculum using hands-on activities, games, photographs, maps, and other primary documents and re-enactors to bring to life the story of the Feeder Canal and the men, women and children who worked on it.

Outputs:

- An educational program that interprets the Champlain Feeder Canal.

Outcomes:

- Increased public knowledge and appreciation for our unique heritage
- Support historical and archeological research and documentation.
- Provide CVNHP-related presentations to schools.
- Produce coordinated education programs for students.
- Connect, promote, and improve cultural and natural heritage sites through interpretation.

Organization: Glens Falls/Queensbury Historical Association

Contact Person: Kimberly Harvish

Mailing Address: 348 Glen Street
Glens Falls, NY 12801

Phone: 518-793-2826

E-mail: educator@chapmanmuseum.org

Website: http://www.chapmanmuseum.org/

A model of a Feeder Canal Lock was constructed for aid in classroom presentations.

NEIWPCC Code:	PO 12458
GLFC	
Close Date:	1/11/2018
Grant Amount:	$ 5,000.00
Non-federal Match:	$ 5,281.00
Total Amount:	**$10,281.00**

Champlain Valley National Heritage Partnership

2016 Local Implementation Grant

A Guide to the Architecture of the Adirondacks

Project Summary

Utilizing a 2017 CVNHP Local Heritage Grant, Adirondack Architectural Heritage (AARCH) produced A Guide to Architecture in the Adirondacks by Richard Longstreth, a "field guide" to regional architecture and communities. The project brought together the talents and experience of author Richard Longstreth with AARCH's extensive knowledge of the Adirondack region and Adirondack Life magazine's pre-production and marketing skills to create and distribute an informative, accessible, and richly illustrated volume that can be used by nearly anyone to explore and understand the region's diverse architecture, communities, and rich history. The book was published in June 2017.

Outputs:

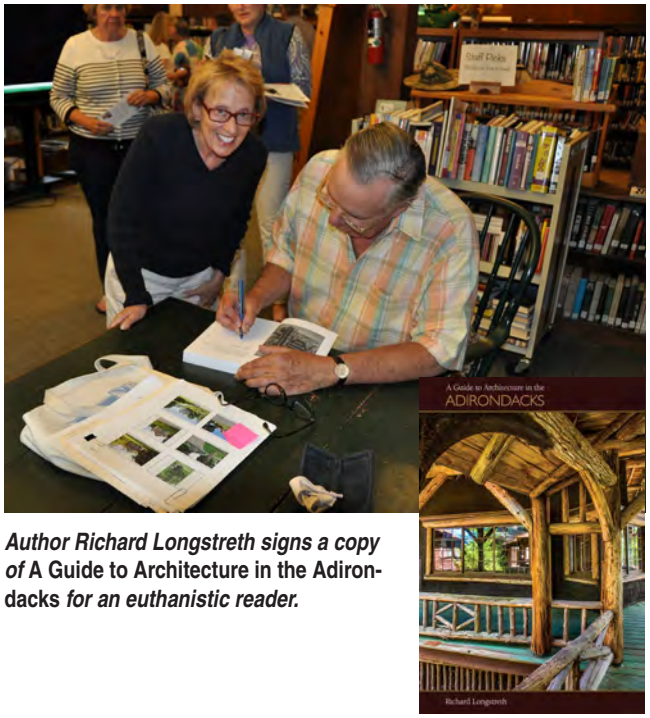
- A comprehensive , 407-page guide to architecture in the Adirondacks.

Outcomes:

- Support historical and archeological research and documentation.
- Utilize new and existing research and documentation to support the evaluation, conservation, and interpretation of natural and cultural heritage resources.
- Develop and/or improve natural and cultural heritage interpretive trails using wayside exhibits and other informative media.
- Provide support for needed historical and archeological research, and accelerate the identification, evaluation, protection, and interpretation of heritage resources, including ethnographies of the cultures within the CVNHP.
- Connect, promote, and improve cultural and natural heritage sites through interpretation.

Champlain Valley National Heritage Partnership

Organization:	Adirondack Architectural Heritage
Contact Person:	Steven Engelhart
Mailing Address:	1745 Main Street Keeseville, NY 12944
Phone:	(518) 834-9328
E-mail:	steven@aarch.org
Website:	https://www.aarch.org/



Author Richard Longstreth signs a copy of* A Guide to Architecture in the Adirondacks *for an euthanistic reader.

Lake Champlain Basin Program

NEIWPCC Code:	PO 12316
NPS	
Close Date:	11/16/2017
Grant Amount:	$ 5,000.00
Non-federal Match:	$59,460.00
Total Amount:	**$64,460.00**

Local Implementation Grant 2016

History Comes Alive: Youth Engagement in Local History through the Arts

Project Summary

The Flynn Center for the Performing Arts collaborated with several schools across the Champlain Valley during January–May of 2017 in order to bring local history and heritage to life. With a focus on events that occurred during the American Revolution, the Flynn, the Lake Champlain Maritime Museum, and teacher partners created experiential lessons and project-based learning opportunities for area students to build both an intellectual and empathic understanding of these particular events in history and their impact on the Champlain Valley. A multi-lesson unit was co-designed and co-implemented by Flynn teaching artists and classroom teachers. The project served 19 different classrooms across six schools in the Champlain Valley, reaching approximately 500 students, with each classroom participating in four workshops The semester-long unit included a field trip to the Flynn to see a live theatre performance related to the content of the unit, as well as in-classroom tactile experiences with relevant artifacts

Outputs:

- The Flynn served 19 different classrooms across six Champlain Valley schools with each classroom participating in four workshops. The project reached approximately 500 students.

Outcomes:

- Utilize new and existing research and documentation to support the evaluation, conservation, and interpretation of natural and cultural heritage resources.
- Provide opportunities for teachers and students to participate in CVNHP-related field trips and restoration projects.
- Produce coordinated education programs for students

Organization: Flynn Center for the Performing Arts

Contact Person: Gina Haddock

Mailing Address: 153 Main Street
Burlington, VT 05401

Phone: (802) 652-4500

E-mail: rhaddock@flynncenter.org

Website: https://www.flynncenter.org/

Students from the Frederick H. Tuttle Middle School in South Burlington, Vermont, reenact a scene from the American Revolution

NEIWPCC Code: PO 12434
NPS
Close Date: 12/7/2017
Grant Amount: $5,000.00
Non-federal Match: $3,199.20
Total Amount: **$8,199.20**

Champlain Valley National Heritage Partnership

Lake Champlain Basin Program

2016 Local Implementation Grant

Kids to the Homestead

Project Summary

The Kids to the Homestead program created and provided exciting programs to schools in the Champlain Valley. The project utilized a Local Heritage Grant as part of a much larger effort to enable the Ethan Allen Homestead to create a curriculum on the homestead site and Vermont history in general. The Homestead worked with an education intern who utilized three curricula developed through a 2014 CVNHP Local Heritage Grant to developed a series of simple lesson plans and activities. These were categorized as activities to specifically be done in the classroom, and later while taking a tour of the site. The grant allowed 319 students to learn about Ethan Allen's role in the American Revolution and the founding of Vermont, life in colonial times, and the natural heritage of the Burlington Intervale.

Outputs:

- A cultural/natural heritage education program that reached 319 students in Chittenden County, Vermont.

Outcomes:

- Support historical and archeological research and documentation.
- Provide CVNHP-related presentations to schools.
- Produce coordinated education programs for students.
- Connect, promote, and improve cultural and natural heritage sites through interpretation.

Organization: Ethan Allen Homestead

Contact Person: Jillian Casey

Mailing Address: 1 Ethan Allen Homestead
Burlington, VT 05408

Phone: (802) 865-4556

E-mail: ethanallenhomestead@gmail.com

Website: http://www.ethanallenhomestead.org/

Five volunteers collectively gave 69 hours of their time to present educational programs to 319 students through this project.

NEIWPCC Code:	PO 12435
NPS	
Close Date:	9/14/2017
Grant Amount:	$ 2,500.00
Non-federal Match:	$ 7,607.00
Total Amount:	**$10,107.00**

Champlain Valley National Heritage Partnership

Lake Champlain Basin Program

Local Implementation Grant 2016

"Logging Along the Bend of the River"

Project Summary

The Warren County Historical Society (WCHS) received $5,000 CVNHP Local Heritage Grant to conserve, display and interpret the history of logging in Glens Falls, NY, which was established at a falls at a bend of the Hudson River. The falls were very productive in producing power to run nearby industries, including sawmills. There were several small sawmills in the county established in the mid-1700s and more were added as the population continued to grow. The WCHS partnered with the Crandall Folklife Center, Warrensburg Historical Society and Feeder Canal Alliance for information and photographs to showcase loggers: their life, the importance of logging in the past 250 years in Warren County. The Logging at a Bend in the River is also the first exhibit in the WCHS's new building and will be the beginning of future exhibits showcasing Warren County.

Outputs:

- New interpretive displays and oral histories for the museum.

Outcomes:

- Support historical and archeological research and documentation.
- Support ethnographic research and documentation of the cultures within the CVNHP.
- Support tourism information centers, marketing organizations, regional byway initiatives and the Non-motorized Tourism Clearinghouse, to coordinate and disseminate information on opportunities for year-round use of recreational, natural, cultural, and historic resources of the CVNHP.
- Support the use of new information technology to provide quality information on heritage and recreation resources.

Champlain Valley National Heritage Partnership

Organization:	Warren County Historical Society
Contact Person:	Faith Bouchard
Mailing Address:	195 Sunnyside Road Queensbury, NY 12804
Phone:	518-743-0734
E-mail:	mail@warrencountyhistoricalsociety.org
Website:	http://www.wchsmuseum.org/

Fifty five people attended the opening of the Warren County Historical Society's opening of the new logging exhibit on August 2, 2018.

Lake Champlain Basin Program

NEIWPCC Code:	PO 12447
GLFC	
Close Date:	8/28/2018
Grant Amount:	$3,244.00
Non-federal Match:	$1,045.00
Total Amount:	**$4,289.00**

2016 Local Implementation Grant

New York's Franco-American Heritage through Song: *From Warfare to Workplace*

Project Summary

Under the theme From Warfare to Workplace, students researched the lyrics of French-Canadian and Franco-American songs. They discovered how popular songs reflect the historical and cultural events of the North Country from before French Canadian immigration until today. Local music teachers assisted with the performance of the songs researched. Ten of the songs were performed at a concert during a field trip to Fort Chambly or other local cultural and historic sites is also planned.

Outputs:

- teacher-training workshops
- a comprehensive CVNHP Resource Guide for educators to use in developing teaching units focused on the natural and cultural heritage of the region with an emphasis on conserving and protecting those resources.
- opportunities for teachers and students to participate in CVNHP-related field trips and restoration projects
- CVNHP-related presentations to schools.
- bus transportation grants to improve school access to heritage sites and events within the CVNHP.

Outcomes:

- Support historical and archeological research and documentation.
- Support ethnographic research and documentation of the cultures within the CVNHP.
- Use new and existing research and documentation to support the evaluation, conservation, and interpretation of natural and cultural heritage resources.

Champlain Valley National Heritage Partnership

Organization: Pays du Nord Chapter, American Association of Teachers of French

Contact Person: David B. Graham

Mailing Address: 344 Trim Road, Morrisonville, NY 12962

Phone: 518-563-1779

E-mail: mrquebec@gmail.com

Website:

Lake Champlain Basin Program

NEIWPCC Code:	PO 12448
NPS	
Close Date:	7/17/2018
Grant Amount:	$5,000.00
Non-federal Match:	
Total Amount:	**$5,000.00**

Local Implementation Grant 2016

Waterway Stage Collaborative

Project Summary

Waterway Stage combines the power of the performance arts with the joy of scientific investigation to engage students and their communities in their local watersheds. K – 8th grade classrooms collaborated with expert educators from Very Merry Theatre and ECHO, Leahy Center for Lake Champlain to research and perform original plays on the ecology, culture, and history of a selected Lake Champlain Basin topic. During the 2016 – 2017 school year, 12 classrooms from 7 schools participated, reaching a total of 203 students. Its geographic reach extended as far north as Burlington, south as Brandon, and east as Calais, VT.

Outputs:

- watershed curriculum support materials with emphasis on aquatic invasive species and spread prevention measures
- a comprehensive CVNHP Resource Guide for educators to use in developing teaching units focused on the natural and cultural heritage of the region with an emphasis on conserving and protecting those resources.
- 8-10 original student plays performed

Outcomes:

- Promote cultural exchanges and international scholarship programs.
- Prevent the introduction of new aquatic invasive species and limit the spread of established aquatic invasive species (AIS) in the Champlain Valley National Heritage Partnership region.
- Focus on land-use changes and effects of stormwater runoff on water quality.

Organization: ECHO, Leahy Center for Lake Champlain

Contact Person: Nina Ridhibhinyo

Mailing Address: 1 College Street
Burlington, VT 05401

Phone: 802-864-1848 x 142

E-mail: nina@echovermont.org

Website: http://www.echovermont.org/

NEIWPCC Code:	PO 12315
NPS	
Close Date:	7/3/2017
Grant Amount:	$ 5,000.00
Non-federal Match:	$ 5,01233
Total Amount:	**$10,012.33**

Champlain Valley National Heritage Partnership

Lake Champlain Basin Program

2016 Local Implementation Grant

Capacity for Americorps Support

Project Summary

The Friends of Northern Lake Champlain utilizes the services of a DEC ECO AmeriCorps volunteer to carry a significant portion of the workload associated with its full slate of state and federally support grant projects. The proceeds from this organization support grant pay for the majority of FNLC's contract to obtain the AmeriCorps volunteer's services.

Outputs:

- Bike for the Lake – June 10 Thomas recruited more AmeriCorps volunteers to serve the meal and perform clean up chores after the educational/fundraising event.
- DEC Alburgh Rain Garden – June 30 completed design phase of project for the Alburgh school parking lot and submitted final report
- LCBP Climate Navigators – June 30 completed final meeting
- CWIP Deer Brook Gully Restoration – November 1 attended project kickoff meeting and will serve as local contact during upcoming study season
- ERP Two-Tier Ditch - March 2017 Thomas completed the initial ERP Stewardship grant report which led to the successful grant application for the ditch construction project that David will assist subcontractors with this summer.
- ANR Project Rock River water sampling – Thomas and David took over full time bimonthly and high flow event water collections and lab processing
- LCBP RSEP – April 1, Thomas and NRPC conducted April Stools day community pet waste pick up project.
- November 7, David, NRPC and Rotary Interact conducted Rugg Brook streamside clean up.
- LCBP St. Albans City Raingarden – Thomas and David found one private land owner to participate, Stone Environmental has completed design and David is looking for more landowners to participate.
- Vermont Community Foundation – October 31 David assisted with a large acreage tree planting along the Tyler Branch with AGT and Enosburgh high school students.
- LCBP Stone Environmental Jewett Brook Tile Drain study – Since April, Thomas and David spent two days a week collecting tile drain water samples from a dozen tile drains along a impaired stream.

Outcomes:

- increased education and outreach support to citizens

Organization: Friends of Northern Lake Champlain

Contact Person: Kent Henderson

Mailing Address: PO Box 58
Swanton, VT 05488

Phone: 802-373-1998

E-mail: directorfnlc@gmail.com

Website: http://www.northernlakechamplain.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12411
GLFC	
Close Date:	1/18/2018
Grant Amount:	$4,000.00
Non-federal Match:	
Total Amount:	**$4,000.00**

Local Implementation Grant 2016

Champlain Watershed Improvement Coaltion of New York (CWICNY)

Project Summary

The Champlain Watershed Improvement Coalition of New York continued to promote watershed protection on the New York side of Lake Champlain. CWICNY utilized the support grant to assist with the yearly operations of CWICNY (i.e- financial audit, website maintenance, computer upgrades, new display for education and outreach, reproduction of documents such as the better Backroads manual and the 2016 NYS Bluebook), and other watershed protection programs. With this support, CWICNY provided information and assistance to local communities and landowners to assist in making informed decisions on issues such as water quality, streambank protection, and invasive species prevention.

Outputs:

- Revamped display,
- website maintenance,
- reproduction of RRAMP guides and NYS Blue Book (2016)

Outcomes:

- better informed public on issues pertaining to water quality, streambank protection, and invasive species prevention.

Organization: CWICNY

Contact Person: Dave Reckahn

Mailing Address: 394 Schroon River Road
Warrensburg, NY 12885

Phone: 518-962-8225

E-mail: dreckahn@westelcom.com

Website: https://www.cwicny.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12414
GLFC	
Start Date:	1/9/2017
Grant Amount:	$4,000.00
Non-federal Match:	
Total Amount:	**$4,000.00**

2016 Local Implementation Grant

ECO AmeriCorps Member Sponsor Match

Project Summary

The purpose of the project was to fund the sponsor match of the ECO AmeriCorps member assigned to assist the Franklin Watershed Committee in furtherance of its mission. Lake Carmi is designated an impaired lake by the State of Vermont. The lake is plagued by blue green algae blooms and a heavy infestation of Eurasian Milfoil. The FWC has been awarded the services of an AmeriCorps member each year since 2010. The AmeriCorps member assists the FWC in various projects to help improve the Lake Carmi watershed. The ECO AmeriCorps program requires that the FWC pay a cash sponsor match.

Outputs:

- a multi-layered boundary map series - identified all land parcels and their owners in the Lake Carmi watershed. It also identified what crop if any was grown on them.
- FWC tributary sampling program extracting water samples from the lake's main tributaries and sub tributaries. The samples were tested for phosphorous and turbidity and greatly assist in identifying projects to improve the watershed. The AmeriCorps member also prepared a comprehensive analysis of the 2016 tributary samples. This report has served as a very meaningful and useful resource tool.
- A public presentation of the mapping project was made upon completion.
- three environmental workshops with the Lake Champlain Committee. The AmeriCorps member prepared and distributed promotional flyers for the workshops.

Outcomes:

- reduce run off of sediment and phosphorus into the lake and other waterways.

Organization: Franklin Watershed Committee

Contact Person: John Barrows

Mailing Address: PO Box 82
Franklin, VT 05457

Phone: 802- 363-3503

E-mail: johnbarrowsvt@yahoo.com

Website: https://www.franklinwatershed.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12418
GLFC	
Close Date:	1/31/2018
Grant Amount:	$ 4,000.00
Non-federal Match:	$ 8,500.00
Total Amount:	**$12,500.00**

Local Implementation Grant 2016

Essex County WQCC Organizational Support

Project Summary

The Essex County Water Quality Coordinating Committee Organizational Support Grant provided support to maintain the function of the organization. The grant provided funding to allow the WQCC to complete Nonpoint Source pollution prevention control programs as described in the organizations Water Quality Strategy. The Strategy follows many of the priorities of the "Opportunities for Action" completed by the Lake Champlain Basin Program. The WQCC is working with the Upper Hudson on a watershed plan and CWICNY on a watershed project prioritization plan.

Outputs:

- sponsorship of the NARE Envirothon providing Environmental Education to local high school students.
- rain barrel education
- promotion of the CWICNY tour of project sites.

Outcomes:

- Enhance environmental education throughout the Lake Champlain watershed in Essex County

Organization: Essex County SWCD

Contact Person: Dave Reckahn

Mailing Address: PO Box 407, Westport NY 12993

Phone: (518) 962-8225

E-mail: dreckahn@westelcom.com

Website: http://www.essexcountyswcd.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12415
GLFC	
Close Date:	1/11/2018
Grant Amount:	$2,000.00
Non-federal Match:	$ 500.00
Total Amount:	**$2,500.00**

2014 Local Implementation Grant

Friends of the Winooski River Organizational Support

Project Summary

In recent years, the Friends have taken steps to increase online and community outreach by content management system upgrades and by hiring a part-time outreach coordinator. However, many of the tools available (primarily online) go underutilized due to a lack of expertise with various tools and an integrated strategy for their use. Under this project, the Friends hired a communications consultant who worked with the outreach coordinator to conduct an assessment of current communications and provided advice and resources to help increase the organization's outreach. This assessment helped volunteer recruitment and engagement efforts and determined training for staff and board in order to implement the new practices.

Outputs:

- communications strategy
- improved volunteer recruitement and engagement
- staff and board training
- detailed volunteer job descriptions

Outcomes:

- increased awareness about watershed issues and resources.

Organization:	Friends of the Winooski River
Contact Person:	Michelle Braun
Mailing Address:	PO Box 777 Montpelier VT 05601
Phone:	802-882-8276
E-mail:	info@winooskiriver.org
Website:	https://winooskiriver.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12419
GLFC	
Close Date:	8/20/2018
Grant Amount:	$4,000.00
Non-federal Match:	
Total Amount:	**$4,000.00**

Local Implementation Grant 2015

Lake Champlain Committee Capacity Building

Project Summary

The organizational support grant enabled LCC to update our display and educational materials.

Outputs:

- a new educational display and photo board

Outcomes:

- effectively communicate LCC's goal of clean, accessible water and the collective stewardship necessary to achieve it

Organization: Lake Champlain Committee

Contact Person: Lori Fisher

Mailing Address: 208 Flynn Avenue, Building 3 Studio 3F, Burlington, VT 05401

Phone: 802 658-1421

E-mail: lorif@lakechamplaincommittee.org

Website: https://www.lakechamplaincommittee.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 10984
GLFC	
Start Date:	10/12/2017
Grant Amount:	$4,000.00
Non-federal Match:	
Total Amount:	**$4,000.00**

2016 Local Implementation Grant

LCA Website and Organizational Capacity Enhancement

Project Summary

Lewis Creek Association saw an urgent need to make organizational enhancements in order to more effectively and efficiently communicate with the State, Towns, and citizens. LCA strengthened its organizational capacity by a) purchasing a laptop computer for recently hired LCA staff now managing LCA programs and communications; and b) creating a new enhanced and user friendly website that contributes to the face and branding of LCA, reduces the time it takes to manage and update the website, and allows users to more easily download reports to have access to current information on the Lewis Creek and LaPlatte River and direct to lake watersheds. This organizational support work intends to better service the towns of Shelburne, Charlotte, Hinesburg, Ferrisburgh, Monkton, and Starksboro in watershed regions including LaPlatte River, Thorp Brook, Kimball Brook, Holmes Creek, and Lewis Creek.

Outputs:

- up to date new website
- laptop for managing LCA programs and communications

Outcomes:

- increased credibility associated with Lewis Creek Association leading to data having a further reach
- increased volunteers, and increased funding and donations
- more optimal impact in the Lake Champlain Basin.

Organization: Lewis Creek Association

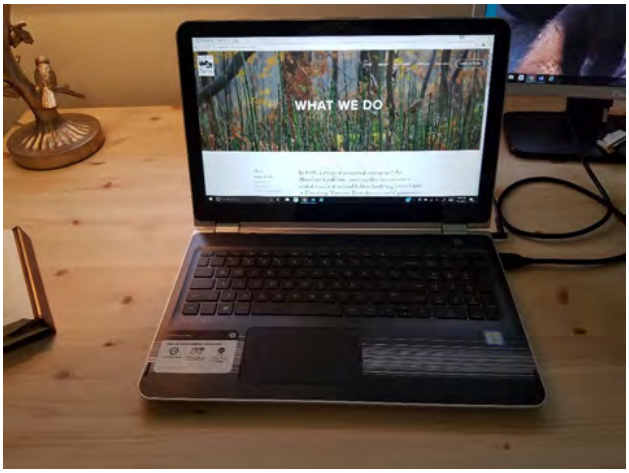
Contact Person: Krista Hoffsis

Mailing Address: 442 Lewis Creek Road, Charlotte, VT 05445

Phone: 513-470-7554

E-mail: kristahoffsis@yahoo.com

Website: http://www.lewiscreek.org/



New LCA laptop featuring new LCA website

Lake Champlain Basin Program

NEIWPCC Code:	PO 12423
GLFC	
Close Date:	6/7/2017
Grant Amount:	$3,898.00
Non-federal Match:	$ 981.00
Total Amount:	**$4,879.00**

Local Implementation Grant 2016

LCC Education and Outreach Capacity Building

Project Summary

The organizational support grant strengthened the Lake Champlain Committee's (LCC) organizational capacity by helping to fund an ECO AmeriCorps member dedicated to educational programs and outreach. The ECO AmeriCorps Education & Outreach Coordinator leveraged LCC staff power and helped us expand and implement programs throughout the watershed. The ECO AmeriCorps member focused on general outreach, the Lake Champlain Paddlers' Trail, and cyanobacteria monitoring, three areas identified by LCC Board and staff as needing additional educational support. Outputs included updated website materials, Facebook and social media postings and an internal guidance document for our Annual Meeting. Outcomes included increased support and assistance for citizen cyanobacteria monitoring which aided in program effectiveness, greater citizen awareness of the need to pick up after pets to minimize bacteria and nutrient loading to waterways, an updated publication to help communities build climate change resiliency, and an updated Paddlers' Trail guidebook.

Outputs:

- series of April Stools' Day and Scoop the Poop events
- stormwater assessments at four schools in the Lake Champlain watershed (two in VT, two in NY)
- list of high priority monitoring locations for follow-up contact throughout the monitoring season

Outcomes:

- educating and involving people in lake protection.
- reduction of phosphorus inputs and reduction of contaminants that pose a risk to public and ecosystem health
- promote and increase access to the lake's cultural and recreational heritage

Organization: Lake Champlain Committee

Contact Person: Lori Fisher

Mailing Address: 208 Flynn Avenue, Bldg.3 Studio 3F, Burlington, VT 05401

Phone: 802-658-1421

E-mail: lorif@lakechamplaincommittee.org

Website: https://www.lakechamplaincommittee.org

Lake Champlain Basin Program

NEIWPCC Code:	PO 12420
GLFC	
Close Date:	1/18/2018
Grant Amount:	$4,000.00
Non-federal Match:	$2,500.00
Total Amount:	**$6,500.00**

2016 Local Implementation Grant

MRBA Database

Project Summary

The MRBA used this organizational support grant funding to educate staff members in the use of Microsoft Access database management systems, and to cover time and mileage costs for visits to sites where we have completed projects in the past 20 years, in order to check on success rates, take photos, and be sure we have data that may not have been readily available when the projects were completed (such as GIS location information). MRBA has migrated this information into an Access database, so that is more readily sortable and easier to communicate about with watershed residents, landowners, and potential partners in future projects.

Outputs:

- database management system
- proficiency in database software

Outcomes:

- awareness and understanding among residents and visitors about Lake Champlain resources and behaviors that contribute to pollution
- improve communication and cooperation among the diverse groups involved in Lake Champlain Basin education and outreach
- identify research and monitoring projects that can improve management programs and conduct when funding resources become available.

Organization: Missisquoi River Basin Association

Contact Person: Lindsey Wight

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East Berkshire, VT 05447

Phone: 802-393-0076

E-mail: MRBA@pshift.com

Website: https://www.mrbavt.com/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12424
GLFC	
Close Date:	11/1/2017
Grant Amount:	$2,962.00
Non-federal Match:	$1,280.00
Total Amount:	**$4,242.00**

Local Implementation Grant 2016

Organizational Support for the Franklin County NRCD

Project Summary

This Organizational Support project supported the Franklin County Natural Resources Conservation District's (Franklin NRCD, or District) reinvigoration as a key player in water quality work in the northern Lake Champlain Basin. In September 2016 the Franklin District welcomed a new manager, who sought for the District to take a more active role in water quality improvement. To effectively integrate into the ongoing work of other organizations, this required support for analyzing technical watershed documents; identifying gaps in service or areas for collaboration through meetings with potential partner organizations; following up with a subset of those partners to flesh out ideas for collaborative projects; and writing a final report to serve as an initial framework for a future Strategic Plan.

Outputs:

- a list of watershed needs within the mission of the FCNRCD and a list of gaps in service
- two specific areas of potential work identified with partners
- digitization of historical photos and documents of early conservation efforts in the county, and an initial assessment to see if a larger collaborative project with the St. Albans Museum is warranted.

Outcomes:

- Conservation District will be more capable of implementing water quality projects in coordination with Franklin County partners

Organization: Franklin County NRCD

Contact Person: Jeannie Bartlett

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St. Albans, VT 05478

Phone: 802-524-6505 ext. 120

E-mail: jeanne.bartlett@vt.nacdnet.net

Website: https://www.nrcs.usda.gov/wps/portal/nrcs/detail/vt/about/?cid=nrcs142p2_010666

Lake Champlain Basin Program

NEIWPCC Code:	PO 12417
GLFC	
Close Date:	7/31/2017
Grant Amount:	$4,000.00
Non-federal Match:	$ 944.00
Total Amount:	**$4,944.00**

2016 Local Implementation Grant

Project Tracking and Documentation

Project Summary

This grant was used to purchase equipment needed to help document our work including a drone and an underwater camera. The equipment has proven invaluable in our work to protect the Lake George watershed and has given LGA a preview of the possibilities for future uses. The drone is incredibly useful in getting a better perspective on work, and gives the ability to determine how the work impacts the surrounding area. Additionally, it gives the Lake George Association a way to document current conditions of in-Lake problems like deltas and the ability to see and document underwater conditions before, during and after projects designed to protect the Lake.

Outputs:

- better imagery of work for documention
- better access to areas not readily available
- underwater surveying of invasive plant and animal surveys/removal
- remote viewing of area to see problems concurrent with work
- ability to investigate further upstream and see cause/effect up and down stream.

Outcomes:

- broader understanding of current problems in the watershed and lead toward a more comprehensive solution
- document the effects on the environment from issues over time and how that change may affect use and investment in the Lake.
- prevent the spread and control the impact of non-native species.

Organization: Lake George Association

Contact Person: Patrick Dowd

Mailing Address: P.O. Box 408
Lake George NY 12845

Phone: 518-668-3558

E-mail: pdowd@lakegeorgeassociation.org

Website: https://www.lakegeorgeassociation.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12422
GLFC	
Close Date:	11/1/2017
Grant Amount:	$3,100.00
Non-federal Match:	$ 616.00
Total Amount:	**$3,716.00**

Local Implementation Grant 2016

Strengthening Efforts to Improve Water Quality on Assembly Point

Project Summary

The purpose of this project is to modify the behavior of residents and discourage practices which have contributed to the decline in Assembly Point water clarity and quality. There is a constant need to encourage and assist seasonal residents to adopt sustainable practices which protect the Lake. Properties on Assembly Point constantly change hands and new residents are unfamiliar with the threats to water quality. This requires undertaking continuous efforts to provide information on how property owners can maintain their properties in a lake-friendly manner by avoiding fertilizers, by stopping septic seepage and by curbing storm water runoff. The degradation to water quality caused by septic seepage will be emphasized.

Outputs:

- newsletters
- welcome packet for new residents
- informational flyer on septic issues

Outcomes:

- promote a better understanding of threats to water quality as well as an understanding of one's personal responsibility for curbing pollution

Organization: Assembly Point Water Quality Coalition

Contact Person: Beverly Pozzi

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Lake George, NY 12845

Phone: 518 656-9440

E-mail: bjpozzi@hotmail.com

Website: https://www.assemblypt.com/

NEWSLETTER 10 FALL 2017

ASSEMBLY POINT WATER QUALITY COALITION

Board of Directors
Chair Dr. Rolf Ahlers
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Executive Directors
Dr. Lorraine Ruffing and
Dr. Carol Collins
Sec/Treasurer Beverly Pozzi
Outreach Lisa Adamson

John Apperson, A Man for all Seasons

The annual meeting of the APWQC invited Laura Lee, registered historian, archivist and curator, to speak about the many contributions of John Apperson to the preservation of Lake George. Not much was known about Apperson's contribution to our current Lake quality until his niece, Ellen Apperson Brown, published her book, *John Apperson's Lake George*. In 1908 Apperson led the effort to promote the islands for recreation and he became concerned about the damage he had seen. The major source of island erosion was the operation of the dam at Ticonderoga which allowed the International Paper Company to flood the islands and shores effectively using the Lake as if it were a mill pond. Apperson enlisted his friends to move rocks and construct rock walls around the shores. These work crews used barges in summer and horse-drawn sleds in winter to protect the islands. By 1917 Apperson's advocacy obtained $10,000 from Albany to hire steamboat crews to continue to rip-rap the islands.

Apperson sought legal advice to prevent IPC from damaging the islands, docks and shoreline. In 1942 Apperson and friends brought a lawsuit against IPC which dragged on for 12 years. It established that the State of New York was responsible for regulating water levels at Lake George and not the paper mills. However, there were personal repercussions for Apperson who was an employee of GE. IPC urged GE to fire Apperson. His job was saved only by the intervention of GE's Nobel Prize winner, Irving Langmuir, who threatened to quit if Apperson were fired. Apperson was successful in getting the state to buy the central section of Lake George and to prevent the reckless logging practices of IPC and others. Apperson was a major influence in upholding the forever wild clause. He secured the permanent protection of Dome Island and he prevented Robert Moses from building a road on the shore of Tongue Mt. One can easily imagine how very different Lake George would look today if Apperson had not kept up the pressure against all those motivated by greed and self-interest.

Short Note

The Annual meeting was held on 1 Sept; Rolf Ahlers was elected as Chair of the Board and Tim Bechard was elected to the board. Thank you to Mary Helen O'Keeffe for her service during 2016-17 as Chair of the Board.

The Assembly Point Water Quality Coalition, Inc. is a 501c3 non-profit corporation committed to improving and restoring water quality and compromised ecosystems in the Lake George Lake Champlain Basin by supporting policies, regulations and practices which preserve and protect waters and watersheds.
www.assemblypt.com

Lake Champlain Basin Program

NEIWPCC Code:	PO 12412
GLFC	
Close Date:	2/8/2018
Grant Amount:	$ 980.00
Non-federal Match:	$2,190.00
Total Amount:	**$3,098.00**

2016 Local Implementation Grant

Warren County SWCD Lake and Pond Assessment Program

Project Summary

This grant funded the purchase of water testing equipment for the WCSWCD Lakes and Pond Assessment Program. It was determined within the office that there was need for a basic water quality program to evaluate small lake and pond conditions within the county. During the summer of 2016 the SWCD office received numerous requests for site visits to both municipal and privately owned ponds and small lakes due to concerns over their waterbodies condition; an extended period of low precipitation had led to physical changes in their appearance. Warren County SWCD purchased the following items: 12ft Radisson canoe, YSI Pro 2030 Dissolved Oxygen Meter, Secchi Disc, Van Dorn horizontal water sampler and 12' plankton net.

Theequipment allows staff to determine if a pond has appropriate oxygen levels and temperatures for a cold water fishery or whether fish stocking should be directed to a more appropriate species. Basic surveys determined the general health and condition of the waterbodies for landowners; littoral zone assessments were requested due to increased awareness of aquatic invasive species and harmful algae blooms.

Outputs:

- increased capacity to complete surveys requested by local municipalities or county residents
- 6 site visits within the county to date and assisted with one in a neighbouring county at the request of the Adirondack Protection Agency (APA).

Outcomes:

- Promote a better understanding and appreciation of Lake Champlain Basin resources and threats as well as personal responsibilities that leads to behavioral changes and actions to reduce pollution
- Reduce phosphorus inputs to Lake Champlain to promote a healthy and diverse ecosystem and provide for sustainable human use and enjoyment of the Lake

Organization:	Warren County SWCD
Contact Person:	Jim Lieberum
Mailing Address:	394 Schroon River Rd. Warrensburg, NY 12885
Phone:	518-623-3119
E-mail:	rbombard123@nycap.rr.com
Website:	https://www.warrenswcd.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12426
GLFC	
Close Date:	11/16/2017
Grant Amount:	$3,244.00
Non-federal Match:	$ 420.00
Total Amount:	**$3,664.00**

Local Implementation Grant 2016

Watersheds United Vermont Website Redesign

Project Summary

This Capacity Building Grant from the Lake Champlain Basin Program allowed Watersheds United Vermont to design and build a new website. To design an easy to use, modern and functional site, WUV worked with the web designer, Tamarack Media on the following areas: design, logo design, structure of the site, function of the site, and content. In addition, WUV was trained on how to update and maintain the site. The website design was done in the spring and early summer of 2017 and was launched during the summer of 2017. The website has now become a key tool for Watersheds United Vermont to communicate and share information with our members and partners. We are pleased with the outcome of the website and will continue to add to it and make improvements as needed over time.

Outputs:

- website will provide groups with up-to-date information regarding dates and deadlines important to watershed groups and partners including funding deadlines, hearings and public comment dates, events and training.
- allow watershed groups to draw on the most recent research and best practices so they can engage in projects that are utilizing the latest knowledge and information.
- measure the use of the site and the use of specific documents and resources by our partners and members
- website is also a tool to link groups to each other and to show the breadth and strength of the watershed group network.

Outcomes:

- more informed and connected watershed groups and partners, providing groups the knowledge and connections needed to accomplish clean water goals

Organization: Watershed United Vermont

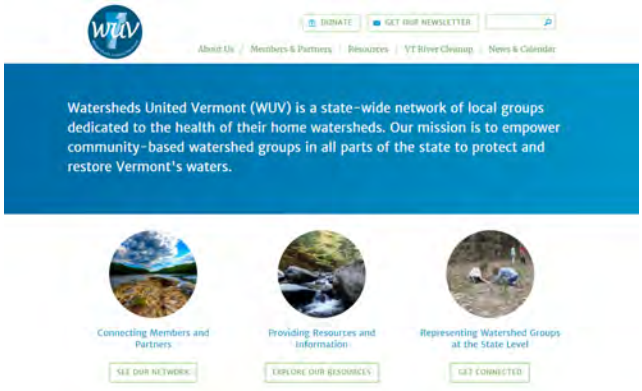
Contact Person: Lyn Munno

Mailing Address: 29 Main Street, Suite 11
Montpelier, VT 05602

Phone: (802) 585-3569

E-mail: watershedsunited@gmail.com

Website: https://watershedsunitedvt.org/



Lake Champlain Basin Program

NEIWPCC Code: PO 12427
GLFC
Close Date: 11/14/2017
Grant Amount: $ 4,000.00
Non-federal Match: $ 6,100.00
Total Amount: **$10,100.00**

2015 Local Implementation Grant

Private Road Education and Technical Assistance

Project Summary

Due to the rate of land conversion from agriculture or forest to residential, rural stormwater, whether in the village centers or more rural settings, is being recognized as a concern. A study of the contribution of unpaved roads to sediment and phosphorus loads to the Winooski watershed estimated dirt roads account for 11-28% of the phosphorus load and 31% of the suspended sediment load. The Friends of the Winooski River initiated its Private Road Education and Technical Assistance Project to begin to address this problem. The project focused on reducing erosion and runoff from private roads and driveways via two community workshops: one in Bolton and one in Marshfield, in which owners of private dirt roads and driveways learned about road runoff issues and how to correct them. The Bolton workshop, held in the spring of 2016, drew landowners from Richmond, Huntington, and Bolton, while the Marshfield workshop, held in July of 2017, had participants from Marshfield, Plainfield, East Montpelier, Danville, and Cabot. Prior to the workshops, a local case study of two private roads off Mountain View Road in Bolton was developed to illustrate both problems and solutions. How-to articles summarizing road erosion solutions were also included in press releases, the Friends of the Winooski River newsletter, and on the Friends' website.

Outputs:

- Two case study of runoff problems and solutions on private road
- 2 educational community workshops
- Published 'how to' materials/public outreach
- Technical assistance site visit and written report for 6 locations

Outcomes:

- Implementation of a suite of best management practices for roadways that specifically address drainage, maintenance, and erosion control.
- technical assistance that supports sharing information on water-quality impacts and suggests techniques to reduce impacts
- Decreased phosphorus and sediment runoff to Lake Champlain, and educational opportunities for Smilie School students, teachers, and parents.

Organization: Friends of the Winooski

Contact Person: Shawn White

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Montpelier VT 05601

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Website: http://www.winooskiriver.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2015-069
EPA Close Date:	6/25/2018
Grant Amount:	$13,968.00
Non-federal Match:	$ 2,619.50
Total Amount:	**$16,587.50**

SECTION FOUR:

INFORMED AND INVOLVED PUBLIC

A number of the LCBP's long-standing Education and Outreach efforts continued in 2018. The *Love the Lake* speaker series, Champlain Basin Education Initiative workshops, and dozens of programs delivered in classrooms and summer camps reached hundreds of adults and children.

The LCBP also branched out into new territory, exploring art as a learning and interpretive opportunity. Student work at the World Water Day Celebration showcased the power of artistic expression in classroom learning. The LCBP hosted watercolor workshops in which artists painted maps of personally meaningful places on the lake. The CVNHP International summit in Lake George highlighted the work of Georgia O'Keefe and sparked an interest in an artist-in-residence program, which was included in the 2018 budget.

Grant/Project Categories in progress

Education and Outreach: Education and Outreach Local Implementation Grants provide up to $10,000 to eligible groups to inform students and adults about key Lake Champlain issues identified in the management plan *Opportunities for Action*. The objective is to develop awareness, knowledge, skills and commitment on a basin issue so that informed decisions and constructive actions will benefit Lake Champlain. Hands-on stewardship activities for citizens are strongly encouraged.
Pages 167-198

Program Initiatives: Staff-driven projects focus on two objectives to meet the goals of the Informed and Involved Public goal: enhance formal learning at all education levels and build awareness through informal learning. Programs for K-12 students, professional development for educators, and providing watershed education resources equip young citizens to make informed decisions. Building awareness of watershed issues through less structured programs is the first step in fostering changes in behavior of citizens of all ages.

Program Highlights

- LCBP staff developed content, wrote, edit, designed, and produced the ***2018 State of the Lake and Ecosystem Indicators Report.***
- A new cohort of educators started the ***Watershed for Every Classroom*** program with a week of instruction, curriculum development, and site visits as part of a comprehensive study of the natural and cultural resources of the Basin.
- LCBP staff produced an updated version of the online ***Lake Champlain Basin Atlas,*** a collection of more than 20 interactive maps that illustrate a variety of themes and issues in the Lake Champlain Basin.
- The **Healthy Soils** partnership expanded, with more than ten new businesses joining, new outreach materials developed, research done on the benefits of lake-friendly lawncare practices, and representation at a variety of public events.
- Staff greeted 27,764 visitors and hosted many classes and organizations at the **LCBP Resource Room** at ECHO, Leahy Center for Lake Champlain.
- The LCBP and Champlain Basin Education Initiative (CBEI) partners hosted a **World Water Day** celebration, bringing together artwork, writing, photography, and videography from 22 classrooms in New York and Vermont.
- Thirteen **Lake Champlain Boat Launch Stewards** greeted 26,808 visitors, inspected watercraft from 35 states and 2 provinces, and intercepted aquatic invasive species on 609 vessels.

Outreach Materials and Media

- Published three editions of ***Casin' the Basin*** e-newsletter.
- In partnership with Friends of the Saranac River Trail, staff developed a series of **seven wayside exhibits** focused on water quality and the history of the Plattsburgh waterfront and Saranac River.
- The LCBP produced three new videos in the ***Diving In*** series focused on opportunities for citizens to get involved in protecting the watershed.
- 2017 LCBP/CVNHP **Annual Report of Activities** and Summary, highlighting LCBP projects.
- **Agendas, flyers, brochures** in support of Watershed for Every Classroom and the Champlain Basin Education Initiative
- Produced **GLFC/LCBP Partnership factsheet** to highlight collaboration, mutual priorities and shared initiatives.
- Posters and other outreach materials for multiple **meetings and press/media events**, including Steering Committee and press events with Senator Patrick Leahy.
- Developed **eight new exhibits** for the Resource Room and six seasonal exhibits for ECHO's main exhibit floor.
- Worked with U.S. federal agency partners to produce ***Partners in Action: Federal Agencies at Work in the Lake Champlain Basin.***

Grant Highlights

Lands & Waters Education Program: The South Hero Land Trust developed a Master Naturalist Program and worked with teachers from Folsom Elementary School to create an Outdoor Classroom behind the school.

South Champlain Historical Ecology Project: SCHEP enhanced knowledge of cultural heritage by presenting at local schools, helping students participate in archaeological excavations and meeting with Elnu Abenaki.

Wetland Identification and Delineation Training: The Warren County Soil and Water Conservation District in NY taught ecological identification and field delineation of wetlands for planning and project purposes.

Diatoms–Nature's Glass: The Lake Champlain Maritime Museum developed curriculum, a student art exhibit, and a scientific exhibit to highlight natural history to accompany the *Lois McClure's* 2018 Glass Barge Tour.

Ahead of the Storm: The Lewis Creek Association developed outreach materials and self-guided tours for stormwater mitigation sites, and delivered public presenations.

Meetings, Workshops and Conferences

- The LCBP and Watersheds United Vermont hosted a joint annual **watershed group meeting.** Forty-five participants built new skills, shared strategies and success stories, and problem solved.
- LCBP hosted the ***Love the Lake*** speaker series with presentations about winter windsurfing, angling, unusual natural history phenomena, and history of the Basin.
- The LCBP hosted two **water-color mapping workshops** where participants celebrated places that are personally meaningful to them in the Lake Champlain Basin and beyond.
- Participated in the **Vermont Agricultural Communications Work Group** to improve communication among agency and local partners leading to a communications workshop in January 2018.
- Continued participation in the **Vermont Clean Water Network** launched by ECHO, Leahy Center for Lake Champlain and All Souls Interfaith Gathering.
- Co-hosted the **Vermont Boat and Marina Association** annual workshop for marina managers.
- Staff attended and exhibited at multiple events, including Vermont Farm Show, Vermont Flower Show, Vermont Free Fishing Day, Lake Champlain Maritime Festiveal, St. Albans Watershed Association Waterfront day, and Clinton County Fair.

Education Programs

- Education and Outreach staff coordinated and supported the efforts of the **Champlain Basin Education Initiative** (CBEI), a consortium of environmental and place-based education groups. CBEI hosted two workshops for K-12 educators.
- LCBP's Resource Room presented **custom educational programs** for student and camp groups throughout the year including, the University of Vermont, St. Michael's College, Champlain College and the Community College of Vermont. Staff also presented programs for many professional organizations. Examples include: National Outdoor Recreation Association, Mobius Mentoring Program, and the New Englad Association for Science Teachers.
- LCBP's ECO-Americorps Service member initiated **summer youth programs** with YMCA Camp Abnbaki and YWCA Camp Hochelaga, providing 1,400 youth better access to Lake Champlain learning kits and activities.
- Staff presented **water quality programs** at classroom and field days sessions throughout the watered.

2018 Local Implementation Grant

Ahead of the Storm Outreach

Project Summary

LCA will refine and update publicity plans and materials for its "Ahead of the Storm" (AOTS) program, which aims to increase understanding of water quality issues while showcasing and addressing select stormwater problems in the middle Lake Champlain region. In addition, we will create self-guided "site tours" of AOTS demonstration sites for property owners, schools, and organizations. Two self-guided tours will be publicly available through the LCA website, as well as new AOTS site packets that will include site surveys, designs, photos, budget, and more. We will also complete a survey to track effectiveness and attitude change resulting from this program. Anticipated outcomes include property owners and students that have a greater understanding and care for water quality issues in the Lake Champlain Valley, and knowledge of how to affect change on a property and/or sub-shed/catchment level.

Outputs:

- Ahead of the Storm Program lay-friendly information site packets
- Self-guided "site tours" of AOTS demonstration sites for property owners, schools, and organizations
- A survey to track effectiveness and attitude change resulting from this program

Outcomes:

- Property owners and students will have a greater understanding and care for water quality issues in the Lake Champlain Valley, and knowledge of how to affect change on a property and/or sub-shed/catchment level

Organization: Lewis Creek Association

Contact Person: Kate Kelly

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Website: http://www.lewiscreek.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12553
EPA	
Start Date:	4/2/2018
Grant Amount:	$5,815.00
Non-federal Match:	$1,193.00
Total Amount:	**$7,008.00**

Local Implementation Grant 2018

Augmented Reality Sandbox - Lake George Visitors Center

Project Summary

This project includes the creation of a new "Augmented Reality Sandbox", which is a cutting-edge interactive educational playspace related to watersheds, topography and geography. This grant will provide the funding for the purchase of the Sandbox components and the installation in one of the busiest centers in the Southern Adirondacks: The Lake George Visitors Center.

Outputs:

- Augmented reality sandbox: camera, projector, box materials, sand, computer, display materials, and security equipment
- Signage and educational panels for the Sandbox

Outcomes:

- Promote a better understanding and appreciation of Lake George and Champlain Basin's resources and threats
- Increase awareness of the direct links between land activities, rainfall-runoff, storm drains, and Lake George
- Give the public clear guidance on steps and specific actions that they can take to reduce their impacts on their waterbodies

Organization: Village of Lake George

Contact Person: Dave Wick

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Lake George, NY 12845

Phone: 518-361-0985

E-mail: dave@lgpc.state.ny.us

Website:

Lake Champlain Basin Program

NEIWPCC Code:	PO 12555
EPA	
Start Date:	4/17/2018
Grant Amount:	$3,800.00
Non-federal Match:	
Total Amount:	**$3,800.00**

2014 Local Implementation Grant

Barre Town and City Stormwater Education

Project Summary

One acre of developed land typically sends three times as much phosphorus to the Lake as one acre of agricultural land. Barre City and Barre Town are highly urbanized municipalities that dominate the Stevens Branch subwatershed. Stormwater runoff reduction in these communities will require mitigation practices to be executed by the municipalities and private property owners alike. Education is important to move both of these constituencies forward and to build public support for municipal actions. This program will use three specific neighborhoods in Barre Town and Barre City to illustrate how the cumulative impact of homeowner actions can reduce stormwater runoff that will protect the local stream and in some cases reduce property damage.

Outputs:

- Friends of the Winooski River will develop three neighborhood stormwater maps; a list of stormwater mitigation opportunities; deliver two municipal presentations; host three neighborhood walks; conduct three civic meeting presentations and provide online dissemination of information and resources.

Outcomes:

- Use education to empower the general public to reduce phosphorus contributions.
- Reduce the nonpoint source phosphorus load that is being generated by runoff from developed lands in the Basin.

Organization: Friends of the Winooski River

Contact Person: Ann Smith

Mailing Address: PO Box 777
Montpelier, VT 05601

Phone: 802 882-8276

E-mail: info@winooskeriver.org

Website: http://winooskiriver.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2015-053
GLFC	
Start Date:	6/1/2015
Grant Amount:	$7,364.00
Non-federal Match:	$1,500.00
Total Amount:	**$8,864.00**

Local Implementation Grant 2018

Creating an Educational Resource on Stormwater Management in Video Format to Expand Efforts from Two Municipalities to a Region

Project Summary

NRPC is requesting funding to take the content developed for an annual workshop titled, "Managing Runoff on Your Property: A Do-It-Yourself Site Assessment" and turn it into video segments that will be made available online. By providing this curriculum online it can be accessed by a larger audience on their timeframe (all at once or multiple sessions) and removes the barrier of those who cannot attend an in-person session. The outputs of this grant will be a series of videos that explain what stormwater is and walk a homeowner through steps to assess stormwater on their property. The anticipated outcomes of this project would be to raise awareness of homeowners and encourage the adoption of practices to treat stormwater on their property. Small actions by many can reduce the negative impacts that can occur after large storm events from stormwater that flows directly into Lake Champlain.

Outputs:

- 5 videos educating homeowners about stormwater and how to assess options for treating stormwater on their property.

Outcomes:

- Homeowners will have increased knowledge of stormwater issues and the ability to adopt practices to treat stormwater on their property.

Organization: Northwest Regional Planning Commission

Contact Person: Amanda Holland

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Phone: 802-524-5958

E-mail: aholland@nrpcvt.com

Website: https://www.nrpcvt.com/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12527
EPA	
Start Date:	3/22/2018
Grant Amount:	$10,000.00
Non-federal Match:	**$ 1,659.00**
Total Amount:	**$11,659.00**

2018 Local Implementation Grant

Diatoms - Nature's Glass

Project Summary

The program's purpose is to develop and implement LCMM's newest multi-age curriculum for school programs, museum visitors, and community audiences. This unique curriculum about diatoms – a vital and ubiquitous part of the freshwater plankton community - will increase understanding of the importance of diatoms in our ecosystem, and feature both the aesthetic and functional attributes of a taxa that is not often studied. During school visits, LCMM educators will lead students and classroom teachers in hands-on activities and academic study about the life history, importance to ecosystems, and population and prevalence of diatoms in Lake Champlain. With the aid of microscopes, students will study diatoms in the field via paddling ecology programs for school groups and summer camps, and create artwork based on what they study for an exhibit in the local community. LCMM curatorial staff will work with educators to develop an interpretive exhibit at the Museum's Basin Harbor campus to explain the importance of diatoms in better depth to students and to the public.

Outputs:

- Pilot new lesson plans with 10 school and camp programs at LCMM and in after-school programs
- Student art exhibit
- Create exhibit for LCMM and Lois McClure

Outcomes:

- Enhance educator and student learning about watershed issues
- Build awareness and understanding among residents and visitors about Lake Champlain Basin resources and behaviors that contribute to pollution
- Provide hands-on citizen action opportunities to improve the watershed and change behaviors that contribute to pollution

Organization: Lake Champlain Maritime Museum

Contact Person: Elizabeth Lee

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Vergennes, VT 05491

Phone: (802) 475-2022 x 102

E-mail: elizabethl@lcmm.org

Website: https://www.lcmm.org/

Lake Champlain Basin Program

NEIWPCC Code: PO 12518
EPA
Start Date: 3/8/2018
Grant Amount: $10,000.00
Non-federal Match: $ 2,125.00
Total Amount: **$10,125.00**

Local Implementation Grant 2018

Discovering the Ausable: An Aquatic Stewardship Programship Program

Project Summary

This program will inspire in area youth a passion for the environment and our water resources while also giving them practical hands-on skills in the field of aquatic ecology. Both the Adirondack Mountain Club and the Ausable River Association believe that today's youth are tomorrow's environmental leaders and that a connection to the natural world, built through significant experiences, is a critical step in building a stewardship ethic. Over the past three years, twenty-six participants have been excited to learn about water quality monitoring and be a part of data collection that has furthered our understanding of the threats facing the Ausable River.

Outputs:

- Ten youth will spend time outdoors and learn basic outdoor recreational skills, including Leave No Trace outdoor ethics, basic wilderness preparedness and safety, paddling skills, and overnight camping skills.
- Participants will learn the fundamentals of limnology and stream ecology. They will learn how to conduct physical, chemical, and biological measurements of both lakes and streams.
- Participants will collect vertical profiles of temperature, dissolved oxygen, specific conductance, and pH for Heart Lake and Mirror Lake.
- Participants will measure phosphorus, nitrate, chloride, and alkalinity from a surface water sample of both Heart Lake and Mirror Lake.
- Participants will assess the water quality of Marcy Brook using benthic macroinvertebrates.
- Participants will produce action plans to improve water quality in their local communities.

Outcomes:

- heightened environmental literacy of area youth.

Organization: Adirondack Mountain Club

Contact Person: Julia Goren

Mailing Address: 814 Goggins Road
Lake George, NY 12845

Phone: 518-523-3480 x 19

E-mail: summit@adk.org

Website: https://www.adk.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12520
EPA	
Start Date:	3/8/2018
Grant Amount:	$ 8,142.00
Non-federal Match:	$ 5,027.00
Total Amount:	**$13,169.00**

2018 Local Implementation Grant

Dog River Conservancy Outreach

Project Summary

CGRS' Dog River Conservancy initiative is focused on bringing together communities around the Dog River in central Vermont, to promote awareness on water resources, ecosystem protection, invasive species, and to maintain the cultural heritage of this pristine body of water. The goal is to make the Dog River a field laboratory for the students of Norwich University and the nearby K-12 schools, as well as community members from the Northfield, Williamstown, and Roxbury, communities. The grant money will be used to develop educational modules on the Dog river to include its historical significance, the geology of the river, its water quality over the years, geomorphology, and the impact of invasive species on the river's meandering and on the people that live on its bank. The modules will be available online, and at local town libraries. Physical models will be held at Norwich University, with the schools and communities allowed to borrow for any events. Outcomes will include five each of the educational modules, physical models, and outreach sessions through the grant period, promoting the educational modules and the concept of the Dog River Conservancy and show its place in the LCB, emphasizing the interconnectedness of water.

Outputs:

- development of 5 outreach modules
- Dog River field laboratory

Outcomes:

- well-informed, highly engaged community that can be model stewards of the Dog River and by extension the Winooski watershed and Lake Champlain Basin.

Organization:	Center for Global Resilience and Security, Norwich University
Contact Person:	Dr. Tara Kulkarni, P.E.
Mailing Address:	158 Harmon Dr Northfield, VT 05663
Phone:	(802) 485-2268
E-mail:	tkulkarn@norwich.edu
Website:	http://www.norwich.edu/cgrs/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12572
GLFC	
Start Date:	4/13/2018
Grant Amount:	$ 9,990.00
Non-federal Match:	$ 3,206.00
Total Amount:	**$13,196.00**

Local Implementation Grant 2018

Education to Action: Asian Clam and Water Chestnut Inventory and Control

Project Summary

The Lake Champlain Committee will develop and implement education and outreach programs on water chestnut control in Lake Champlain. Outputs include meetings with partner agencies and the Lake Champlain Basin Program to identify and prioritize sites for water chestnut removal; program publicity and recruitment, training and support of volunteers along with scheduled informational workshops and water chestnut removal event dates. Outcomes will include increased public awareness of how water chestnut affects lake health and a cadre of trained citizens actively engaged in combatting aquatic invasive species.

Outputs:

- program publicity and recruitment
- identification and prioritization of sites
- informational workshops
- water chestnut removal events

Outcomes:

- increased public awareness of how water chestnut affects lake health and a cadre of trained citizens actively engaged in combatting aquatic invasive species.

Organization: Lake Champlain Committee

Contact Person: Lori Fisher

Mailing Address: 208 Flynn Avenue, Bldng. 3
Studio 3F
Burlington, VT 05401

Phone: 802-658-1421

E-mail: lorif@lakechamplaincommittee.org

Website: https://www.lakechamplaincommittee.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12635
GLFC	
Start Date:	9/7/2018
Grant Amount:	$6,527.00
Non-federal Match:	$1,625.00
Total Amount:	**$8,152.00**

2018 Local Implementation Grant

Engaging Students in Hands-on Stewardship and Interpretation Projects Along the Saranac, Missisquoi, and Lamoille Rivers

Project Summary

This project will engage local high school and college students in a suite of projects designed to create meaningful connections to the waters of the Lake Champlain Basin. Projects include the creation of a river access staircase (Saranac River), a river access trail, ramp, picnic area, and interpretive sign (Missisquoi), and the installation of a new primitive campsite (Lamoille). Each project will provide students with the opportunity to work side-by-side with area land managers and learn about the rich natural and cultural landscape of the Lake Champlain Basin.

Outputs:

- Saranac River access in Plattsburgh, NY as part of new greenway initiative - installation of set of stone stairs to provide safe and long-lasting access for paddlers and anglers.
- Missisquoi River improved access, portage trail, and interpretive signage in Richford, VT
- establish a new campsite along the Lamoille River Paddlers Trail in Johnson, VT

Outcomes:

- Build awareness and understanding among residents and visitors about Lake Champlain Basin resources and behaviors that contribute to pollution.
- Produce coordinated education programs for students

Organization: Northern Forest Canoe Trail

Contact Person: Noah Pollock

Mailing Address: PO Box 565
Waitsfield, VT 05673

Phone: (802) 496-2285

E-mail: noah@northernforestcanoetrail.org

Website: www.northernforestcanoetrail.org

Richford River Access (Missisquoi River) Project Location

Lake Champlain Basin Program

NEIWPCC Code:	PO 12551
EPA	
Start Date:	4/2/2018
Grant Amount:	$ 9,729.00
Non-federal Match:	$ 2,923.00
Total Amount:	**$12,652.00**

Local Implementation Grant 2018

Flagship Species

Project Summary

Flagship Species project will create content that will build awareness of opportunities for action through informal learning of Lake Champlain Basin issues by engaging with biologists working with significant species in the Basin. Project output is 10 video segments, 2-4 minutes each, about flagship species, created in the summer of 2018, through a partnership between ECHO, NBC5 and regional academic and government experts. Project outcome is education of general public about flagship species, related habitat and water quality issues, and actions individuals can take to preserve and improve water quality and habitats.

Outputs:

- Ten, 2 - 4-minute digital segments
- Twice monthly "It's Your Lake" series broadcast to 45,000 households and linked to social media campaign

Outcomes:

- Build awareness through informal learning of Lake Champlain Basin issues across all age groups
- Facilitate changes in behavior and action of citizens

Organization: ECHO, Leahy Center for Lake Champlain

Contact Person: Steve Smith

Mailing Address: One College Street
Burlington, Vermont 05401

Phone: 802-864-1848 x128

E-mail: ssmith@echovermont.org

Website: http://echovermont.org

Past event similar to Flagship Species Event: June 2017 Eastern Spiny Softshell Turtle Release with local media, ECHO staff, Steve Parren (Vermont Fish and Wildlife) and ECHO members and head-start program sponsors.

Lake Champlain Basin Program

NEIWPCC Code:	PO 12581
EPA	
Start Date:	5/23/2018
Grant Amount:	$ 9,619.00
Non-federal Match:	$13,000.00
Total Amount:	**$22,619.00**

2018 Local Implementation Grant

Franklin Watershed Committee Education and Outreach

Project Summary

With this project the Franklin Watershed Committee will host 6 public outreach water quality workshops, aimed at a variety of audiences. This project also makes possible the purchase of a Cyano-Scope ® microscope and a projector for use at public outreach events.

Outputs:

- facilitate 6 community outreach programs throughout the camping season of 2018
- purchase of microscope kit and projector

Outcomes:

- educating community members about clean water stewardship empowering them to make small changes in lifestyle to reduce their impact, while educating them about how to make big changes to their properties with a larger impact.

Organization: Franklin Watershed Committee

Contact Person: Emily Porter-Goff

Mailing Address: P. O. Box 79
Franklin, VT 05457

Phone: 802-448-0554

E-mail: emily.franklinwatershed@gmail.com

Website: franklinwatershedcommittee.org

Lake Champlain Basin Program

NEIWPCC Code:	PO 12570
EPA	
Start Date:	4/17/2018
Grant Amount:	$7,893.00
Non-federal Match:	$1,140.00
Total Amount:	**$9,033.00**

Local Implementation Grant 2016

Green Stormwater Infrastructure Training for Conservation Managers

Project Summary

Green Stormwater Infrastructure Training for Conservation Managers will focus on the education and training of at least fifteen conservation managers on the Vermont Clean Water Act, and Green Stormwater Infrastructure (GSI) Practices to improve their knowledge, engagement and ability to develop and implement targeted GSI projects within their communities including the Lake Champlain Basin. The conservation managers include professionals from VT Natural Resources Conservation Districts, watershed groups, or municipal planning or conservation commissions. As a result of this training, each participating conservation manager will identify and plan at least one GSI project in their region to remediate a stormwater concern identified in a VT ANR Stormwater Mapping Project, Tactical Basin Plan, or a similar technical document.

Outputs:

- two training events will be held within Lamoille County in the Lamoille Watershed, and in Rutland County in the Otter Creek and Poultney Mettowee Watersheds

Outcomes:

- provide annual technical assistance and training for municipalities seeking to take greater steps to protect water quality
- provide hands-on citizen action opportunities to improve the watershed and change behaviors that contribute to pollution
- reduce the nonpoint source phosphorus load that is being generated by runoff from developed lands in the Basin
- provide education and technical support to municipalities and homeowners to increase use of rain gardens, rain barrels, and other stormwater reduction techniques

Organization: Lamoille County NRCD

Contact Person: Stacey Waterman

Mailing Address: 109 Professional Drive, Suite 2
Morrisville, VT 05661

Phone: (802) 888-9218 ext.113

E-mail: stacey.waterman@vt.nacdnet.net

Website: http://www.lcnrcd.com/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-052
GLFC	
Start Date:	4/22/2017
Grant Amount:	$ 9,800.00
Non-federal Match:	$ 4,200.00
Total Amount:	**$14,000.00**

2018 Local Implementation Grant

Hiking the Adirondack High Peaks

Project Summary

The project entails creating a new permanent exhibit at the Adirondack History Museum in Elizabethtown, NY titled *Hiking the Adirondack High Peaks*. The exhibit will explore the history of hiking in the Adirondacks, specifically in the High Peaks region, dating back to the mid-19th century, as well as current environmental issues and advocacy. The exhibit will include a variety of educational, interactive, and multi-media sections for visitors of all ages. Topics explored will include Surveying & Mapping, ADK Guides, Trail History & Maintenance, Mountain Pioneers, Regulating & Conservation of the Wilderness, Advocacy Groups, Environmental Changes, and more.

Outputs:

- new permanent exhibit -LCBP funds will support the development of an educational activity area geared to children and students

Outcomes:

- increased education of the community and visitors of the history (including natural history) of the Adirondack High Peaks and current aspects of land stewardship.

Organization: Adirondack History Museum/ Essex County Historical Society

Contact Person: Aurora McCaffrey

Mailing Address: PO Box 428/7590 Court Street Elizabethtown, NY 12932

Phone: 518-873-6466

E-mail: amccaffrey@adkhistorymuseum.org

Website: http://www.adkhistorycenter.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12584
GLFC	
Start Date:	5/17/2018
Grant Amount:	$ 8,500.00
Non-federal Match:	$ 1,600.00
Total Amount:	**$10,100.00**

Local Implementation Grant 2016

Keeping Lake Champlain Beautiful

Project Summary

Vermont PBS collaborated with the University of Vermont's EPSCoR Program, and eighteen grassroots organizations to produce a multimedia series that addresses the ongoing water quality issue and the future of Lake Champlain. This program includes a robust educational and outreach component aimed to inform and encourage citizens, from a broad spectrum, to help reduce the amount of pollutants that reach Lake Champlain.

Outputs:

- produce three 30-minute documentary programs through EPSCoR
- produce a series of three longer (60-90-minute) town hall/town meeting programs to further discuss the issues raised in the documentary programs and designed to engage people in this conversation. Locations, panelists, participants, and outreach strategies will be identified in collaboration with partner organizations involved with this project through EPSCoR.
- produce 6-12 short videos approximately 7-10 minutes in length derived from the documentary programs. These shorter format webisodes and curriculum materials developed to accompany them will be utilized for educational purposes and social media outreach. These will be made available to schools, colleges, libraries and other community engagement and educational venues and digital platforms. The Lake Champlain Basin Program grant specifically supports development and delivery of middle and high school curricula that integrates the full-length documentary programs and the shorts.

Outcomes:

- engage public awareness of public regulations, and necessary funding, to clean up Lake Champlain while driving an economy that protects and restores healthy waters and all the life that depends on it.

Organization: Vermont PBS

Contact Person: Stacie Fagan

Mailing Address: 204 Ethan Allen Avenue
Colchester, VT 05446

Phone: 802.654.3669

E-mail: sfagan@vermontpbs.org

Website: https://www.vermontpbs.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-049
GLFC	
Start Date:	6/15/2017
Grant Amount:	$10,000.00
Non-federal Match:	
Total Amount:	**$10,000.00**

2018 Local Implementation Grant

Lake George Floating Classroom 2018

Project Summary

The hands-on Floating Classroom program is central to the mission of the Lake George Association, and a core element of its educational program. The Floating Classroom program takes place aboard the *Rosalia Anna Ashby*, a 40' Corinthian Catamaran custom-built for the program and is for all ages to learn about the Lake George watershed and the quality of the lake's water. It provides a real-world learning experience on environmental topics. Participants investigate different aspects of the lake's ecosystem through sampling techniques and learn how to protect and preserve this living water body. The project continues to reach new audiences and adapt the curriculum to educate Lake users about watersheds and water quality. Continuing the Floating Classroom program for Lake users will allow us to continue to be effective at raising awareness about water quality issues and affecting behavioral change that will help protect the Lake Champlain Basin, thus we will not only be working to create stewards in our future generations, but we will also be able to be creating more stewards for today.

Outputs:

- Participants will investigate different aspects of the lake's ecosystem through sampling techniques and learn how to protect and preserve this living water body.

Outcomes:

- raise awareness about water quality issues
- affect behavioral change that will help protect the Lake Champlain Basin
- create stewards for today and future generations.

Organization: Lake George Association

Contact Person: Kristen Wilde

Mailing Address: PO Box 408
Lake George, NY 12845

Phone: 518-668-3558

E-mail: kwilde@lakegeorgeassociation.org

Website: www.lakegeorgeassociation.org

Lake Champlain Basin Program

NEIWPCC Code:	PO 12564
EPA	
Start Date:	4/9/2018
Grant Amount:	$10,000.00
Non-federal Match:	$14,100.00
Total Amount:	**$24,100.00**

Local Implementation Grant 2016

LCC Cyanobacteria Outreach Campaign

Project Summary

The Lake Champlain Committee will develop an outreach campaign to educate citizens about cyanobacteria and actions to take to keep people and pets safe and reduce future bloom frequency. While there is strong public concern about cyanobacteria, many people don't know the triggers for blooms, how to recognize the algae and/or how to assess risks from exposure. This educational effort will build on LCC's successful cyanobacteria monitoring program which has run since 2003. While LCC will make information available to all communities in the Lake Champlain watershed, it will concentrate efforts in New York where fewer public resources have been focused on this issue.

Outputs:

- informational posters, rack cards, fact sheets
- weekly reports distributed via mailings, emailings, social media, and presentations.

Outcomes:

- educate and inform citizenry about cyanobacteria.

Organization: Lake Champlain Committee

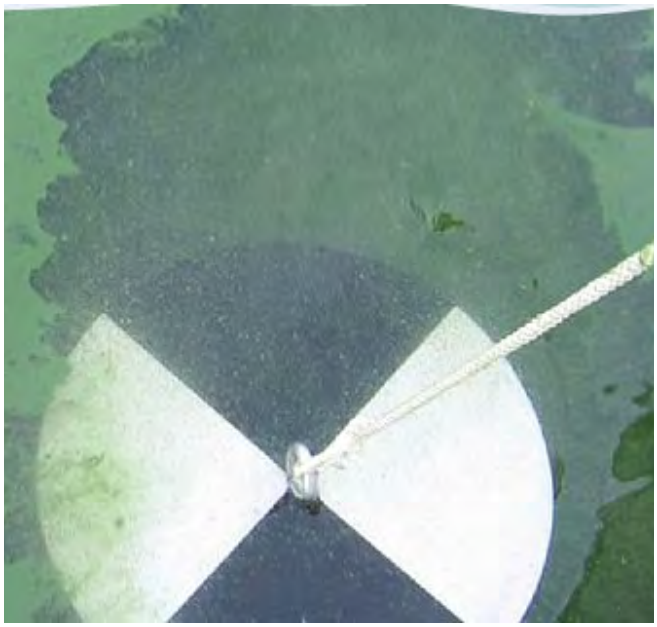
Contact Person: Lori Fisher

Mailing Address: 208 Flynn Avenue, Building 3, Studio 3F, Burlington, VT 05401

Phone: 802 658-1421

E-mail: lorif@lakechamplaincommittee.org

Website: http://www.lakechamplaincommittee.org/



Lake Champlain Basin Program

NEIWPCC Code:	PO 12349
GLFC	
Start Date:	7/24/2017
Grant Amount:	$ 9,800.00
Non-federal Match:	$ 5,900.00
Total Amount:	**$15,700.00**

2018 Local Implementation Grant

Linking Local Road Maintenance with Water Quality in Lake Champlain Educational Outreach Series

Project Summary

The purpose of this project is to engage a diverse group of stakeholders in Lamoille County on the potential for road maintenance Best Management Practices (BMPs) to reduce erosion and contaminant related runoff from municipal roads, leading to improved water quality in Lake Champlain. Activities will include: site visit tours catered to road foremen, municipal employees and local officials; a private roads workshop with local landowners; and a presentation on erosion and sediment transport by the State of Vermont Department of Environmental Conservation for students in the Department of Environmental and Health Sciences at Northern Vermont University. In addition to quarterly and final reports, deliverables for each event will include attendance lists, preparatory and workshop meeting minutes, outreach and workshop materials, photos of events, and post-event evaluations. In the short term, this project will increase knowledge of the benefits of BMPs and conservation practices, inform key stakeholders about watershed issues and the role local actions can play in working towards a healthier Lake Champlain Basin, and strengthen partnerships between the Lamoille County Planning Commission, partner organization the Lamoille County Conservation District, town road management staff, state agencies, conservation organizations, and a Northern Vermont University.

Outputs:

- two 4 hour site visit tours with local Road Foremen, LCPC and LCCD staff
- 1 half day workshop on implementing BMPs on private roads
- presentation and demonstration at Johnson State College.

Outcomes:

- increased awareness and implementation of BMPs in Lamoille County, and reduce erosion and water quality impacts from municipal and private roads in the region.

Organization: Lamoille County Planning Commission

Contact Person: Ryan Murphy

Mailing Address: PO Box 1637
Morrisville, VT 05661

Phone: 802-888-4548

E-mail: ryan@lcpcvt.org

Website: https://www.lcpcvt.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12552
EPA	
Start Date:	4/2/2018
Grant Amount:	$ 9,028.00
Non-federal Match:	$ 2,760.00
Total Amount:	**$11,788.00**

Local Implementation Grant 2018

MRBA Outreach Series

Project Summary

The MRBA Outreach Series is a multi-pronged approach to reaching a wide range of our community members in order to discuss the importance of maintaining and improving water quality in our watershed. MRBA will reach school-aged students through educational presentations and programs, and also partner with area schools to hold riverbank clean-ups, and use the trash to create works of art that can be displayed to engage other watershed residents. MRBA will engage older students in real-world analysis of our 13 years of water sampling data, teasing out what this data means and shedding light on the health of streams and rivers. Additionally, several community river clean-up paddles will be held, which will enable MRBA to show off the recreational values of our river while simultaneously working to remove any trash that plagues it.

Outputs:

- educational programs at schools in the watershed and community gatherings
- river rubble recycling/clean-up events with students and creation of re-use artwork piece
- compilation and analysis of water sampling data
- river clean-up paddles

Outcomes:

- build awareness and understanding among residents and visitors about Lake Champlain Basin resources and behaviors that contribute to pollution.
- provide hands-on citizen action opportunities to improve the watershed and change behaviors that contribute to pollution.

Organization: Missisquoi River Basin Association

Contact Person: Lindsey Wight

Mailing Address: 2839 VT Route 105
East Berkshire, VT 05447

Phone: 802-393-0076

E-mail: MRBA@pshift.com

Website: https://www.mrbavt.com/

River Clean-Up: photo from our 2017 River Clean-Up event in Highgate. Photo Credit Lindsey Wight. Rainfall Simulator: photo from a "What is a Watershed" presentation to Franklin girlscouts. Photo Credit Emily Porter-Goff

Lake Champlain Basin Program

NEIWPCC Code:	PO 12563
GLFC	
Start Date:	4/9/2018
Grant Amount:	$5,230.00
Non-federal Match:	$3,120.00
Total Amount:	**$8,350.00**

2016 Local Implementation Grant

Natural Heritage & Head Start Education Tank

Project Summary

ECHO, Leahy Center for Lake Champlain proposes to increase up to 300,000 Burlington Waterfront visitors' awareness of the Lake Champlain Basin's natural heritage through the presentation and interpretation of aquatic species in decline in their museum's free public lobby. The centerpiece of this project will be a 200 gallon, natural heritage and head start education tank, which will a host a variety of aquatic species of concern.

Outputs:

- a 200 gallon, natural heritage and head start education tank, which will a host a variety of aquatic species in decline

Outcomes:

- increase public awareness of the historic decline and on-going restoration efforts of the Basin's natural, aquatic heritage
- increase success of "head started" species in decline, as identified by state or federal Fish & Wildlife departments

Organization: ECHO, Leahy Center for Lake Champlain

Contact Person: Nina Ridhibhinyo

Mailing Address: 1 College St
Burlington, VT 05401

Phone: (802) 864-1848 x 142

E-mail: nina@echovermont.org

Website: http://www.echovermont.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-012
GLFC	
Start Date:	3/25/2017
Grant Amount:	$ 9,800.00
Non-federal Match:	$ 7,521.00
Total Amount:	$17,321.00

Local Implementation Grant 2018

Native Plants: Sowing the Seeds of Love

Project Summary

In cooperation with the Champlain Valley Native Plant Restoration Nursery (CVNPRN), PMNRCD is providing education and watershed-wide outreach, promoting the benefits of native plants and recruiting barren streambank and lakeshore properties for inclusion in forested riparian / shoreline buffer planting programs. The outcomes will include additional community members with knowledge and appreciation about the myriad benefits of forested riparian buffers, native plants, and the Restoration Nursery, and the implementation (through other funds) of riparian plantings.

Outputs:

- participation in community events around the watershed promoting native plants and the benefits of forested riparian buffers
- providing a 'voice' for the CVNPRN
- compiling a list of sites (property owners) committed to planting projects (with area/stem metrics included)

Outcomes:

- Reducing Phosphorus Pollution by enrolling forested riparian buffer.
- Provide hands-on citizen action opportunities to improve the watershed and change behaviors that contribute to pollution by supporting partnership opportunities to increase public, youth, and local business involvement to clean up rivers and lakes, …, use Lake friendly gardening techniques, …, through community projects, student programs, and youth corps.

Organization:	Poultney Mettowee NRCD
Contact Person:	Hilary Solomon
Mailing Address:	PO Box 209 Poultney, VT 05764
Phone:	(802) 558-3515
E-mail:	hilary@pmnrcd.org
Website:	www.pmnrcd.org

GMC students and faculty celebrate and mulch a native tree 'forest assemblage' installed on campus.

Lake Champlain Basin Program

NEIWPCC Code:	PO 12571
EPA	
Start Date:	4/17/2018
Grant Amount:	$10,000.00
Non-federal Match:	$ 6,206.00
Total Amount:	**$16,206.00**

2018 Local Implementation Grant

Precision Agriculture Technology on Farms in Vermont Video Series

Project Summary

The Farmer's Watershed Alliance (FWA) will use the awarded funds to create and publish a series of short precision agriculture videos. These videos will display how precision agriculture technology is being used on farms in Vermont to plant seeds, apply fertilizer to fields, apply manure, harvest crops and feed animals with a high degree of accuracy while recording valuable data that can be used to manage impact on natural resources and maximize return on investment. These educational videos will be distributed online, and played at the FWA booth at events, so that they reach a diverse audience and wide variety of community members. The FWA would also like to host two related field days around precision agriculture.

Outputs:

- 5 informational videos
- Purchase the Camcorder, memory card, and protective carrying case
- Spring and Summer field dyas
- informational bulletins and fliers

Outcomes:

- reduction of phosphorus and field runoff

Organization: Farmer's Watershed Alliance

Contact Person: Darlene Reynolds

Mailing Address: P.O. Box 298
St. Albans, VT 05478

Phone: (802)752-5156

E-mail: FarmersWatershedAllianceNW@gmail.com

Website: http://farmerswatershedalliance.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12526
GLFC	
Start Date:	3/23/2018
Grant Amount:	$4,885.00
Non-federal Match:	$4,000.00
Total Amount:	**$8,885.00**

Local Implementation Grant 2018

Reducing Impacts From Faulty and Under Functioning Septic Systems Lake Champlain Basin-Wide, Through Targeted Outreach to Contractors and Lake Associations

Project Summary

The WNRCD with partner organizations will undertake education targeting those who install, inspect, regulate and have concerns about onsite septic systems to reduce excessive nutrient impacts from under functioning and failing systems to local waterbodies.

Outputs:

- conference focusing on sharing innovative systems for small lots, available technology and resources
- training for inspectors
- Two factsheets will be drafted focusing on Best Management Practices for the public
- four septic socials will be conducted within lakeshore communities
- social marketing campaign.

Outcomes:

- Lake Associations and contractors will become aware of water quality issues associated with failing or under functioning OWTS and understand actions and resources they can utilize to minimize negative impacts.
- Contractors attending the workshop, receiving the inspection training will conduct site inspections during property transfer in a more consistent manner to insure systems are functioning properly within the watershed.

Organization: Winooski Natural Resources Conservation District

Contact Person:

Mailing Address: 617 Comstock Road, Suite 1
Berlin, VT 05602

Phone: (802) 778-3178

E-mail: info@winooskinrcd.org

Website: www.winooskinrcd.org

Picture of a conference conducted in 2017 that had over 110 in attendance.

Lake Champlain Basin Program

NEIWPCC Code:	PO 12574
EPA	
Start Date:	4/30/2018
Grant Amount:	$6,600.00
Non-federal Match:	$2,000.00
Total Amount:	**$8,600.00**

2018 Local Implementation Grant

South Champlain Historical Ecology Project (SCHEP)

Project Summary

The South Champlain Historical Ecology Project seeks to examine long-term patterns in human-environment interaction within the south Lake Champlain area. Through interdisciplinary research we hope to help create a more inclusive and far-reaching history for this critical part of Lake Champlain. Further, we believe that the best way to enhance public interest in protecting and preserving cultural heritage resources is through education and volunteer participation in the study and management of those resources. To this end, local students in grades 4–12 will receive school visits and the chance to participate in hands-on fieldwork while new adult volunteers will be targeted through community presentations and outreach. Youth and adult participants will be surveyed to gauge their reactions towards the protection of cultural resources, and feedback will also be captured in photos and videos, all of which will be compiled in a final report.

Outputs:

- 15 class visits - grades 4-12
- host 10 school groups to participate in field excavations
- volunteer recruitment

Outcomes:

- enhance knowledge and perception of local heritage resources

Organization: South Champlain Historical Ecology Project

Contact Person: Matthew D. Moriarty

Mailing Address: Castleton University
Leavenworth Hall Room 152
Castleton, VT 05735

Phone: (802) 353-3465

E-mail: schep.research@gmail.com

Website: www.facebook.com/schep.research/

Students from Benson Middle School Participating in a rchaeological fieldwork at Galick Farm in 2017.

Lake Champlain Basin Program

NEIWPCC Code:	PO 12557
GLFC	
Start Date:	4/2/2018
Grant Amount:	$10,000.00
Non-federal Match:	
Total Amount:	**$10,000.00**

Local Implementation Grant 2018

South Hero Land Trust Lands & Waters Program

Project Summary

The goal of South Hero Land Trust's Lands & Waters Education Program is to establish strong and positive connections between community members and the land and water of the Champlain Islands, and to build a culture of responsibility and stewardship in South Hero, VT. In 2018 we will first, bring a year-long Master Naturalist program to South Hero, in which community members will explore the geologic history of Lake Champlain and Islands, learn about the natural communities that live here, investigate land use practices to better understand our impact on the land and lake, and then implement service projects with a focus on education and stewardship in South Hero. Second, we will work with teachers and parents at Folsom School to take the next steps in expanding the garden space and public trails behind the school into a true outdoor classroom and community hub for environmental education, nature interpretation, and volunteer involvement. The outputs of these programs will be strong educational programs for children and adults in South Hero, with a focus on natural history, water quality, stewardship, as well as appropriate infrastructure and tools for implementing these programs.

Outputs:

- Curriculum development for master class and outreach materials
- 5 workshops, 3-5 service projetcs
- development of outdoor classroom, building infrastructure, toolkits

Outcomes:

- establish strong and positive connections between community members and the land and water of the Champlain Islands, and to build a culture of responsibility and stewardship in South Hero, VT

Organization: South Hero Land Trust

Contact Person: Emily Alger

Mailing Address: PO Box 455
South Hero, VT 05486

Phone: 802-372-3786

E-mail: emily@shlt.org

Website: www.shlt.org

Students in Burlington Master Naturalist Program learn about forest ecology. Photo credit Rebecca Harris.

Lake Champlain Basin Program

NEIWPCC Code:	PO 12569
GLFC	
Start Date:	4/13/2018
Grant Amount:	$10,000.00
Non-federal Match:	$ 6,164.00
Total Amount:	**$16,164.00**

2016 Local Implementation Grant

State of the Lake Exhibit and Program

Project Summary

This project will broaden the exposure of the State of the Lake Report (SOL) to 150,000 ECHO guests and 1 million Burlington Waterfront visitors. The goal is to engage the public in SOL through graphic displays, storytelling, and hands-on scientific inquiry. This project is a partnership effort in which LCBP provides SOL graphics and interpretation, the partners identify relevant Opportunities for Action priorities, and ECHO provides overall exhibit design, venue space, and dynamic interactive engagement with the visiting public.

Outputs:

- new exhibit on the Center floor

Outcomes:

- Enhance educator and student learning about watershed issues.
- Build awareness and understanding among residents and visitors about Lake Champlain Basin resources and behaviors that contribute to pollution
- Use education to empower the general public to reduce phosphorus contributions.

Organization: ECHO, Leahy Center for Lake Champlain

Contact Person: Nina Ridhibhinyo

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Burlington, VT 05401

Phone: (802)864-1848 x 142

E-mail: nina@echovermont.org

Website: http://www.echovermont.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12259
EPA	
Start Date:	5/1/2016
Grant Amount:	$10,000.00
Non-federal Match:	
Total Amount:	**$10,000.00**

Local Implementation Grant 2018

Ticonderoga and America's First Great Lake: Maritime History, Trades and Expeditionary Learning

Project Summary

Fort Ticonderoga's unique and immersive educational approach will integrate Ticonderoga's naval history on the strategic Hudson/Lake Champlain corridor, and its role in the founding of our nation. Through immersive programs, students will explore the maritime trades through Fort Ticonderoga's distinctive minds-on, hands-on approach. They will explore topics such as math, science, geography, and history while developing their critical thinking skills. Young people will be able to connect America's founding history with their own personal experience on Lake Champlain - America's First Great Lake -through our program. Funding will support the development of program curriculum and the first year implementation of the program activities.

Outputs:

- program curriculum development - materials for demonstration projects and building of hands-on components

Outcomes:

- build on existing knowledge; make new discoveries of the history, culture, and special resources of the Champlain Valley National Heritage Partnership; and make this information accessible to all.
- support initiatives that promote sustainable recreational activities that feature the natural, cultural and historical resources in the CVNHP
- increase and improve public access opportunities to the interconnected waterways of the CVNHP for diverse recreational activities

Organization: The Fort Ticonderoga Association

Contact Person: Martha Strum

Mailing Address: PO Box 390
Ticonderoga, NY 12883

Phone: 518-585-2821

E-mail: mstrum@fort-ticonderoga.org

Website: www.FortTiconderoga.org

Lake Champlain Basin Program

NEIWPCC Code:	PO 12576
GLFC	
Start Date:	4/30/2018
Grant Amount:	$10,000.00
Non-federal Match:	$51,185.00
Total Amount:	**$61,185.00**

2018 Local Implementation Grant

Twinfield High School Stormwater Education Project

Project Summary

According to the Lake Champlain Basin Program, one acre of developed land typically sends 3 times as much phosphorus to the lake as one acre of agricultural land. The Twinfield Union School building and associated parking lots and driveways comprise approximately 5 acres of impervious surface and therefore generate a significant volume of stormwater. Friends of the Winooski staff and Twinfield teachers will develop and provide a 4-6 week series of stormwater-related activities and presentations using the school campus as an outdoor laboratory to educate students and the larger school community about the effects of stormwater runoff on water quality, erosion, and flooding. In a culminating project, students will design stormwater mitigation practices for the school property. This project will focus on encouraging the school community to apply their knowledge to reduce stormwater runoff both from the school and at home.

Outputs:

- student designed stormwater mitigation practices for the school property
- stormwater curriculum
- classroom presentations and activities
- public stormwater education event

Outcomes:

- reduction of phosphorus and stormwater runoff

Organization: Friends of the Winooski River

Contact Person: Shawn White

Mailing Address: P.O. Box 777
Montpelier, VT 05601

Phone: 802-371-8988

E-mail: shawn@winookiriver.org

Website: https://winooskiriver.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12554
EPA	
Start Date:	4/2/2018
Grant Amount:	$4,409.00
Non-federal Match:	$2,794.00
Total Amount:	**$7,203.00**

Local Implementation Grant 2018

Wacky Water Round 3

Project Summary

Summer Youth Programs throughout Essex County within the Lake Champlain Basin have come to thoroughly enjoy the education provided by Essex County Soil and Water Conservation District staff. Staff will expand on watershed related topics covered as well as revisiting favorites that have been utilized in successful programming over several years. The output for the project is to educate youth across Essex County, NY utilizing different topics, hands on projects and learning.

Outputs:

- youth program offered at summer camps in Essex County, NY

Outcomes:

- provide youth an opportunity to engage in learning about watersheds

Organization: Essex County Soil and Water Conservation District

Contact Person: Laura Generous

Mailing Address: P.O. Box 407, 3 Sisco Street Westport, NY 12993

Phone: 518-962-8225

E-mail: lbenedict@westelcom.com

Website: http://www.essexcountyswcd.org/

Youth in grades 1-6 working together to compete against another team filling a barrel in "The Long Haul". Teams work together to figure out the best way to conserve water so they can fill their barrel quickest. Teams are challenged to move water quickly and sloppy, or slow and steady. Versions of this activity also introduce historical concepts on how water was manually transported.

Lake Champlain Basin Program

NEIWPCC Code:	PO 12521
GLFC	
Start Date:	3/16/2018
Grant Amount:	$7,000.00
Non-federal Match:	$2,000.00
Total Amount:	**$9,000.00**

2018 Local Implementation Grant

Waterfront Septic Outreach & Education

Project Summary

Each member of the Champlain Watershed Improvement Coalition of New York (CWICNY) is going to select a lake or waterfront community in their area, reach out to waterfront residents with information on septic system maintenance and the impacts of an impaired system. Five local, on-site septic meetings will be held; with a goal to attract 15-25 residents per meeting, have a local leader to make a local connection to water quality concerns and a septic system specialist to speak about how a septic system works.

Outputs:

- 5 on-site workshops

Outcomes:

- promoting better understanding and appreciation of the Lake Champlain Basin
- providing hands-on citizen action opportunities to improve the watershed, using education to empower the general public to reduce phosphorus contributions to the lake
- directly reducing phosphorus inputs to the lake.

Organization: Clinton County Soil & Water Conservation District

Contact Person: Peter Hagar

Mailing Address: 6064 Route 22, Suite 1 Plattsburgh, NY 12901

Phone: 518-561-4616 ext 3

E-mail: peter.hagar@ccsoil-water.com

Website: http://clintoncountyswcd.org/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12562
EPA	
Start Date:	4/9/2018
Grant Amount:	$10,000.00
Non-federal Match:	
Total Amount:	**$10,000.00**

Local Implementation Grant 2014

Watershed Education for Backyard and Small Farmers

Project Summary

Develop and implement a series of up to six local educational programs for small farms, homesteaders, and backyard farmers in our region. The programs will provide information to small farmers and homesteaders about the TMDL, living in a watershed, nutrient management, simple conservation practices and Best Management Practices, soil health, and understanding and using the Accepted Agricultural Practices.

Outputs:

- Development of a schedule, program components and co-presenters for the various topics. Production and development of educational materials and workshop content for presentations to participants.

Outcomes:

- Inform backyard farmers and small farmers in our region about the importance of the AAPs so that they may work to prevent nutrients from entering our waterways.
- Improve the understanding of individuals that have homesteads that would be considered small farms in Franklin County.
- Increase awareness of programs that can help with nutrients and best management practices.

Organization: Friends of Northern Lake Champlain

Contact Person: Kent Henderson

Mailing Address: PO Box 58
Swanton, VT 05488

Phone: 802 355-0694

E-mail: hugamoo@comcast.com

Website: http://www.northernlakechamplain.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2015-037
EPA	
Start Date:	4/15/2015
Grant Amount:	$ 7,500.00
Non-federal Match:	$ 4,000.00
Total Amount:	**$11,500.00**

2018 Education and Outreach Project

WEC 2018: Day 6-11

Project Summary

Amy Demarest will serve as the primary instructor of record through St. Michael's College in Colchester, Vermont for the Watershed for Every Classroom course 2018-2019. The Watershed for Every Classroom Course, now in its seventh iteration, may be taken for credit or not. Five graduate credits are available through St. Michael's College. Seven or more participants are expected in 2018-2019 with the majority taking the course for credit. The course is taught cooperatively with the partners of the Champlain Basin Education Initiative.

Educators will travel through New York, Vermont and Quebec to experience the watershed first hand. They will meet with field biologists, natural resource specialists, economic leaders from several fields, and explore the cultural heritage and natural resources of the watershed. They will paddle, tour industries, row long boats, assist with habitat restoration projects, study phenology, incorporate their learning into curriculum materials and use technology to complete several assignments.

Outputs:

- personalized, teachable units on watersheds

Outcomes:

- educators would more fully understand watershed issues, service learning opportunities for students and how to make local community connections

Organization: Our Curriculum Matters

Contact Person: Amy Demarest

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Burlington, VT 05401

Phone: 802 363-1361

E-mail: abdvermont@gmail.com

Website: www.ourcurriculummatters.com

Lake Champlain Basin Program

NEIWPCC Code:	PO 12602
EPA	
Start Date:	6/29/2018
Grant Amount:	$3,600.00
Non-federal Match:	
Total Amount:	**$3,600.00**

Local Implementation Grant 2018

Wetland Identification and Delineation Training

Project Summary

The District assists landowners and municipalities with numerous planning projects through any given year. One common resource of concern that is still often overlooked are wetlands. It is the intention of this program to retain the services of a certified wetlands biologist to provide class and field training to partners (generally limited to 12 students) to assist with the ecological identification and field delineation of wetlands and their components for planning and project purposes. Due to the fact that most, if not all wetland disturbances requires state and/or federal permits, this course will aid planning and other staff in making informed resource decisions to reduce impacts on wetland habitats and educate these attendees on the importance of alternative designs and projects.

Outputs:

- Wetland ID and Delineation Training
- training supplies and materials

Outcomes:

- awareness of healthy ecosystems
- conservation of vulbnerable habitat

Organization: Warren County SWCD

Contact Person: Jim Lieberum

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Warrensburg NY 12885

Phone: 518.623.3119

E-mail: jim99@nycap.rr.com

Website: www.warrenswcd.org

Lake Champlain Basin Program

NEIWPCC Code:	PO 12556
EPA	
Start Date:	
Grant Amount:	$ 7,888.00
Non-federal Match:	$ 3,000.00
Total Amount:	**$10,888.00**

2015 Local Implementation Grant

ACRWC Water Quality Education Programs

Project Summary

With help from LCBP, Lewis Creek Association hopes to further its ability to inform and involve volunteers, residents, and visitors to Champlain Basin waterways. At the town level, forums called "Water Quality Chats" will be held and new signs that show recent sampling results will be installed at seven popular access areas. A newly completed training video of proper water sampling techniques will be made available on-line; the video (supported already in part by LCBP) is to be used for public information as well as for in-house training purposes. A projector will be purchased to provide showings at community events without high-speed internet.

Outputs:

- 4 water quality chats
- 6 new informational kiosks
- an online water sampling training video

Outcomes:

- Informing and involving the public
- provide hands-on citizen action opportunities to improve the watershed and change behaviors that contribute to pollution.

Organization: Lewis Creek Association

Contact Person: Deb Healey

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Charlotte, VT 05445

Phone: 802 425-2002

E-mail: marty.illick@gmail.com

Website: http://www.lewiscreek.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2016-049
EPA	
Close Date:	8/29/2018
Grant Amount:	$ 9,877.00
Non-federal Match:	$ 5,010.00
Total Amount:	**$14,887.00**

Local Implementation Grant 2015

Clean Water Education and Training

Project Summary

Clean Water Education and Training is an initiative of the Conservation District Capacity Building Program which has engaged multiple partners including VACD, State and Federal Agencies and NRCDs in building the capability, capacity and performance of Vermont's Natural Resources Conservation Districts. This initiative will focus on the education and training of thirty NRCD supervisors and staff in the Lake Champlain Basin on the Vermont Clean Water Act and Lake Champlain water quality priorities in order to improve their knowledge, engagement and ability to develop and implement targeted water quality education and outreach activities in the Lake Champlain Basin. As a result of this training, each District will plan and implement at least one education and outreach activity in the District focusing on water quality concerns in the Lake Champlain Basin and what can be done to address them.

Outputs:

- 3 training days for District supervisors and staff
- education and outreach activities to educate landowners and community members
- attendance counts, program locations and program descriptions.

Outcomes:

- Build awareness and understanding among residents and visitors about Lake Champlain resources and behaviors that contribute to pollution.
- Provide hands-on citizen action opportunities to improve the watershed and change behaviors that contribute to pollution.
- Improve communication and cooperation among the diverse groups involved in Lake Champlain Basin education and outreach.

Organization: Vermont Association of Conservation Districts

Contact Person: Jill Arace

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Waitsfield, VT 05673

Phone: 802 496-5162

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Website: http://www.vacd.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2016-048
EPA	
Close Date:	3/23/2018
Grant Amount:	$3,500.00
Non-federal Match:	$3,500.00
Total Amount:	**$7,000.00**

2016 Local Implementation Grant

Discovering the Ausable: An Aquatic Stewardship Program

Project Summary

This program provided an immersive experience in aquatic ecology, hands-on science, and stewardship, while camping, paddling, and learning about responsible recreation. High school aged youth were exposed to aquatic ecology, watershed stewardship, and career opportunities in these fields while nurturing a love of recreation and the outdoors. Participants had a recreational experience that could ignite a lifelong passion for paddlesports. This collaborative program was jointly run by the Ausable River Association and the Adirondack Mountain Club.

Outputs:

- ten area youth introduced to responsible recreation while providing them an experiential education in aquatic ecology.
- Participants:
  1) conducted water quality tests of both Heart Lake and Mirror Lake and compare the two;
  2) learned about aquatic macroinvertebrate identification; 3) assessed the water quality of the West Branch of the Ausable River;
  4) learned aquatic invasive species identification to survey Taylor Pond for the presence of AIS.
- students developed action plans using this knowledge to protect and improve the water resources in their hometowns.

Outcomes:

- provide watershed and water quality educational program for youth ages 15-17.

Organization: Adirondack Mountain Club

Contact Person: Julia Goren

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Lake George, NY 12845

Phone: 518-523-3480 x 19

E-mail: summit@adk.org

Website: https://www.adk.org/

Sampling on Mirror Lake

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-053
GLFC	
Close Date:	9/28/2018
Grant Amount:	$ 7,409.00
Non-federal Match:	$ 7,189.00
Total Amount:	**$14,598.00**

Local Implementation Grant 2016

Fish On! - Connecting Vermont Food System Professionals to the Health of Lake Champlain

Project Summary

In the summer of 2017, the Vermont Fresh Network (VFN) led a series of fishing expeditions designed to build a better dialogue among food professionals (specifically chefs, restaurant managers, and farmers) about water quality in Lake Champlain. The goal was to create a culture of stewardship among Vermont food professionals, and give them the tools they needed to engage their customers in similar awareness. The central message was that Lake Champlain has a long history of being a local source of healthy, sustainable food – but we need to do more to both honor its current role in the food system and safeguard / improve that role for the future. Educators from Lake Champlain International (LCI) provided additional education around-sources of pollution and options for controlling pollution during the fishing expeditions and our public dinner at the end of the project.

Outputs:

- eight fishing trips
- direct education for the 40 professionals
- an educational dinner program for the general public, paid through admission.

Outcomes:

- increase Vermont food system professionals' understanding of the range of issues facing Lake Champlain and their role within those issues, as well as teach them about the lake's fish—their historical importance and current/future potential as a local protein source.
- increase communication and understanding between environmental advocates and local food advocates.
- support lake conscious farming practices.

Organization: Vermont Fresh Network

Contact Person: Helen Labun

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Richmond VT 05477

Phone: 802.434.2000

E-mail: helen@vermontfresh.net

Website: http://www.vermontfresh.net/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-050
GLFC	
Close Date:	6/27/2018
Grant Amount:	$10,000.00
Non-federal Match:	$ 6,960.00
Total Amount:	**$16,960.00**

2016 Local Implementation Grant

Junior Scientists Implementing Native Planting Projects in the Community

Project Summary

PMNRCD applied for funds from the LCBP Education and Outreach grant to provide local summer educational programming focused on watershed science (native and invasive plant issues) in the community and to provide support to the Champlain Valley Native Plant Restoration Nursery.

Outputs:

- a one-week summer camp focusing on native plants and native plant-related implementation projects
- one invasive plant removal/native planting demonstration project
- native plant and riparian buffer education and outreach

Outcomes:

- reduce phosphorus pollution by enrolling forested riparian buffer.
- restore communities of native plants and high-priority habitats to benefit riparian restoration in the Lake Champlain Basin by supporting native nurseries in the Basin for restoration plantings.
- volunteer opportunities

Organization: Poultney-Mettowee NRCD

Contact Person: Hilary Solomon

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Poultney, VT 05764

Phone: (802) 287-8339

E-mail: hilary@pmnrcd.org

Website: http://www.pmnrcd.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-007
EPA	
Close Date:	6/28/2018
Grant Amount:	$10,000.00
Non-federal Match:	$ 2,220.00
Total Amount:	**$12,220.00**

Local Implementation Grant 2016

Lake George Floating Classroom 2017

Project Summary

In 2017, 2,133 participants were able to experience the Floating Classroom program. The majority of participants were students; however the program still saw 455 adult participants. The 2017 Floating Classroom held its first program for students on May 11, 2017. The spring season (May-June) included 12 different schools, with 11 returning schools and 1 school new to the program. A total of 40 Floating Classroom programs were conducted in the Spring with a total of 992 participants.

Summer Floating Classroom programs were mostly compromised of public programs, where anybody interested could sign up and take part. A total of 27 Floating Classroom programs were conducted during the Summer with a total of 550 participants.

The 2017 Floating Classroom program season concluded another successful year with our fall season (September-October). There were 8 returning schools and 4 new schools that took part. A total of 25 Floating Classroom programs were conducted in the Fall with a total of 591participants.

Outputs:

- Participants investigated different aspects of the lake's ecosystem through sampling techniques and learning how to protect and preserve this living water body.

Outcomes:

- raise awareness about water quality issues
- affect behavioral change that will help protect the Lake Champlain Basin
- create stewards for today and future generations.

Organization: Lake George Association

Contact Person: Kristen Wilde

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Lake George NY 12845

Phone: 518-668-3558

E-mail: kwilde@lakegeorgeassociation.org

Website: https://www.lakegeorgeassociation.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-006
EPA	
Close Date:	12/14/2017
Grant Amount:	$10,000.00
Non-federal Match:	$33,597.00
Total Amount:	**$43,597.00**

2016 Local Implementation Grant

Lamoille River Paddler's Trail

Project Summary

This project engaged community members in a series of educational and outreach projects along the Lamoille River that led to improved water-based recreational opportunities, addressed water quality issues, provided education about water quality issues, and cultivated long-term site stewards. Over a nine-month period, we restored a river access in Johnson, led an educational community paddle, recruited and trained seven site stewards, and orchestrated a river clean up. This work was done as part of an effort to create the Lamoille River Paddlers' Trail, an emerging, community effort to improve recreational opportunities along the Lamoille River.

Outputs:

- a community paddle with a focus on water quality education
- two volunteer work days to develop new recreational and storm water retention infrastructure
- recruitiment and training of 5+ campsite and access point stewards
- implementation of a river clean-up.

Outcomes:

- build awareness and understanding among residents and visitors about Lake Champlain Basin resources and behaviors that contribute to pollution.
- provide hands-on citizen action opportunities to improve the watershed and change behaviors that contribute to pollution.

Organization: Vermont River Conservancy

Contact Person: Noah Pollock

Mailing Address: 29 Main St, Suite 11
Montpelier VT 05602

Phone: (802) 540-0319

E-mail: noah@vermontriverconservancy.org

Website: http://www.vermontriverconservancy.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-009
GLFC	
Close Date:	3/23/2018
Grant Amount:	$ 5,923.00
Non-federal Match:	$ 2,300.00
Total Amount:	**$ 8,223.00**

Local Implementation Grant 2015

Lamoille Watershed Quests

Project Summary

The goal of the Lamoille Watershed Quests project was to raise public awareness, understanding and appreciation of Lake Champlain basin resources in Lamoille County by facilitating the creation of student-designed watershed quests (educational treasure hunts) at four school sites and at Elmore State Park. LCCD ended up working with four classrooms at three schools: Wolcott Elementary 3rd grade, two 5th grade classes at Cambridge Elementary, and the combined 4th-6th grade at Waterville Elementary.

Outputs:

- The creation of five watershed quests in Lamoille County that will available to community members through school websites, classroom blogs, state park outreach methods, and LCCD's community connections and outreach networks. The purchase of supporting components such as questing boxes, stamps and journals.

Outcomes:

- Engage students and teachers in watershed stewardship
- Promote a better understanding and appreciation of Lake Champlain Basin resources and threats as well as personal responsibility that leads to behavioral changes and actions to reduce pollution

Organization: Lamoille County NRCD

Contact Person: Stacey Waterman

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E-mail: stacey.waterman@vt.nacdnet.net

Website: http://www.lcnrcd.com/

Lake Champlain Basin Program

NEIWPCC Code: L-2016-064
GLFC
Close Date: 10/4/2017
Grant Amount: $5,000.00
Non-federal Match: $2,500.00
Total Amount: **$7,500.00**

2014 Local Implementation Grant

LCC April Stool's Day - Pick Up the Parks Campaign

Project Summary

LCC coordinated a series of April Stools' Day and Scoop the Poop events from the spring of 2015 through spring 2017 and provided education about pet waste year-round to involve citizens in cleaning up public parks, recreation areas, sidewalks and trails of dog feces before spring rains. While awareness of the need to pick up after pets has increased, studies indicate that 40% of American don't clean up after their dog. LCC piloted an April Stools' Day clean-up at Niquette Bay State Park in Colchester VT in 2014. In just a few hours about 25 volunteers cleaned up over 650 piles of dog poop from walking trails in this shoreland park. The event proved both the necessity of the clean-up effort as well as the ability to involve citizens in scooping the poop.

Besides the foul smell and the unpleasantness of stepping in hound mounds, pet poop is bad for waterways, lawns and people. Pet waste carries nutrients that feed the growth of weeds and algae in the water. EPA estimates that two or three days' worth of droppings from just 100 dogs contributes enough bacteria to temporarily close a waterbody to swimming and fishing. Woof-waste doesn't make good fertilizer; it burns grass and leaves unsightly discoloring. Infected pet poop can carry the eggs of roundworms and other parasites (like cryptosporidium, giardia, and salmonella) which can linger in soil for years. Anyone gardening, playing sports, walking barefoot, or digging in the infected dirt, risks coming into contact with those eggs. Children are most susceptible since they often play in the dirt and put things in their mouths.

Outputs:

- The April Stools' Day community toolkit for co-hosting an April Stools' Day event
- ten park clean-ups throughout the watershed that help.

Outcomes:

- reduce nutrient and bacteria runoff.
- raise awareness of the environmental and public health problems associated with left behind dog waste

Organization: Lake Champlain Committee

Contact Person: Lori Fisher

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Studio 3F
Burlington, VT 05401

Phone: 802 658-1421

E-mail: lorif@lakechamplaincommittee.org

Website: http://www.lakechamplaincommittee.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2015-039
GLFC	
Close Date:	4/27/2018
Grant Amount:	$ 7,500.00
Non-federal Match:	$ 5,605.00
Total Amount:	**$13,105.00**

Education & Outreach Project 2016

Missisquoi Bay Riparian Buffer Education and Outreach Campaign

Project Summary

This grant supported two seasonal interns to conduct outreach to residential and agricultural riparian land owners on degraded waters in the Missisquoi Bay watershed. Their goal was to provide information about installing and maintaining riparian buffer strips and existing regulation. The interns also identified priority sites for erosion control based on their work in the field.

Outputs:

- number of riparian land owners reached by the education campaign
- number of critical source areas identified on a waterway
- increase in percentage of conforming riparian buffer strips before and after the project and the number of town officials reached.

Outcomes:

- Build awareness and understanding among residents and visitors about Lake Champlain Basin resources and behaviors that contribute to pollution
- Provide hands-on citizen action opportunities to improve the watershed and change behaviors that contribute to pollution

Organization: OBVBM

Contact Person: Frédéric Chouinard

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Bedford, Quebec, Canada, JOJ 1AO

Phone: 450-248-0100

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Website: http://www.obvbm.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-037
GLFC	
Close Date:	3/23/2018
Grant Amount:	$ 6,688.00
Non-federal Match:	$ 5,510.00
Total Amount:	**$12,198.00**

2016 Local Implementation Grant

MRBA Educational Outreach Programs

Project Summary

This grant helped to expand Bugworks educational program offerings to include three more programs: What is a Watershed, Geology of the Lake Champlain Basin, and What Happens When It Rains. These four programs were provided 35 times at 23 locations throughout our watershed in the spring, summer, and fall of 2017 – reaching 716 students, residents, and visitors.

As in past years, the MRBA hired a contract educator to provide Bugworks sessions (Kurt Valenta, of Exordium Inc. was selected from among three candidates). Bugworks was offered free-of-charge to eight schools, three summer camps, two public festivals, and to two Scout groups. The other programs were provided by the MRBA coordinator and our 2016/2017 ECO AmeriCorps member, Brodie Haenke, at five schools, three public events, and one summer camp.

Outputs:

- two educators to reach numerous watershed residents of varying ages with important messages about stream health and collective role in the watershed, through programs in schools, in other classroom settings, and at community gatherings and events.
- develop new watershed related educational outreach programs

Outcomes:

- increase community understanding of the importance of rivers, and how we can protect them.

Organization: Missisquoi River Basin Association

Contact Person: Lindsey Wight

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East Berkshire, VT 05447

Phone: 802-393-0076

E-mail: MRBA@pshift.com

Website: https://www.mrbavt.com/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-005
EPA	
Close Date:	3/26/2018
Grant Amount:	$ 8,692.00
Non-federal Match:	$ 1,400.00
Total Amount:	**$10,092.00**

Local Implementation Grant 2016

Reducing Sodium Chloride Application Rates; Lake Champlain Basin-Wide, through Contractor and Public Education

Project Summary

Scientific data have shown that Lake Champlain, a drinking water source for over 145,000 people has had an increase in chloride levels within the main lake of 30% over the past 10 years. Sodium chloride that makes its way into water bodies can limit fish spawning success; degrade instream habitat, and impact infrastructure and sensitive native species, including brook trout and sugar maple. For over a decade, VTrans and local municipalities have implemented road salt reduction best management practices (BMPs) to reduce impacts on local waterways. What is not known or addressed is the application rates on private driveways and parking lots. Limited to no educational efforts have targeted contractors within the Lake Champlain Basin; a majority of the efforts have been focused on municipal and state roads. The WNRCD in conjunction with partner organizations including the Lake Champlain Sea Grant undertook public education, targeting those who apply salt as a component of winter maintenance practices. The main goal of this initiative was facilitated through the first Lake Champlain Watershed Deicing Conference held on September 29, 2017. The conference was well attended with over 110 registered. Work was leveraged through a social marketing campaign which utilized a website that focuses on road salt best management practices and educational material and resources. Through the Lake Champlain Basin Program Outreach and Education Grant, the Winooski Natural Resources Conservation District and partners were able to develop awareness and commitment to reduction strategies.

Outputs:

- conduct a workshop focusing on salt contractors in the fall of 2017
- a technical training by Snow-Pro and a review of available technology
- a multi-media interactive, online presentation showcasing road salt reduction strategies, the impact salt has on the environment, success stories and resources available.

Organization: Winooski NRCD

Contact Person: Corrina Parnapy

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Berlin, VT 05602

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Website: http://winooskinrcd.org/

- four factsheets will be drafted focusing on Best Management Practices for those who maintain their own driveways or who contract with businesses; a social marketing campaign will be launched.

Outcomes:

- reduce sodium chloride in water bodies

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-010
GLFC	
Close Date:	6/29/2018
Grant Amount:	$ 9,944.00
Non-federal Match:	$ 2,200.00
Total Amount:	**$12,144.00**

2016 Local Implementation Grant

Restoration Education and Training with Homegrown Natives

Project Summary

This project intended to educate the general public about the benefits of ecological restoration, plant propagation, and nursery maintenance. There were four main tasks as part of the project; all were completed from April to June of 2016. Task 1 involved hiring a new Native Plant Nursery Manager, maintaining American elms with interns and staff, and producing an educational newsletter on the propagation of disease resistant elms at the nursery. In Task 2, the nursery involved community members, youth, and students in collecting and sowing seed. For Task 3, two workshops were held, one stem cutting propagation and pruning. The District also collaborated with Green Mountain College to install the first stage of a Native Plant Arboretum project on campus. Finally, Task 4 engaged students with service learning and hands-on lab intensives including: the creation of bare root beds for nursery stock, seed collection and scarification, a mycorrhizal experiment on oak seedlings, and several restoration plantings in the surrounding community.

Outputs:

- creation of an education and outreach program to include plant-based remediation options, including stormwater, agricultural, and restoration applications.
- students volunteers at the nursery will learn about native plants, seeds, habitat, with an emphasis on plant-based ecological services.

Outcomes:

- reduce pollution and suppost a healthy ecosystem
- make volunteers feel comfortable speaking with the public about the importance of planting native species
- complete multiple native plantings resulting in less sediment in local streams

Organization: Champlain Valley Native Plant Restoration Nursery

Contact Person: Natalie Coe

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Poultney, Vermont, 05764-1199

Phone: (802) 287-8392

E-mail: coen@greenmtn.edu

Website: http://www.pmnrcd.org/champlain-valley-native-plant-restoration-nursery/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-008
GLFC	
Close Date:	6/28/2018
Grant Amount:	$10,000.00
Non-federal Match:	$ 4,020.00
Total Amount:	**$14,020.00**

Local Implementation Grant 2015

Saranac River Trail 2016: Talks, Treks and Tasks

Project Summary

Friends of the Saranac River Trail continued the work initiated in 2015 to bring people to the Saranac River Trail so that they can understand this critical resource and how it is integrated with the City, the River, and the Lake. Outdoor events covered topics of interest to area residents including photography, birds, edible plants, and the waste water pollution control plant. The Friends of Saranac River Trail hosted National Trail Day clean up events in 2016 and 2017 which were a joint effort with the Plattsburgh Sunrise Rotary. More than 150 area citizens participated in these events and 100 visitors were informed about the program through the Friends of Saranac River Trail exhibit during the Clinton County Fair. Additional talks and indoor events about the trail and environmental concerns were also completed.

Outputs:

- SRT organized and conducted a 2-part lecture series (the Talks), 9 themed Treks, and continued to maintain an event mailing list and database that with an estimated 500 names of volunteers and colleague organizations.

Outcomes:

- Build awareness and understanding about Saranac River and Lake Champlain resources and behaviors that contribute to pollution by providing watershed and educational materials.

Organization:	Friends of the Saranac River
Contact Person:	Jesse Feiler
Mailing Address:	32 MacDonough Street, #1 Plattsburgh, N.Y. 12901
Phone:	518 335-5915
E-mail:	jfeiler@saranacrivertrail.org
Website:	http://saranacrivertrail.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2016-057
EPA	
Close Date:	12/14/2017
Grant Amount:	$5,360.00
Non-federal Match:	
Total Amount:	**$5,360.00**

2014 Local Implementation Grant

Skidder Bridge Free Loaner Program

Project Summary

The proposed project continued to provide technical assistance and personnel support to the wood products industry in the New York portion of Lake Champlain and within the Lake Champlain Basin. Efforts included educational programming in the form of hands-on workshops on bridge placement and construction provided to loggers and others interested in skidder bridges use. In addition, on-going programming continued to provide a professional forester as a subcontractor to coordinate workshop schedules, conduct workshops, coordinate a skidder bridge loaner program that incorporates wood products industry host sites at wood processors ie. International Paper, Ward Lumber etc., maintain records of bridge loans, location, timber harvested over each bridge, transportation logistics and marketing/ outreach.

Outputs:

- Training for loggers and others interested in learning how to construct timber skidder bridges for use in implementing BMP stream crossings for timber harvest. Two workshops held in conjunction with NYS DEC, BOCES and NYS Logger Training. Bridge inventory loaned out to loggers or farmers/landowners needing the bridges to access timber harvesting operations.

Outcomes:

- Protect water quality by reducing soil erosion,
- Reduce phosphorus inputs from soil erosion,
- Increase economic viability of forest management,
- Encourage the use of Best Management Practices in Forestry and improve soil health.

Organization:	Greater Adirondack RC&D
Contact Person:	Victor Putman
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Phone:	518 963-8996
E-mail:	vjp543@willex.com
Website:	http://www.greateradkrcd.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2015-048
EPA Close Date:	5/31/2018
Grant Amount:	$ 7,000.00
Non-federal Match:	$13,305.00
Total Amount:	**$20,305.00**

Local Implementation Grant 2016

South Champlain Historical Ecology Project (SCHEP)

Project Summary

South Champlain Historical Ecology Project amplified community engagement activities during the 2017 field season. SCHEP engaged a part-time education and outreach coordinator and supporting students to plan and carry out SCHEP's 2017 education and outreach activities. SCHEP also increased local volunteer participation through presentations at local community centers, advertising in local media, and hosting dedicated visitors days. Over the long-term, the proposed activities will be measured by the degree to which the knowledge and perception of local heritage resources is enhanced by our efforts. In the short-term, SCHEP will compile surveys, multimedia interviews, reaction pieces, and other data so that we can modify and enhance our efforts going forward.

Outputs:

- preparation of multimedia educational materials
- presentations to at least 15 schools
- hosting at least 10 school field trips to the research site.

Outcomes:

- enhance knowledge and perception of local heritage resources

Organization: South Champlain Historical Ecology Project

Contact Person: Matthew D. Moriarty

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Castleton, VT 05735

Phone: (802) 353-3465

E-mail: schep.research@gmail.com

Website: www.facebook.com/schep.research/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-004
GLFC	
Close Date:	4/27/2018
Grant Amount:	$10,000.00
Non-federal Match:	
Total Amount:	**$10,000.00**

2016 Local Implementation Grant

Stem to Stern Education Program

Project Summary

Through its new program called Stem to Stern, the Lake Champlain Maritime Museum (LCMM) integrated the themes of forest stewardship, woodcraft and waterways into school programs. Working with various partners, LCMM developed a "Stem to Stern" interactive and discovery-based curriculum that will enable the organization to distribute trees to each school, lead tree-plantings for participating classes, and weave together hands-on activities (seedling care, wood working) with conceptual exercises (researching how local waterways were used for timber transport or milling lumber).

Outputs:

- ten Stem to Stern classroom programs in the Champlain Basin, which includes at least ten trees planted at each school or its surrounding landscape by students.

Outcomes:

- increase student understanding of ecosystem relationships.
- enhance teacher familiarity with lesson plans and activities for teaching biology, forestry and history related to human impacts on the local environment.
- involve communities in reforestation and riparian protection projects.
- increase stewardship behavior among students

Organization: Lake Champlain Maritime Museum

Contact Person: Elizabeth Lee

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Vergennes, VT 05491

Phone: (802) 475-2022

E-mail: ElizabethI@lcmm.org

Website: https://www.lcmm.org/

Lake Champlain Basin Program

NEIWPCC Code:	L-2017-003
GLFC	
Close Date:	4/2/2018
Grant Amount:	$10,000.00
Non-federal Match:	$10,000.00
Total Amount:	**$20,000.00**

Education & Outreach Project 2018

WEC 2018: Day 1 - 5

Project Summary

Amy Demarest will serve as the primary instructor of record through St. Michael's College in Colchester, Vermont for the Watershed for Every Classroom course 2018-2019. The Watershed for Every Classroom Course, now in its seventh iteration, may be taken for credit or not. Five graduate credits are available through St. Michael's College. Seven or more participants are expected in 2018-2019 with the majority taking the course for credit. The course is taught cooperatively with the partners of the Champlain Basin Education Initiative.

Educators will travel through New York, Vermont and Quebec to experience the watershed first hand. They will meet with field biologists, natural resource specialists, economic leaders from several fields, and explore the cultural heritage and natural resources of the watershed. They will paddle, tour industries, row long boats, assist with habitat restoration projects, study phenology, incorporate their learning into curriculum materials and use technology to complete several assignments.

Outputs:

- personalized, teachable units on watersheds

Outcomes:

- educators would more fully understand watershed issues, service learning opportunities for students and how to make local community connections

Organization: Our Curriculum Matters

Contact Person: Amy Demarest

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Website: www.ourcurriculummatters.com

Lake Champlain Basin Program

NEIWPCC Code:	PO 12601
EPA	
Close Date:	8/30/2018
Grant Amount:	$4,500.00
Non-federal Match:	
Total Amount:	**$4,500.00**

2015 Local Implementation Grant

Wind, Waves and Variables – Gaining Awareness of the Lake Champlain Watershed Through Cross-Disciplinary Investigations

Project Summary

This project will teach students of selected schools in the Vermont portion of the Lake Champlain watershed about pertinent social and physical science of the Basin. This will be accomplished through classroom work, data collection, interviews, observation, interpretation and field trips. The objective is to foster a life-long commitment in the students to educate themselves about, and make informed decisions regarding the watershed. The course *Wind, Waves and Variables – Gaining awareness of the Lake Champlain Watershed Through Cross-Disciplinary Investigations*, was taught to approximately 100 students-total in four schools in North Western Vermont at the grade 5 &6 levels from November 2016 – to June 2017. The Isle La Motte Preservation Trust partnered with Exordium, a private education company, to produce the course.

Outputs:

- Deliver multiple programs to four schools within the watershed

Outcomes:

- Produce coordinated education programs for students.
- Enhance learning opportunities at all educational levels to develop an understanding of and appreciation for Lake Champlain Basin resources, the related threats, and the priority actions needed to address them.

Organization: Isle LaMotte Preservation Trust

Contact Person: Anthony Fowler

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Isle La Motte, VT 05463

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E-mail: afowler@uottawa.ca

Website: http://ilmpt.org/wp/

Lake Champlain Basin Program

NEIWPCC Code:	PO 12259
GLFC	
Close Date:	12/20/2017
Grant Amount:	$10,000.00
Non-federal Match:	
Total Amount:	**$10,000.00**

SECTION FIVE:

EXTERNALLY MANAGED CONTRACTS

Externally Managed Contract

Bioengineering Training and Demonstration Projects on Priority Shoreland Sites, Lake Wise Program

Project Summary

Bioengineering practices are new to Vermont, yet well proven ecological techniques in and around the Great Lakes for shoreland restoration. Practicing shoreland restoration through bioengineering implements green stormwater infrastructure and low impact designs to stabilize and protect shorelands, while filtering stormwater to protect water quality. This work will include project installation trainings to teach contractors, engineers, and designers how to construct these environmentally friendly approaches to prevent erosion and manage stormwater runoff.

Outputs:

- Twenty contractors with the knowledge and skills needed to use bioengineering techniques to restore shorelands.
- Ten shoreland assessments at sites that are hydrologically connected to Lake Champlain.
- Two demonstration projects installed on shoreland sites that are hydrologically connected to Lake Champlain.

Outcomes:

- Twenty contractors capable of using bioengineering techniques on additional shoreland properties, which would further reduce nutrient loading and improve shoreland habitat.
- Two shoreland sites restored, reducing nutrient loading in the Lake Champlain Basin and improving shoreland habitat.

Organization: VT DEC

Contact Person: Amy Picotte

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Montpelier, VT 05620

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Website: dec.vermont.gov/watershed/lakes-ponds

VERMONT
AGENCY OF NATURAL RESOURCES

Lake Champlain Basin Program

EPA (FFY18)
Start Date: 8/1/2018
Grant Amount: **$60,000.00**

Externally Managed Contract

Hosting, Maintenance, and Support for Multi-Partner Agricultural Conservation Practice Tracking and Planning Geospatial Database

Project Summary

The Multi-Partner, Agricultural Conservation Practice Tracking and Planning Geospatial Database allows for the planning, tracking, and reporting of agricultural best management practice implementation by field staff of a multi-organizational partnership. This project funds one year of hosting, application maintenance, user support, and minor upgrades.

Outputs:

- One year of application hosting.
- Application maintenance as needed for 12 months.
- User support as needed for 12 months.
- Application upgrades, including; increased security and visibility filters to allow more users to access the database; increased flexibility in uploading shapefiles and feature classes; improvements to reporting function to increase flexibility and usefulness.

Outcomes:

- The continued hosting, maintenance, and support of this database will allow the measurement of nutrient and sediment reduction associated with implementation activity across a robust partnership of agricultural technical service providers. This database also improves coordination and efficiency in service delivery among partner field staff, increasing the amount of work the partnership is able to achieve, and ultimately improving the quality and quantity of projects being implemented. The long-term outcome of the database is intended to be the reduction of nutrients entering Lake Champlain.

Organization: VT DEC to Vermont Agency of Agriculture, Food and Markets

Contact Person Judson Peck

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E-mail: judson.peck@vermont.gov

Website: agriculture.vermont.gov

Lake Champlain Basin Program

EPA (FFY17)
Start Date: 7/1/2018
Grant Amount: **$20,000.00**

Externally Managed Contract

Lake Champlain Basin Agronomy Conservation Assistance Program (ACAP) – Phase 5

Project Summary

Runoff from agricultural lands in Vermont is a major source of excess phosphorus and sediment, which have degraded water quality in Lake Champlain. The Agronomy and Conservation Assistance Program (ACAP), initiated in 2011, provides outreach and technical assistance to farmers in the Lake Champlain watershed to increase implementation of farm practices that reduce soil and nutrient losses to surface waters. A sub-award with UVM Extension and Poultney-Mettawee Natural Resources Conservation District (PMNRCD) supports agronomists that collaborate with farmers to identify high priority conservation projects for their farms, guide them to secure additional technical and financial resources, and provide on-site technical assistance for development and installation of conservation practices to meet water and soil quality objectives.

Outputs:

- Increased number and location of ACAP "core farms."
- Increased number of ACAP farms contacted.
- Recommended soil and water conservation practices for implementation (listed by watershed).
- Number of nutrient management plans (NMP) that meet or exceed the Natural Resources Conservation Service 590 standard certified by UVM Extension or prepared by PMNRCD in ACAP project area.

Outcomes:

- Number of ACAP Phase 1 - 5 core farms having improved understanding of specific farm needs and how soil and water conservation practices, if implemented, will help protect and improve surface water quality.
- Education and outreach to enhance farmers' knowledge about ways to reduce water pollution arising from their operations.
- Reduction in phosphorus loading from agricultural lands, including farmsteads, cropland, and pasture lands in the Basin.

Organization: VT DEC, UVM Extension and Poultney-Mettowee Natural Resources Conservation District

Contact Person: Marli Rupe

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Lake Champlain Basin Program

EPA (FFY16)
Start Date: 7/1/2017
Grant Amount: **$234,600.00**

Externally Managed Contract

Lake Wise Shoreland Assessments and Best Management Practices Offered Through Lake Wise Program

Project Summary

The Vermont Lake Wise Program promotes lake friendly practices by offering technical assistance for shoreland development to shoreland property owners, regardless of whether the property falls under shoreland permitting requirements. The Lake Wise outreach project will involve two approaches to restoring and protecting shorelands in the Vermont portion of the Lake Champlain Basin, and thereby improving near-shore habitat, through outreach and shoreland assessments, and design and practice bioengineering methods.

Outputs:

- Engage Lake Wise participation along five Lake Champlain bays and/or inland lakes in the Lake Champlain Basin in Vermont, with preference given to Lake Champlain shoreland areas.
- Complete minimum of 10 Lake Wise field assessments.
- Update Lake Wise database with assessment results.

Outcomes:

- Increase participation in Lake Wise in the Lake Champlain Basin in Vermont, including increasing the number of properties assessed, and increase number of properties recognized and awarded as Lake Wise.

Organization: VT DEC

Contact Person: Amy Picotte

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VERMONT
AGENCY OF NATURAL RESOURCES

Lake Champlain Basin Program

EPA (FFY17))
Start Date: 8/1/2017
Grant Amount: **$48,000.00**

Externally Managed Contract

Subwatershed Monitoring in the McKenzie Brook Watershed in Vermont

Project Summary

The McKenzie Brook watershed in Vermont in western Addison County drains into the South Lake and is one of the most intensive agricultural areas in the state. Recently, the McKenzie Brook watershed has been targeted for accelerated implementation of agricultural conservation practices. This project will expand upon existing monitoring efforts by collecting streamflow data and enhancing water quality sampling through flow-dependent sampling. Streamflow data, along with precipitation data, will increase our understanding of baseline water quality conditions, allow us to estimate nutrient loads at the subwatershed scale, and document potential improvements in water quality as a result of agricultural best management practice (BMPs) implementation.

Outputs:

- Stream flow stations installed and operated for two years during non-frozen conditions (approximately April 2017 – November 2018).
- Continuous stream flow dataset and initial nutrient load estimates for gauged subwatershed for two years
- Precipitation dataset for subwatersheds for two years.
- Flow and initial nutrient load estimates for ungauged subwatersheds (as feasible).
- Water quality dataset available online through the Department of Environmental Conservation's Watershed Data Portal at https://anrweb.vt.gov/DEC/IWIS/.

Outcomes:

- Streamflow stations, along with the enhanced sampling effort, will allow initial nutrient loading estimates and the establishment of baseline water quality conditions in subwatersheds in the McKenzie Brook watershed in Vermont. With a better understanding of current water quality conditions and continued monitoring, we can better identify critical source areas for best management practice implementation and document any potential resulting water quality improvements, including a reduction in phosphorus and total suspended solid concentrations or loadings, that could occur as BMPs are implemented.

Organization: VT DEC

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VERMONT
AGENCY OF NATURAL RESOURCES

Lake Champlain Basin Program

EPA (FFY16)
Start Date: 7/1/2016
Grant Amount: **$50,000.00**

Externally Managed Contract

Water Chestnut Management Partnership 2018 - Lake Champlain Basin

Project Summary

The Vermont Department of Environmental Conservation (VT DEC) continued water chestnut management north-to-south in Lake Champlain and adjoining tributaries, as well as other waterbodies in Vermont. The effort included both mechanical and hand removal of water chestnut to prevent the plant's northward expansion in Lake Champlain and further spread in the Basin, and to reduce water chestnut in other waterbodies. Funding from LCBP supported contracted hand-pulling only.

Outputs:

- Up to 85 Lake Champlain sites between Missisquoi Bay, Vermont and Dresden, New York on both the Vermont and New York sides of the lake with water chestnut will be managed by hand harvesting, including five sites within the Missisquoi Bay segment.
- Searches for water chestnut will be conducted in 26 other Basin waters of Vermont.

Outcomes:

- Harvesting efforts will continue to reduce densities, prevent further spread, and shift Lake Champlain populations from dense mats in need of mechanical harvesting to populations that can be managed by hand-pulling.
- In addition, results of a pilot monitoring project will help inform future management decisions.

Organization: VT DEC

Contact Person: Kimberly Jensen

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Phone: 802-490-6120

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Website: dec.vermont.gov/watershed/lakes-ponds

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AGENCY OF NATURAL RESOURCES

Lake Champlain Basin Program

EPA (FFY18)
Start Date: 7/1/2018
Grant Amount: **$90,000.00**

Externally Managed Contract

Floodplain and River Corridor Outreach Modules

Project Summary

This project created high quality online resources to support municipal officials and communities in their work on floodplain and river corridor protection. These products include informational topical pages, short on-demand topical webinar trainings for new municipal officials, and other tools to help communities and multiple agencies establish effective municipal floodplain and river corridor protections. The finished resources are available to regional planning commissions, non-governmental organizations, and other networks supporting municipalities.

Outputs:

- Formative and summative assessment by program stakeholders.
- Finished modifiable products available for partners, and public products posted on VT DEC website.

Outcomes:

- Provide accessible and effective information for municipal officials to increase their knowledge of floodplain and river corridor functions, and their ability to protect and administer municipal hazard area regulations.

Organization: VT DEC, Tamarack Media

Contact Person: Ned Swanberg

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Website: dec.vermont.gov/watershed/rivers

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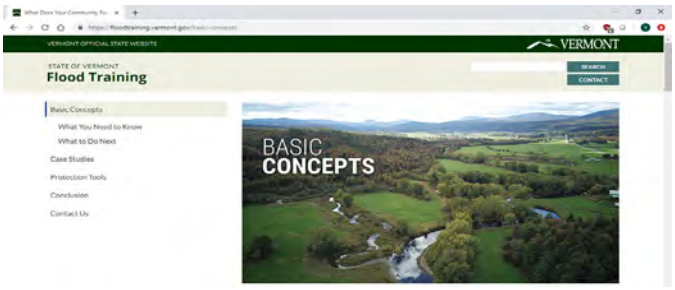

Lake Champlain Basin Program

EPA (FFY16)
Close Date: 6/15/2018
Grant Amount: **$40,000.00**

Externally Managed Contract

Hosting, Maintenance, and Support for Multi-Partner Agricultural Conservation Practice Tracking and Planning Geospatial Database

Project Summary

The Multi-Partner, Agricultural Conservation Practice Tracking and Planning Geospatial Database allows for the planning, tracking, and reporting of agricultural best management practice implementation by field staff of a multi-organizational partnership. This project funded one year of hosting, application maintenance, user support, and minor upgrades.

Outputs:

- One year of application hosting.
- Application maintenance as needed for 12 months.
- User support as needed for 12 months.
- Application upgrades, including; increased security and visibility filters to allow more users to access the database; increased flexibility in uploading shapefiles and feature classes; improvements to reporting function to increase flexibility and usefulness.

Outcomes:

- The continued hosting, maintenance, and support of this database will allow the measurement of nutrient and sediment reduction associated with implementation activity across a robust partnership of agricultural technical service providers. This database also improves coordination and efficiency in service delivery among partner field staff, increasing the amount of work the partnership is able to achieve, and ultimately improving the quality and quantity of projects being implemented. The long-term outcome of the database is intended to be the reduction of nutrients entering Lake Champlain.

Organization: VT DEC to Vermont Agency of Agriculture, Food and Markets

Contact Person Judson Peck

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Lake Champlain Basin Program

EPA (FFY16)
Close Date: 9/1/2018
Grant Amount: **$40,000.00**

Externally Managed Contract

Lake Champlain Basin Agronomy Conservation Assistance Program (ACAP) – Phase 4

Project Summary

Runoff from agricultural lands in Vermont is a major source of excess phosphorus and sediment, which have degraded water quality in Lake Champlain. The Agronomy and Conservation Assistance Program (ACAP), initiated in 2011, provides outreach and technical assistance to farmers in the Lake Champlain watershed to increase implementation of farm practices that reduce soil and nutrient losses to surface waters. A sub-award with UVM Extension and Poultney-Mettawee Natural Resources Conservation District (PMNRCD) supports agronomists that collaborate with farmers to identify high priority conservation projects for their farms, guide them to secure additional technical and financial resources, and provide on-site technical assistance for development and installation of conservation practices to meet water and soil quality objectives.

Outputs:

- UVM agronomists provided direct outreach and technical assistance to 124 individual farmers in the Lake Champlain watershed for planning and installation of 188 new field conservation practices to reduce soil and nutrient runoff from 24,695 acres of cropland.
- UVM agronomists assisted 93 farmers with Nutrient Management Plan (NMP) development and updates that covered 21,087 acres of farm land in field crop production.
- PMNRCD staff worked with 32 farms that implemented 67 water quality improvement practices.

Outcomes:

- Reduce phosphorus loading from agricultural lands, including farmsteads, cropland, and pasture lands in the Basin.

Organization: VT DEC, UVM Extension and Poultney-Mettowee Natural Resources Conservation District

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Website: dec.vermont.gov

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AGENCY OF NATURAL RESOURCES

Before and after livestock exclusion fencing was installed near the Black Brook in the Missisquoi Basin.

Lake Champlain Basin Program

EPA (FFY15)
Close Date: 10/1/2017
Grant Amount: **$280,000.00**

Externally Managed Contract

Long-Term Water Quality and Biological Monitoring Project for Lake Champlain

Project Summary

Long-term water quality and biological monitoring is necessary to detect environmental change in Lake Champlain and support implementation of the phosphorus TMDLs in Vermont and New York. Environmental indicators, monitoring stations, monitoring frequencies, and sampling procedures have been selected for this purpose. Statistical considerations were applied to optimize the design of the monitoring program. The project maintains a database and serves as the basis for establishing water quality, biological community, and lake environmental health relationships. The project has been ongoing since 1990.

Outputs:

- Chemical and biotic data are collected at lake and tributary monitoring stations each year from late April through October. These data are made available on the Vermont DEC website and are summarized in an annual report.
- The annual report consists of a summary of the history and purpose of the project, description of the sampling network, summary of field sampling and analytical methods, parameter listings, and data tables. An up-to-date program description, graphical presentations of the data, and an interactive database, including statistical summaries, are maintained on the project website.

Outcomes:

- Continue and expand monitoring of key baseline parameters in the Lake Champlain Basin to support the adaptive management process.
- Maintain a unified data access system for coordination and data sharing among stakeholders in the Basin and produce timely and accessible summary reports for the general public.
- Utilize data in support of ongoing phosphorus reduction efforts and other management activities.

Organization: VT DEC

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Montpelier, VT 05620

Phone: 802-490-6130

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Website: dec.vermont.gov/watershed/lakes-ponds

Organization: NYS DEC

Contact Person: Fred Dunlap

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NEW YORK STATE OF OPPORTUNITY
Department of Environmental Conservation

Lake Champlain Basin Program

EPA (FFY17)
Close Date: 9/30/2018
Grant Amount: **$239,478.00 (VT)**

Externally Managed Contract

Monitoring for Cyanotoxins in Public Drinking Water from Lake Champlain

Project Summary

This project supported efforts that began in the spring of 2015 to provide drinking water analyses for the presence of cyanotoxins to Vermont-based public drinking water suppliers on Lake Champlain for a 12-week period in Summer 2017. A sub-award was provided to the VT Department of Health (VDH) for sample analysis. Weekly raw and finished water samples were collected by VDH staff and transported to the Vermont Department of Health, Public Health Laboratory for analyses of Microcystin and Cylindrospermopsin. The results of the analyses were provided to the Vermont Department of Environmental Conservation (DEC) and the public drinking water utilities. This data supported public health decisions intended to protect the more than 150,000 people who had access to this drinking water resource in Vermont.

Outputs:

- Cyanotoxin concentration results in weekly raw and finished drinking water samples, posted on the Drinking Water and Groundwater Protection Division (DWGWPD) website during the monitoring season.
- Final report of findings and analysis, along with presentations at state and regional professional meetings.

Outcomes:

- As a result of the ongoing 12-week cyanotoxin testing summer program, the majority of Vermont drinking water facility operators on Lake Champlain are increasingly proactive with respect to cyanobacteria. They have a greater awareness of conditions on the lake, when conditions may warrant increased scrutiny of system operations, and the resources available to them when cyanobacteria concerns arise. Additionally, public confidence in the safety of their drinking water is good.

Organization: VT DEC to Vermont Department of Health

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Lake Champlain Basin Program

EPA (FFY16)
Date Complete: 2/1/2018
Grant Amount: **$30,000.00**

Externally Managed Contract

Vermont Rural Road Pollution Prevention

Project Summary

Implementing road best management practices (BMPs) on hydrologically-connected Class 4 municipal road segments will reduce road erosion and the resulting sediment and phosphorus pollution within the Lake Champlain watershed. Hydrologically-connected road segments are those sections of road at high risk to impact adjacent surface waters, including lakes, ponds, perennial and intermittent streams, and wetlands.

Class 4 roads represent approximately 13% of all municipal road miles. Class 4 town roads are typically located in the higher elevations within a watershed. Valleys in these locations are narrow and in many instances the roadway itself acts as a floodplain encroachment resulting in numerous road-river conflicts that can result in streambank erosion, debris jams, bank mass failures, and slides. Stream crossings are typically culverts and many located on Class 4 roads are significantly undersized, in poor structural condition, and/or are installed incorrectly.

Implementation of road BMPs such as grass and stone-lined drainage ditches, road crowning, and drainage culvert upgrades and replacements, will improve water quality and flood resilience.

Outputs:

- Twenty-six segments (1.6 miles) of hydrologically-connected Class 4 roads were brought up to Municipal Roads General Permit (MRGP) standards in three municipalities.
- Thirty-five people participated in two outreach workshops to learn about BMPs utilized to address significant erosion sources from Class 4 roads, cost and time expended for the specific BMP installed by road and segment, and how each road segment now meets the MRGP standards.

Outcomes:

- Reduce levels of sediment, phosphorus, and toxic substances from eroding into streams, and improve recreational use and safety of these waters by people. Additionally, transportation infrastructure flood resilience will be improved using the same suite of BMPs.

Organization: VT DEC, Central Vermont Regional Planning Commission

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VERMONT
AGENCY OF NATURAL RESOURCES

Lake Champlain Basin Program

EPA (FFY14/15, $50,000 each)
Close Date: 9/30/2018
Grant Amount: **$100,000.00**

Externally Managed Contract

Water Chestnut Management Partnership 2017 - Lake Champlain Basin

Project Summary

The Vermont Department of Environmental Conservation (VT DEC) continued water chestnut management north-to-south in Lake Champlain and adjoining tributaries, as well as other waterbodies in Vermont. The effort included both mechanical and hand removal of water chestnut to prevent the plant's northward expansion in Lake Champlain and further spread in the Basin, and to reduce water chestnut in other waterbodies. Funding from LCBP supported contracted hand-pulling only.

Outputs:

- Water chestnut management was conducted at 77 Lake Champlain sites between Charlotte, Vermont and Dresden, New York on both the Vermont and New York sides of the lake. In partnership with the Missisquoi National Wildlife Refuge (MNWR), hand-pulling occurred at several sites in the refuge and water chestnut surveys occurred throughout.
- A final report was submitted to LCBP and is available for public distribution. Through the LCBP Water Chestnut Workgroup, VT DEC worked with partners to provide 2017 water chestnut indicators for all water chestnut management efforts in the Lake Champlain Basin: area infested with water chestnut, management resources, and mechanical and hand harvesting management specifics.

Outcomes:

- Harvesting efforts reduce densities, prevent further spread, and shift Lake Champlain populations from dense mats in need of mechanical harvesting to populations that can be managed by hand-pulling.

Organization: VT DEC, MNWR

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VERMONT
AGENCY OF NATURAL RESOURCES

Lake Champlain Basin Program

EPA (FFY17)
Close Date: 6/30/2018
Grant Amount: **$75,000.00**

ABOUT THE LCBP

The Lake Champlain Basin Program (LCBP) coordinates and funds efforts that benefit the Lake Champlain Basin's water quality, fisheries, wetlands, wildlife, recreation, and cultural resources, in partnership with government agencies from New York, Vermont, and Québec, private organizations, local communities, and individuals.

The Lake Champlain Basin Program was created in 1992 at the recommendation of the Lake Champlain Management Conference. The Management Conference was a multi-jurisdictional effort led by the U.S. Environmental Protection Agency (US EPA) upon the signing of the Lake Champlain Special Designation Act, under Section 120 of the U.S. Clean Water Act on November 5, 1990. Sponsored by Senators Leahy and Jeffords from Vermont and Senators Moynihan and D'Amato from New York, this legislation designated Lake Champlain as a resource of national significance and required examination of water quality, fisheries, wildlife, recreational, and economic issues.

Before passage of the Act, natural resource managers faced the challenge of addressing specific problems requiring immediate action while also charting a comprehensive, integrated plan for the future of the Lake Champlain Basin. To address this challenge, the Lake Champlain Special Designation Act authorized funding through the US EPA to the States of Vermont and New York, and to the New England Interstate Water Pollution Control Commission (NEIWPCC) in support of the Lake Champlain Basin Program to work collaboratively toward achieving management goals outlined in *Opportunities for Action*, the management plan for Lake Champlain.

In FY 2018, the LCBP received federal funding from the U.S. Environmental Protection Agency, the Great Lakes Fishery Commission, and the National Park Service. NEIWPCC manages the financial, contractual, and human resource business operations for the LCBP on behalf of the Lake Champlain Steering Committee. LCBP staff are employees of NEIWPCC operating from the LCBP office in Grand Isle, VT.

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