

V.B.1. Application Cover

- a. **Project title:** *Accelerated Implementation of Agricultural and Forestry Conservation Practices in the Lake Champlain Watershed of Vermont and New York.*
- b. **Project director/manager name, telephone number and email address:** Laura DiPietro, Vermont Agency of Agriculture, Food and Markets. laura.dipietro@state.vt.us; 802-595-1990; Alternative is Marli Rupe, Vermont Agency of Natural Resources. Marli.rupe@state.vt.us; 802-490-6171.
- c. **Name of lead partner submitting the application and collaborating partners:** The lead partners are the State of Vermont Agency of Agriculture, Food and Markets, and Agency of Natural Resources. This partnership meets the eligibility requirement for a unit of state government.

Collaborating partners include:

State of New York Department of Environmental Conservation	
State of New York Department of Agriculture and Markets	
Lake Champlain Basin Program	
Champlain Watershed Improvement Coalition of New York	
Greater Adirondack Resource and Conservation Development	
Washington County NY Soil and Water Conservation District	
Essex County NY Soil and Water Conservation District	
University of Vermont Extension System	St. Albans Cooperative
Agri-Mark Cooperative	Dairy Marketing Services
SerVermont - CNCS Affiliate	VT Farm to Plate Program
VT Housing and Conservation Board	VT Farm Viability Program
VT Land Trust	VT Rivers Conservancy
VT Association of Conservation Districts	Commonwealth Dairy
Friends of Northern Lake Champlain	Yankee Farm Credit
VT Economic Development Authority	VT Woodlands Association
Ben and Jerry's <i>Caring Dairy</i> Program	Ducks Unlimited

The Collaborating partners meet the eligible criteria as indicated in Part III-A of the Announcement.

Other cooperating partners include:

Keurig Green Mountain, Inc.
The Honorable Mayors of the Cities of Burlington, Winooski, St. Albans, VT
Manomet Center for Conservation Services
Center for Sustainable Innovations

- d. **Mailing address and telephone numbers for lead partner submitting the application:**
VT Agency of Agriculture -116 State Street, Montpelier, VT 05602; (802) 828-1289 office;
(802) 595-1990 cell.
- e. **Funding pool applying for (CCA, National, or State).** National
- f. **Short general summary of project and description of resource issues to be addressed:**
The resource concerns addressed in this proposal include the national priorities of water quality and soil health. The primary resource concern is water quality, due to excess nutrients and sediment pollution.
Lake Champlain is the sixth largest naturally formed lake in the United States. Its watershed drains 8,234 square miles (5,269,760 acres) in Vermont (VT), New York (NY) and Quebec (QC), with a majority of the watershed in the State of VT (56%). Partly as a function of its large and diverse watershed, Lake Champlain is impaired by phosphorus pollution from a variety of sources, resulting

in algal blooms that can harm animals and people, as well as compromise recreational uses, and diminish aesthetic enjoyment.

These concerns have been identified and documented in the multi-state and multi-national *Opportunities for Action* plan (LCBP), the Lake Champlain Special Designation Act of 1990, and the 2002 Lake Champlain Total Maximum Daily Load plan (TMDL) as required by the federal Clean Water Act, all of which specifically outline the phosphorus loading in the Lake Champlain Basin, the sources and the upward trends in loading despite prior remediation efforts. In May, 2014, the State of Vermont through its Department of Environmental Conservation (VTDEC) submitted a new Lake Champlain TMDL (Phase 1 plan) that included more recent modeling of the Lake by EPA. The Phase 1 Plan (which was only required for the Vermont section of the Lake) outlines sector by sector commitments to significantly reduce phosphorus loading and will require considerable investment, placing substantially increased demands on farmers. Vermont agricultural runoff is estimated to be the most significant cause of phosphorus impairment (in this updated model), contributing more than 40% of the phosphorus load entering the Lake overall, and up to 65% in specific watersheds.

With RCPP funding, Vermont and New York agencies and partners will help farmers and forest landowners address the most critical areas of the watershed for the highest possible cost-effective impacts on water quality. These areas are identified through multiple assessment efforts in both states. Vermont's small farm certification program, New York's Agricultural Environmental Management (AEM) program and forestry practice assessments have documented resource needs and opportunities for conservation and wetlands restoration. Our trusted and valuable partners will provide necessary outreach to landowners at the local level to inform and educate about the funding opportunities provided by RCPP to address the most critical areas of concern. Prioritized practice implementation coupled with innovative environmental stewardship programs in both states will employ proven practices and creative methods to enhance the long-term sustainability of farms and further contribute to flood and climate resilience by focusing on high priority critical source areas in the basin.

A strength of this proposal is our ability to quantitatively assess the results and progress of this project. In addition to our efforts as indicated above, our state basin planning regularly reassesses and quantifies needs and results over a five year period. We are tasked with providing detailed benchmarks and milestones through the Phase 1 plan. We will be using our extensive water quality monitoring, the US Forest Service BMP monitoring protocol, and project documentation and accountability with a newly designed dynamic conservation practice database that is unique in its ability to compile and share partner inputs. We also include several new and innovative tools, such as a Vermont-specific farm/small watershed scale model designed to assess environmental benefits of specific practice implementation (APEX), an incentive-based *Environmental Stewardship Program* following our NRCS-funded "certainty" project, and the new NRCS *Strategic Tool for Environmental Planning (STEP)*.

g. Specify the geographic focus:

The geographic focus area of the project is the Lake Champlain watershed (HUC #04150408). The focus will include agricultural and forested land in Vermont and New York with a priority emphasis on the sub-watersheds of St. Albans Bay (HUC #s 041504081202, 041504081201, and 041504081204), Missisquoi Bay (HUC #s 04150407, 0415040811) and Southern Lake Champlain (HUC #s 04150401, 0415040801, 0415040802, and 0415040803) where modeling indicates significant challenges to meeting water quality standards. Some practices will be limited to these regions while others will be basin-wide.

h. Application form SF-424: Attached

i. Applicants must also clearly state, by project objective, how they intend to leverage Federal funds along with partner resources (identify in-kind and cash contributions).

This proposal intends to leverage federal funds with partner resources by utilizing technical assistance resources, administrative services, monitoring equipment and direct financial assistance grants to partners and/or landowners. Detailed information is provided in the attached excel worksheet under the partner tab (as permitted by RCPP communication).

j. Form 424A Budget Information: Attached.

k. Proposed project start and end dates and table showing how much FA and TA funds are being requested from covered programs by fiscal year:

The project will begin upon contract signing (assumed to be January 1, 2015) and will extend for 5 years (assumed through December 31, 2019). Requested funds are covered in the attached spreadsheet.

l. A budget table, by fiscal year, that describes the activities and resource contribution. For multi-state projects, provide the funds or acres by state, as appropriate.

A budget table with activities and resource contributions by fiscal year is provided in the attached excel spreadsheet. The acreage in Vermont is 3,230,104, and the acreage in New York is 481,777. The funding allocation is expected to align with the land base.

This proposal relies heavily on the support of traditional and new partners. The States of New York and Vermont have historically worked closely and successfully with partners such as the Conservation Districts, consulting foresters, and NGOs, who have done extensive education, outreach and assessments. However this proposal provides the opportunity to develop new partnerships that will not only provide assistance to landowners, but also create a comprehensive approach to water quality that engages all aspects of the working landscape community. For example, dairy cooperatives and agricultural lenders are contributing time and cash to help promote water quality and provide information about resource concerns and funding opportunities for farmers. Local businesses have also stepped up to demonstrate the broad based support that is necessary to address the multi-faceted sources of water quality impairments and the extensive resources available to help. Later sections of this proposal thoroughly describe these opportunities.

m. Describe the intended producer and landowner participants:

The focus of this proposal is the producers in the Lake Champlain basin (LCB) with priority given to three watersheds identified as most impaired for water quality. However, the extent of agricultural land in these areas alone far outweighs the ability of RCPP funding to fully address. We have coordinated with VT USDA/NRCS to ensure that our proposal for RCPP funding reaches producers where the highest potential exists for improvement. We also have coordinated our proposal with other VT NRCS funds in the LCB, including the NRCS *Strategic Tool for Environmental Planning* (STEP) pilot, targeted for the Mud Creek watershed in northern LCB.

The intended participants for this effort are those agricultural producers that have been most underserved in the past and will ensure the greatest cost-benefit for water quality improvement, through agronomic practices, forestry, wetland or easement programs, depending on the individual, site-specific need. These participants have been historically underserved primarily due to limited resources to engage and incentivize them to access NRCS programs, but are in serious need of assistance to implement critical practices. In the past ten years, a high percentage of federal funds have been directed to medium and large dairies in the LCB, primarily to improve farmsteads, however the following assessment and prioritization work demonstrates the need and landowner participation levels:

- Extensive outreach by University of Vermont Extension personnel and the New York and Vermont Soil and Water Conservation Districts has increased interest in the agricultural community about the importance of agronomic practices such as cover crops and reduced tillage, not only for water quality but for long term soil health and ultimately farm economics.

The NRCS requirement for annual “T” soil erosion standard in nutrient management plans which will increase the need for many of these agronomic practices.

- Extensive outreach through the New York AEM (Agricultural Environmental Management Program) the Vermont Association of Conservation Districts (VACD) and the Friends of Northern Lake Champlain (FNLC) has identified priority areas for practice implementation and shovel-ready projects for immediate implementation.
- The Vermont Housing and Conservation Board has a backlog of producers willing to contract for conservation easements.
- Specific forestry needs have been identified through the Vermont Department of Forest, Parks and Recreation Accepted Management Practice (AMP) Monitoring Program and the 2012 Vermont Timber Harvesting Assessment.
- Lastly, Vermont state regulations will likely strengthen in response to the new TMDL (for agriculture and forestry) and we will help our smaller farmers implement the priority water quality improvements specific to their facilities.

Based on these conditions, we intend to allocate funds in the following manner:

1. 80% of annual EQIP RCPP funds will be allocated to landowners in the priority watersheds of St. Albans, Missisquoi Bay and the Southern Lake Champlain watersheds of New York and Vermont. Priority is strongly given to agronomic practices with some funds available for the most critical farmsteads (those in need of immediate remediation due to regulatory enforcement or severity of water quality impairment).
St. Albans, South Lake and Missisquoi are listed as the most impaired areas of the LCB, and most in need of improvement based on the SWAT model developed by TetraTech, EPA and VTANR in the LC TMDL. The vast acreage in these areas creates a challenge in addressing all the needs and we will focus funding on the most critical source areas in these watersheds, as well as continually coordinating closely with NRCS to ensure best cost-effective allocation of funds.
2. 20% of EQIP RCPP funds will be allocated to support additional broader based EQIP practices, such as precision feed management and forestry throughout the entire LCB. The opportunities for both of these practice areas are extensive throughout the watershed and we wish to allow for maximizing the opportunities for more widespread partner outreach and education.
3. 100% of the ACEP RCPP funds will be available throughout the basin with priority given to impaired watersheds as determined by ranking criteria, addressing any backlog in the first year.

We will be installing an advisory board consisting of partners, landowners and agency personnel to help with implementation and direction of this project over the next five years.

n. Describe the land that will be the focus of the project.

Eligible land, as listed in Part III-B of the Announcement, that will be targeted in this project includes:

Cropland – focusing on agronomic practices,

Non-industrial private forest land – stream crossing, trail and landing

Other land incidental to agricultural production, including: wetlands (restoration and conservation easements), riparian areas (buffers and agronomic practices), farmstead production areas (barnyards, heavy use areas, stream crossings)

All land areas – precision feed management, nutrient management

V.B. 2 – Letter of Support from NRCS State Conservationist – Attached

V.B. 3 – Natural Resource Objectives and Actions.

A: Identify specific primary natural resource concern and any secondary concerns. Provide details and how concerns were identified.

The primary resource concerns for this proposal are Lake Champlain water quality, due to excess nutrients and sediment pollution, and soil health, therefore prioritization is given to practices installed in areas where the highest reduction in nutrient and sediment runoff are possible. Priority areas are the sub-watersheds of St. Albans Bay and Missisquoi Bay in Vermont, and the South Lake sub-watershed in New York and Vermont, where an MOU for the *Poultney Mettowee Watershed Partnership* has existed for 15 years to coordinate work between the two river-bordering conservation districts. These three watersheds have been identified as being most challenged in meeting water quality standards, and in need of the greatest reductions in phosphorus load according to 2013 modeling by the EPA for the Lake Champlain TMDL. Objectives and actions, described below, will include practices that address farm fields and runoff, farmsteads and production areas, forestland runoff and erosion, wetland restoration and protection, and conservation of critical agricultural land. Projects will be prioritized based on identified critical areas and ongoing basin planning activities in both states. VT DEC's recently restructured Tactical Basin Planning Process assists by focusing on the projects or actions needed to protect or restore specific waters based on ongoing monitoring and assessment data. Individual watershed plans are developed and revised every five years, prioritizing needs and resource allocation recommendations to drive maximum improvement and cost-efficiency. Likewise in New York, the Lake Champlain Non-Point Source Management plan being developed by the Soil and Water Conservation Districts through the Champlain Watershed Improvement Coalition of NY (CWICNY) will identify shovel-ready projects for completion that drive phosphorus reductions through strategic investments across the New York side of the watershed.

Nutrients are critical to optimal agricultural and forestland production and when in balance, essential to the Lake Champlain ecosystem. However, decades of excessive or poorly managed phosphorus applications have resulted in phosphorus concentration levels far above acceptable levels, the primary challenge to Lake Champlain water quality. Phosphorus is a nutrient that, when in excess, stimulates growth of algae in the lake, impairing recreational uses, aesthetic enjoyment, and the biological community, and resulting in significant economic and social impacts. In some cases, algal blooms – particularly cyanobacteria or blue-green algae – can produce toxins that harm animals and people. Algal blooms in Lake Champlain this summer were among the most severe in recent years, and covered major portions of St. Albans Bay, and sections of Missisquoi Bay.

Since the passage of the federal Clean Water Act in the 1970s, Vermont and New York have made significant gains in controlling point source discharges through permits and management of urban stormwater. However, the collective contributions of phosphorus from human activity as well as the legacy of prior phosphorus use still significantly impact the lake. Long term monitoring by Vermont and New York with the Lake Champlain Basin Program has documented phosphorus concentrations in excess of the water quality standards in more than half the areas of the lake, and in spite of significant efforts to reduce phosphorus loading in recent years, the trend lines are still going up (Lake Champlain Basin Program *State of the Lake, 2012*).

This RCPP application proposes to increase specific, measureable and cost-effective practices in key areas of the Lake Champlain watershed where agricultural and forest management impacts are known to substantially contribute to the phosphorus loading in the lake. The practices to be implemented, as documented below, are site-specific and will depend on parameters such as crop type, soils, and slopes, but focus on those known through research to effectively address nutrient runoff from farmsteads, forestland and farm fields, and increase wetlands and land conservation.

Farmsteads and Farm Fields

Agricultural production areas and fields are estimated to contribute approximately 40% of the overall phosphorus load delivered to the lake (EPA, Tetra-Tech, 2013), through direct runoff to streams, and

nutrient runoff from fields through excessive application and erosion. Cropland runoff is the primary phosphorus contribution (approximately 37% according to the EPA estimates) and will be a priority for this proposal. Previous estimates (Hegman et al, 1999) estimated the agricultural land phosphorous contribution as high as 56% and a 2007 study by the Lake Champlain Basin Program estimated 38%. A 2011 study estimating phosphorus sources from the Missisquoi Bay Basin (one of the priority watersheds in this application) estimated 39%.

The priorities in this proposal to address this documented concern were determined after consultation with NRCS and partners in both states to allow for the highest priority practices in the most impaired areas and coordinate with traditional NRCS annual funding. The focus was also determined after extensive discussion with agricultural producers. In the past two years, as part of the outreach for public input to the Lake Champlain TMDL, a workgroup of farmers and technical service providers coordinated to consider the highest priority efforts for addressing Lake Champlain water quality concerns. The group strongly advocated for site-specific practice implementation with a focus on agronomic practices that will decrease erosion and improve nutrient management in critical source areas.

Forestland runoff

Phosphorus-laden sediment is the primary resource concern associated with forestry operations. Approximately 15% of the phosphorus loading to Lake Champlain from Vermont comes from forestland (EPA 2013). The New York load contribution is also approximately 15% forestland, with approximately 13% of that coming from the South Lake watershed (2002 Lake Champlain TMDL).

A secondary concern is land conversion from forest to other uses. The impact of this loss of forestland on the ecosystem as a whole, and the water and wildlife habitat benefits that forestland provides is significant. Forestry needs have been identified through the Department of Forest, Parks and Recreation Accepted Management Practice (AMP) Monitoring Program and the 2012 Vermont Timber Harvesting Assessment. Data collected from these assessments indicates that discharges of sediment are most commonly associated with stream crossings, and only 8% of all permanent stream crossing structures (bridges and culverts) on perennial streams are adequately sized to accommodate a 25-year flood event. While climate change is not a national priority resource concern for RCPP, more frequent flood events and intense rain events strongly impact sediment and nutrient discharges.

Wetland Restoration and Protection

Wetlands are one of the most important natural features that protect water quality and abate soil loss and flood damages from flooding in a watershed. Wetlands store floodwaters, sediments, and nutrients, including phosphorus, during storm events and remove as much as 80-90 percent of sediments in water moving through them. However wetlands over the decades have been subject to conversion for agricultural production, and converted wetlands are typically only marginally productive as farmland. Landscape scale wetland restoration is believed to play an important role in maintaining regional water quality (Darke and Walbridge, 2000). During high flow events, natural wetlands in the lake basin have been shown to be a significant sink for nonpoint source phosphorous (Want et al, 2004, Weller 1996).

In 2007, the VT Agency of Natural Resources (ANR) funded the development of a Lake Champlain basin-wide restoration plan which identified and prioritized wetlands with the greatest potential for phosphorus removal through restoration. The model identified 4,883 potential restoration sites, occupying 86,480 acres, and over 40% of the identified sites were located in the three priority watersheds that are the focus of this RCPP proposal. This proposal will provide match for a full-time position to increase education and outreach and develop a wetlands restoration enhancement tool that will provide incentives to increase interest in wetland restoration and conservation.

Land Conservation

Land conservation through permanent easements is a critical tool in water quality improvement. It results in land set aside from the threat of development and secures the property for long-term agricultural

production. The VT Housing and Conservation Board (VHCB) and the VT Land Trust (VLT), which match NRCS Agricultural Land Easement (ALE) funds for easements in VT, have protected 475 farms in the Lake Champlain watershed with permanent conservation easements on 111,450 acres. VHCB and VLT currently have a backlog of 28 farm projects on 4,270 acres in the LCB, including five shovel-ready in the three priority watersheds (875 acres) that are ready for easements as soon as funding is available. They also have a database of more than 350 prospective farms in the LCB, 80 of which are in the high priority watersheds.

Farms enrolled in conservation easement contracts through RCPP will further address water quality through a robust management planning process that will be required as part of the sale of development rights. Working with technical staff at NRCS and other partners such as the VT Association of Conservation Districts, farmers interested in selling development rights through RCPP will also be required to complete resource inventories, and a management plan that addresses water quality issues. Where structural improvements and/or practices are needed that require ongoing management and financial investment from the farmer, a business planner through VHCB's Farm and Forest Viability Program will work with the farmer to be sure that the farm will remain financially viable through and beyond the conservation process. In some cases, additional water quality related restrictions (such as surface water protection zones or riparian buffers, where applicable) may be added to the conservation easement.

B. List proposed objectives and how they will address the identified resource concerns. Include a timeline for completion and demonstrate cost-effective use of resources. Describe how objectives will lead to outcomes and how these will be measured.

The primary project objective is to improve water quality in Lake Champlain which is impaired for phosphorus by decreasing nutrient and sediment loading, and improving soil health. The focus for RCPP will be on the priority watersheds of St. Albans Bay, Missisquoi Bay and Southern Lake Champlain where there is an estimated reduction need of 48, 64 and 45% (respectively). These reductions will be quantified in the required benchmarks and monitoring goals of the draft TMDL. In addition, project success will be measured by water quality monitoring, APEX (Agricultural Policy Extender Tool) modeling, US Forest Service BMP monitoring protocol, BMP tracking database, the USDA/NRCS *STEP* resource assessment tool, and documentation of numbers of installed practices. (See further details in Section V. B. 4. F).

By focusing on the three priority watersheds, as well as the mapped critical source areas within them, the project will most effectively use the funding provided by the RCPP project. (see further information in section V.B.4.b). The project will be completed in five years, with shovel-ready projects identified for immediate implementation and a detailed outreach and education plan in place for increased participation. Further information about the timeline is in section V.B.4.d.

Details of how outcomes and actions are indicated below for each section of the proposal.

C. For each objective identify the actions to be completed to achieve the objective and meet the natural resource concern. Note which actions are to be addressed using NRCS assistance and which through non-federal funding.

Below are actions to achieve the objectives of improving Lake Champlain water quality by addressing nutrient and sediment loading and improving soil health. All of these will be addressed with RCPP funding and the support of traditional and unique non-federal partners as indicated in the budget spreadsheet.

Farmsteads and Farm Fields

This project will increase the on-farm practices, primarily agronomic field practices that will directly reduce nutrient and sediment runoff and improve soil health. The Lake Champlain TMDL model has documented the literature values of key practices that will provide the greatest cost-effective benefit by improving soil health as well as decreasing nutrient and sediment runoff.

The numbers below are estimates of implementation goals, however, each farm will be addressed with individual attention to its specific needs and concerns, and goals and targets may be adapted throughout the project.

- 80% of EQIP funds will be used to implement practices in the three priority watersheds indicated above. 10% of this will be allocated to the New York. Priority will be on critical source area acres within these watersheds, and funding is estimated to cover the following practices: (note: practices will be farm-specific so may change during the five year RCPP project period):
Heavy use areas on 10 farms (CP 561)
Cover crops, conservation tillage and manure injection (CP 340, 329, 345) on 20,000 acres
Field borders (CP 386) on 20 farms
Livestock Exclusion (CP382) on 30 farms
Additional practices such as nutrient management where gaps are not met by other RCPP proposals.
- 20% of funds will be used to implement precision feed management practices and forestry practices throughout the lake watershed:
20 farms implementing precision feed management
Forestry practices (see below)

Forestland runoff

This project will increase forest management practices that have a demonstrated value in reducing nutrient and sediment contribution to surface water through erosion and runoff as indicated above. The two primary practices will be stream crossing structures and forest trails and landings (CP 578 and 655).

- Stabilize 100,000 feet of forest trails and landings with blading, water bars and mulch.
- Installation of 60 permanent stream crossing structures on perennial streams
- Increased use of skidder bridges by 30% through education, outreach and program delivery through partners.

Wetland restoration and protection

The project will increase wetland restoration to improve water quality and protect farmland from flood impacts and the resulting erosion and nutrient load impacts.

Previous efforts to incentivize wetland restoration have been challenged by the low payment compared to the value of annual crop (primarily corn) production. Our innovative *Wetlands Restoration Enhancement Initiative*, funded with state support, will increase interest in wetland restoration by creating a landowner payment calculator that offers an incentive payment that better captures a landowner's opportunity cost to participate in the wetland restoration and easement program.

- 1000 acres of wetlands restored or protected
- Development and implementation of a new Wetland Easement and Restoration Landowner Payment Calculator.

Land Conservation

Multiple research studies have confirmed that the export rate of nutrients from urban/developed land far exceeds that of well-managed agricultural land. The LCBP *State of the Lake* report cites a 2007 study that estimated on an acre-by-acre average basis, developed land can contribute up to four times more phosphorus than agricultural land and seven times more than forested or natural lands. Conservation that protects land in key watersheds from development and a resulting increase in impervious surface will directly address phosphorus loading.

- 14 farms and over 2,000 acres estimated within the first two years. Preapproval process completed and landowners are ready to sign/have already signed purchase and sales agreements.
- An additional 21 farms will be conserved in the next three years

V.B.4 Detailed application requirements (not to exceed 12 pages)

a. Map and shape file (attached). Narrative description of geographic area, location and size of area, major land uses, why particular area was chosen including scientific basis for choosing the area.

The project is located in the Lake Champlain watershed in both New York and Vermont. The majority of the LCB is forested (66%) with 14% in agriculture (Troy, 2007).

Lake Champlain is impaired for phosphorus. The extent of need to control pollution sources to the lake has been documented in the multi-state and multi-national *Opportunities for Action* plan (LCBP), the Lake Champlain Special Designation Act of 1990, and the federally required 2002 Lake Champlain Total Maximum Daily Load plan (TMDL). Agricultural runoff is a significant cause of phosphorus impairment in the lake, contributing 37% of the nonpoint source phosphorus load, and as high as 65% in select watersheds (Lake Champlain Basin program, 2012). This proposal covers the entire Lake Champlain watershed (LCB) in Vermont and the most impaired section of South Lake in New York. Priority for funding allocation in this proposal is targeted to the three priority subwatersheds of Lake Champlain, which are St. Albans Bay, Missisquoi Bay and the Southern Lake Champlain watersheds, where early modeling done by the Environmental Protection Agency (EPA) for the draft 2014 Lake Champlain TMDL indicate significant gaps in achieving reduction goals.

In addition, within these watersheds, priority will be given to critical source areas, those areas that due to slope, hydrologic connection, soil and land use, are determined to have a high likelihood of phosphorus contribution to surface water. Critical source area mapping conducted by NRCS and by the Lake Champlain Basin Program (LCBP) with Stone Environmental (Stone, 2011) have ranked the top 20% of acres demonstrating a high potential for nutrient runoff. The 2011 Stone study also indicated that by strategically addressing this top 20% of critical source areas, nutrient reductions of up to 80% can be realized. A further description of the value of critical source areas is given below in the cost-effectiveness section.

Based on the documented phosphorus loading from these watersheds, and the value of targeting critical source areas, our RCPP project will focus NRCS Environmental Quality Incentives Program (EQIP) practices on these key areas to achieve the highest possible impact on overall lake water quality. Additional EQIP and Agricultural Conservation Easement Program (ACEP) practices (forestry, precision feed management, wetland restoration and land conservation) will be implemented throughout the full Lake Champlain Basin (LCB) but with priority given to those in the most agriculturally- impaired watersheds. This is due to the need for extensive outreach and education over time to incentivize landowner participation for these underutilized practices and/or non-traditional program participants.

In developing this proposal, we considered the most effective opportunities for bi-state collaboration, while recognizing the lake priority needs in these critical watersheds. Two of the high priority watersheds (St. Albans and Missisquoi) are located solely in Vermont. The Southern Lake Champlain watershed includes area in both states, and already has a strong partnership and history of collaboration making it an excellent opportunity for bi-state cooperation. In 2000, the Poultney Mettowee Conservation District in Vermont and the Washington County Soil and Water Conservation District in New York formed the *Poultney Mettowee Watershed Partnership* to coordinate bi-state activities. The mission of the Poultney-Mettowee Watershed Partnership is to bring together the efforts of citizens and organizations that share the common vision of conserving, protecting, and enhancing the natural and cultural resources of the watershed, and this RCPP proposal will build on that long-term partnership and collaboration.

b. Describe the consideration of cost-effectiveness, comparing to an alternative approach.

Over the past 10 years, \$45M has been spent in the Lake Champlain Watershed of Vermont alone (USDA Secretary Vilsack, August, 2014), yet Lake Champlain continues to have seriously impaired segments and does not meet water quality standards. Impacts such as increased rain events and storm severity, most notably two major flooding events in 2011, have decreased the impact of productive agricultural and forestry practice implementation. In the spring of 2011, record snowmelt and heavy

spring rains brought the lake to flood stage for 67 days, with a new record set in May of that year. Later that year, Tropical Storm Irene brought damaging rainfall and erosive river damage to many parts of the watershed. These impacts had a profound and lasting impact on the lake watersheds, especially in the tributaries where surging streams delivered large sediment and nutrient loads to the lake.

These events affected progress on lake water quality improvement, but they also increased our knowledge, and recognition of the need to address agricultural and forestry practice installations with increased storm event impacts in mind, plan for climate change impacts, and to focus on key areas with targeted outreach to prioritize limited resources and high needs.

The most cost-effective approach for achieving water quality improvement is addressing critical source areas in the watersheds that are contributing the greatest phosphorus loads. Critical Source Areas (CSAs) are identified primarily by their soils, landscape features, proximity and connectivity to streams and the land practices that are in place. One objective of the LCBP/Stone study cited above was to assess the effectiveness of targeting practices to CSAs compared to applying them randomly across eligible land units, and as mentioned above, the study showed the value of targeted implementation. As a result, state agencies, partners and NRCS are using CSA mapping for current future water quality efforts. The LCBP/Stone study identified the critical source areas in the priority watershed of Missisquoi Bay, the area of the Lake watershed with the highest contribution of phosphorus loading from agriculture. In Vermont, NRCS has conducted a simplified version of CSA mapping for the St. Albans and Southern Lake Champlain areas as indicated in this proposal. In New York, the highly successful Agricultural Environmental Management Program (AEM) uses mapping to target the most important practices to install in key areas.

Compared to random application of practices based on landowner interest, availability of funds, and timing of application, addressing practices to CSA based on priority ranking criteria and targeted outreach is a proven cost-effective method of maximizing the resources provided by RCPP. In addition, this proposal intends to focus on the highest priority sub-watersheds where significant agricultural and forest impacts demonstrate the highest potential for direct water quality improvements.

c. Description of how the partners will collaborate to achieve objectives and how the project coordinates with other local, state and national activities.

Requested table indicating partner roles, responsibilities and resources is provided in the attached excel spreadsheet. The project directly coordinates with the draft 2014 Lake Champlain TMDL, a water quality plan being developed with the EPA and state agencies, the New York Lake Champlain Nonpoint source Plan (2014), Vermont's Tactical Basin Plans, and New York's AEM strategic plans.

This proposal focuses on helping landowners address the water quality concerns on their farms and forestland, and incentivize going above and beyond regulatory requirements by implementing practices that help further protect water quality in Lake Champlain. A proposal of this capacity relies on the extensive web of partners and cooperating organizations and NGOs in the lake watershed. Both Vermont and New York have excelled in developing and sustaining these partnerships.

In 2012, the Vermont state agencies, along with NRCS, FSA and four key partners (LCBP, University of Vermont Extension, VT Association of Conservation Districts and US Fish and Wildlife) signed an MOU that was recognized by USDA as a national example of partnership collaboration, information sharing and program efficiency. Collaboration between VT and NY, through LCBP, had already created a strong overarching collaborative network of research, technical assistance and funding, which has been enhanced with the addition of four agronomists (three in VT and one in NY) who work one-on-one with producers resulting in conservation practices on 426 farms and 111,635 acres in 3 years.

In New York, the Soil and Water Conservation District partners implement the Agriculture Environmental Management (AEM) program which is financially supported by the NY Department of Agriculture and Markets (NYDAM) and NY Department of Environmental Conservation (NYDEC). AEM is a voluntary, incentive based program that helps farmers make common-sense, cost-effective and science-based decisions to meet business objectives while protecting and conserving the State's natural resources. The RCPP partnering Districts of Essex and Washington Counties in NY in the Lake

Champlain Basin are actively involved in survey, design and installation of conservation practices, conservation planning, education and water quality/nonpoint source pollution programs. Recognizing the need for further water quality improvement initiatives on the NY side of Lake Champlain, those SWCDs formed the Champlain Watershed Improvement Coalition of New York (CWICNY). The objective of CWICNY, its member organizations and cooperating partners is to reduce phosphorus loading to the lake through project and practice implementation that will have long-term positive impacts on water quality. Both CWICNY and the two individual districts are partners in this proposal, along with the NY DEC and NY DAM.

In Vermont, the VT Association of Conservation Districts (VACD) is one of many partners assisting in water quality work by conducting AEM assessments, securing funds for practice implementation and providing essential non-regulatory education and outreach. In the LCB, Vermont state agencies maintain a close relationship with the University of Vermont Extension system, a key partner in research and education to producers, as well as NGOs such as the Friends of the Northern Lake Champlain, Ducks Unlimited and VT Woodlands Association.

This proposal, however, goes beyond traditional partners by reaching out to other non-profits and for-profit businesses who work with landowners as well as those that care for the sustainability of the lake environment and are willing to help support this effort.

- The Vermont Housing and Conservation Board (VHCB), a quasi-state agency and source of state matching funds for conservation easements, has acquired easements on hundreds of acres annually, in partnership with NRCS, and now will be further addressing water quality through a robust management planning process that will be required as part of the sale of development rights through RCPP. By working with NRCS and VACD staff, farmers will complete resource inventories and management plans, and by coordinating with VHCB's Farm and Forest Viability Program, the process will address financial management when applicable to ensure long-term success.
- New partners in agricultural outreach and education include representatives of the dairy cooperatives and agricultural lending communities, which are providing outreach for this proposal by committing to training their field staff and increasing their ability to educate their clients in water quality concerns and direct them to the resources that programs such as RCPP can provide. In addition, they are providing cash match to assist with needs not covered by this proposal, such as education, administrative support and additional assistance to farmers.
- SerVermont will fund at least one AmeriCorps Program that directly addresses water quality in Lake Champlain. The AmeriCorps program will engage a "boots on the ground" force in these efforts, providing assistance to farmers, installing buffers and fencing and other aspects of the project. SerVermont will be funding a volunteer coordinator with a focus on engaging corporate volunteers and private citizens in the RCPP efforts. This position is supported with a \$13,500 grant from Keurig Green Mountain, Inc.
- The Farm to Plate (F2P) program which was created by the Vermont Legislature in 2009 to strengthen and develop Vermont's food system, has access to smaller farmers and has active working groups that address farmland stewardship and soil and water concern, and have committed funds towards outreach and education.

Detailed information about partners and their contributions are in the attached spreadsheet under the *Partner* tab.

d. Project timeline

The project will begin upon signing of a contract with NRCS, and will be completed within five years. A detailed implementation schedule is included in the Gantt chart attached at the end of this document.

e. Provide a listing and description of projects/plans/activities/easements, sequence of activities, technical assistance provided and expected from NRCS, easement acquisition plan, and activities that are innovative and outcome based measures

e.1. Descriptions of plans, practices activities and easements

Section V.B. 3 described the objectives and actions that will be implemented in each section of the RCPP proposal. The primary goal is to maximize the RCPP funding in the most cost-effective manner using our local innovative outreach and partnering to incentivize high participation and the most beneficial water quality practice implementation.

In doing so, we coordinated with NRCS, and examined the best opportunities for bi-state collaboration. Both Vermont and New York were involved in the development of the 2002 Lake Champlain Total Maximum Daily Load Plan (TMDL), which highlighted the impacts of agricultural runoff and the opportunities for improvement in agriculture and forestry. Since then, the TMDL for Vermont was overturned and a new TMDL is in draft development at the time of this proposal. The goals and priorities in the revised TMDL are reflected in this document, and the highest need is clearly demonstrated in the three key priority watersheds. While there is a need for many practices throughout these watersheds, this proposal will prioritize specific practices based on the extensive data available on resource needs in the basin in both states, and the collective planning of the partners with NRCS.

Below are further details and descriptions of the plans, practices, restoration activities and other efforts to be implemented during the project timeframe.

Farmsteads and Farm Fields

This project will focus on the small farm operations in three priority watersheds, with additional priority given to agronomic practices in critical source areas. This focus was determined after consultation with NRCS and partners, as well as extensive discussions with the agricultural community and agribusiness. Funding through this RCPP proposal is not limited to agronomic practices; extremely high impact infrastructure and production area practices will be considered, however where possible, these structural practices will be directed to traditional NRCS funds.

Small farm operations are the focus for this funding proposal based on the extensive need for smaller operations (below 200 mature animals) to address high priority water quality concerns. In both Vermont and New York, more funding has been directed to larger CAFO sized farms, where the resource need was driven by regulatory requirements. Limitations in resources and staff have not allowed for as extensive an outreach to small farms despite regulations in place to protect water quality, but the need has been articulated and quantified. The NY AEM program has documented small farms with water quality needs that are high priorities for this funding. In Vermont, state agencies, conservation district and NGO staff have identified specific small farms in critical watersheds and shovel-ready projects are designed for immediate implementation. In both states, the partners in this proposal have committed to utilizing their education, outreach, technical and financial assistance capabilities to guide more producers into the RCPP program opportunities by direct on-the-ground efforts, media outlets and incentives where appropriate.

Forestland runoff

Vermont's Acceptable Management Practices to Maintain Water Quality on Logging Jobs is being revised, and the current Vermont state rule will be amended in 2015. After that date, Vermont landowners will be required to install and replace permanent stream crossing structures on perennial streams in a manner that is consistent with the standards set forth in the VT Agency of Natural Resources (ANR) Stream Alteration General Permit. Structure opening size for permanent installations will be based upon the anticipated waterway area for flood events. Undersized stream crossings restrict natural stream flow, particularly during high water events, resulting in increased water velocity within the structure, which fish and other aquatic species cannot negotiate. Other problems associated with undersized stream crossings include increased scouring and erosion, as well as clogging and upstream ponding which can degrade both water quality and aquatic habitat.

VT Forest, Parks and Recreation Department (FP&R) will provide education, outreach and technical assistance to help landowners comply with these regulations.

FP&R will build upon the existing NRCS CP 655 Forest Trails and Landings practice to address on-going soil erosion and water quality impairments associated with forest legacy roads. Unattended forest roads and trails can be a major contributor of non-point source pollution. This practice will help minimize damage to water quality by controlling soil erosion on forest trails and landings with structural measures designed to manage surface runoff and reduce soil erosion and sedimentation. Water flows are controlled using techniques such as waterbars, crowning, broad-based dips, in-sloping and out-sloping, and culverts in limited circumstances. Areas of exposed soil are stabilized by seeding and mulching.

FP&R and Greater Adirondack Resource Conservation and Development (RC&D) will continue to promote and secure funding for the use of portable skidder bridges for use during logging operations. Portable skidder bridges are designed and intended for use as temporary structures for crossing streams during logging. They are becoming widely viewed as a best management practice for controlling nonpoint source pollution associated with timber harvesting operations. FP&R will continue to support the Portable Skidder Bridge Rental Program administered by the VT Conservation Districts.

Wetland restoration and protection

The *Lake Champlain Basin Wetland Restoration Plan*, developed in 2007 for the Vermont Agency of Natural Resources, identified 4,883 potential restoration sites occupying 86,480 acres within the VT LCB. 16% of the sites are in the priority Missisquoi Basin watershed, with 29% in a subwatershed of the Southern Lake Champlain area.

Wetlands are one of the most important natural features that abate impacts from flooding and non-point source nutrient pollution in a watershed. Wetlands are natural flood regulators which temporarily store floodwaters and then slowly release waters downstream. While floodwaters are being stored in wetlands, sediments and nutrients, including phosphorus settle and are retained. As much as 80-90% of sediments in water may be removed while moving through natural wetlands, resulting in cleaner water. However wetlands over the decades have been subject to conversion for agricultural production. Converted wetlands are often marginally productive as farmland. Moreover, the draining of wetlands has shown to decrease water tables, which reduces a farm's resilience in times of drought.

This project will focus on the development of a *Wetland Easement Landowner Payment Calculator* which will incentivize wetland restoration and protection in watersheds such as Missisquoi Bay where cropland is highly valued.

Land Conservation

Agriculture plays a major role in shaping the economy, landscape and rural character of Vermont and New York. The purchase of conservation easements preserves the working landscape – open farm fields, woodlands and farmsteads. By increasing the funds for this practice, farm and forestland will remain undeveloped and available for use into the future, and by doing so, will help decrease future impacts on water quality caused by development.

This year, the ACEP program began requiring conservation plans for all farms being conserved under Agricultural Land Easement (ALE). But even before then, VHCB has worked towards developing an environmental stewardship approach to easements. Working with technical staff at NRCS and other partners, landowners who sell development rights through RCPP are required to complete resource inventories and a management plan that addresses water quality issues. Where structural improvements and/or practices are needed that require ongoing management and financial investment from the landowner, a business planner through VHCB's Farm and Forest Viability Program will work with the landowner to be sure that the farm will remain financially viable through and beyond the conservation process. In some cases, additional water quality related restrictions, such as riparian buffers may be added to the conservation easement to protect critical habitat or water resources.

Using CSA maps and focusing on the targeted subwatersheds, VHCB, the Vermont Land Trust (VLT) and other partner staff will contribute their outreach to this proposal, and work with landowners who own unconserved land in these areas.

e.2. Sequence of activities

The sequence of efforts is detailed in the Gantt chart and in the budget form which indicates the timeline for individual practices and funding mechanisms.

e.3. Technical assistance provided and requested of NRCS

Technical assistance (TA) efforts by partners are indicated in the attached excel spreadsheet. Partners will be contributing education and outreach, administrative support, conservation planning, technical consultation, assistance with design and implementation of conservation practice monitoring and assessment. Where appropriate, TA funds are requested to support these efforts and are indicated in the budget table.

e.4. Easement acquisition activities

VHCB uses a two-step application process for all farm projects. VHCB's Agricultural Advisory Committee, which includes representation from NRCS, screens and ranks all farm pre-applications, deciding which ones can move toward appraisal cost-share and possible submission to the Board for a funding commitment. For RCPP projects, VHCB proposes development of a Lake Champlain Basin-specific ranking system at NRCS, and multiple batching periods for projects seeking funding from the RCPP funding pool. Ranking considerations, to be developed in partnership with NRCS and other key farmland conservation partners, would include factors related to both the resource (including location within the watershed) and the landowner's interest and willingness to address water quality-related resource concerns identified on the property. All RCPP/ALE projects will also require review and a funding commitment by the VHCB Board at one of its regularly scheduled Board meetings. VHCB, VLT and other farmland conservation partners will work with NRCS to align the VHCB funding process with the NRCS ranking process as much as possible so that priority projects can move forward in a timely way.

e.5. Innovative and outcome-based performance measures

This proposal has several innovative approaches to increasing implementation of water quality improvement practices in critical areas.

Small Farm Outreach Program

Small farms make up a major portion of the agricultural operations and land base in Vermont and New York, but have received only a fraction of the needed technical assistance and funding for improved practices due to limited state resources and a focus on addressing the medium and large farm permit requirements. Through the NY AEM program, assessments of small farms are conducted to strategically identify those areas of priority work. In Vermont, the increased requirements expected under the draft TMDL for Lake Champlain are focusing outreach efforts on helping the smaller operations address their water quality needs. The need on small farms in both states is high. Assessments conducted by the Vermont Agency of Agriculture, Food and Markets estimated investments of over \$65 million are needed to implement water quality BMPs on Vermont farms, including an estimated \$33 million alone for livestock exclusion.

This RCPP proposal will support the implementation of site-specific small farm improvements that will help in the development of a small farm certification program in Vermont, a new program that will help educate small farmers about current regulatory requirements and the assistance available to help meet these regulations. Priority practices will include agronomic and forestry efforts which will improve water quality and soil health and increase farm sustainability through regulatory compliance and economic viability. While participation is voluntary, this targeted small farm outreach effort will ensure compliance

with regulatory needs and position farms for participation in the next level of performance; the Environmental Stewardship Program.

Environmental Stewardship Program

The second innovative approach in this proposal is an Environmental Stewardship Program intended to incentivize a higher percentage of conservation practice implementation by providing additional opportunities to all farmers who are willing to go above and beyond baseline regulations, outlined above in the small farm certification program. This is based on the “certainty/safe harbor” concept adopted by some states, and in the final stages of development in Vermont through a USDA/NRCS Conservation Innovation Grant (CIG). When farmers are found to be in compliance with all regulations of the State and the EPA, and they implement additional improvements with RCPP funding, (such as conservation plans in easement programs, additional practices such as manure injection or wetland restoration which are not required by regulations but have water quality benefits), they will have access to valuable incentives and opportunities that will improve their farm viability and their long-term commitments to natural resource protection. One such incentive opportunity would be under a market-based nutrient trading concept that Vermont is evaluating with another CIG grant. Other incentives being considered include increased financial assistance or tax incentives.

This Environmental Stewardship Program will be piloted in one of the three priority watersheds in this RCPP proposal, and will coordinate with the NY AEM program.

Wetland Easement Landowner Payment Calculator

An innovative aspect of the wetland efforts in this proposal is the development of a Wetland Easement Landowner Payment Calculator, which will target high priority watersheds to determine an incentive payment that will secure landowner participation in a wetland restoration project. In many of the high priority areas in the LCB, agricultural land value far outweighs the current NRCS payment levels. This calculator will use criteria such as soils, agricultural soil rental rates, current land uses, flood attenuation benefits and water quality and ecological value to determine an incentive payment that will further compensate for the loss of productive agricultural land. As match, the State of Vermont is contributing funds for personnel to develop this calculator, conduct outreach to involve landowners, and will provide the additional incentive payments to the producer.

f/g. Describe the plan for assessing and evaluating the results of the project and reporting on progress. Consider diff approaches (e.g. id of issues and related priority areas followed by an assessment of conservation implemented; monitoring at field to document effects of practices)

Both Vermont and New York have a long history of conservation planning, project development and implementation, and accountability, as well as extensive monitoring and assessment activities. Identification of resource concerns and tracking progress has been consistently accomplished in both states. New York’s AEM program conducts detailed assessments and evaluates practice success following implementation and Vermont has upheld the Accepted Agricultural Practice regulations since their inception in 1995 and through a partnership with VACD, they have also implemented a VT AEM assessment program. Long-term lake and tributary water quality monitoring in Vermont and New York, through the efforts of LCBP and VTDEC LaRosa laboratory, has been used to identify water quality trends, priority areas, and document improvements for 37 years, and sampling will be expanded in this RCPP project where possible to document specific practice results. For conservation easements, VHCB has documented their success in land conservation easements throughout the state, and will continue to in the LCB.

Evaluating the results of this project will occur in several ways including quantifying numbers of acres with new conservation practices, acres under conservation easements and wetland restoration, and water quality improvement. However, there are several innovative tools that we will be using to more quantitatively assess the progress and results of this RCPP proposal.

1. The Lake Champlain draft TMDL Phase 1 plan, (in concert with VTDEC’s Tactical Basin Planning Program) identifies specific processes for monitoring results and gauging project success. Quantifiable benchmarks in an accountability framework are a requirement of the EPA through the TMDL plan.
2. In 2014, a Vermont-specific APEX model (Agricultural Policy/Environmental Extender) will be completed as the result of a CIG grant and will provide us with the ability to predict measureable outcomes from BMP implementation at the farm scale. The APEX model is a farm/small watershed scale model designed to simulate a wide range of farm management and conservation practices. It allows for the explicit simulation of features like vegetated waterways, buffers and the connectivity between animal heavy use areas and streams. It also offers the ability to simulate complex agronomic systems, making it an ideal tool for assessing the environmental benefits that have been achieved as a result of practice installation, and evaluating the potential benefits of modifications to agronomic practices.
3. The Vermont Agency of Agriculture, in collaboration with all of the previously mentioned MOU partners in the LCB, is developing a conservation practice database that will be finalized before the end of the first year of RCPP funding, and will be a unique and dynamic documentation of practices installed through RCPP, as well as other funding sources and partners, and will be essential for accurate quantification of project goals. This is a revolutionary concept of sharing information for technical assistance and practice implementation that includes all partners’ efforts (federal, state and conservation district) all in one database.
4. We will be using the US Forest Service BMP Monitoring Protocol for forestry practices.
5. In developing the Environmental Stewardship Program, we will be collaborating with new partners including Ben and Jerry’s *Caring Dairy* program, and Manomet Center for Conservation Sciences to coordinate efforts statewide to incentivize landowners with accountable metrics.
6. We will be closely coordinating our efforts with the new NRCS *Strategic Tool for Environmental Planning* (STEP) which has just recently been announced as a pilot in the Mud Creek, a critical sub-watershed of the Missisquoi Basin.

These efforts, along with traditional monitoring and practice quantification provide unique opportunities for truly measuring the phosphorus reduction goals of this RCPP proposal.

h. Identify potential criteria to be used by NRCS to evaluate and rank applications.

The ranking criteria will be focused on funding the highest priority applications within the gap watersheds identified in this proposal. The following are ranking criteria proposed for RCPP.

EQIP Non-forestry ranking criteria

Issue Questions	Points
Primary Focus of Application	
Will this application address a resource concern on a farm located in the Lake Champlain watershed? (Answer must be YES to proceed with this application).	n/a
Will this RCPP application address a resource concern in a gap watershed as defined by EPA and the Lake Champlain TMDL?	100
Will this RCPP application address a non-farmstead resource concern	100
Will this RCPP application address a resource concern on land tract(s) identified in the CSA mapping completed by the NRCS or Stone Environmental in VT or has been identified through the AEM process as a priority resource concern?	75
Will this RCPP application address all CSA mapped areas on the farm as needed?	200

Other Priorities	
Is this RCPP application focused on a practice that would address a known water quality violation identified by a State water quality inspection?	50
Is this RCPP application on a land that is not under a current state or federal permit?	150
Has this RCPP applicant applied for a Feed Management CAP and will this contract include implementation of the Feed Management practice?	50
Has this applicant received greater than 300 points, is it a conserved farm through a land trust and will this application address water quality, soil quality or soil erosion practices in a conservation plan?	50
Has the applicant not received EQIP funding in the past five years (prior to application)?	100
Will this RCPP application focused primarily on farmstead practices that have completed an engineering design supported by the State A&E program?	50

EQIP forestry ranking criteria

Issue Questions	Points
Primary Focus of Application	
Will this application address a resource concern on a farm located in the Lake Champlain watershed? (Answer must be YES to proceed with this application).	n/a
Will this RCPP application address a resource concern in a gap watershed as defined by EPA and the Lake Champlain TMDL?	100
Will this RCPP application address a resource concern on land tract(s) considered to be high priority areas of concern as determined by the forest management plan?	75
Will this RCPP application address all stream crossing and forest trail and landing practice needs as determined by the forest management plan?	200
Other Priorities	
Will this RCPP application address requirements of the <i>Vermont Acceptable Management Practices to Maintain Water Quality on Logging Jobs</i> ?	50
Has this applicant received greater than 300 points, is it a conserved farm through a land trust and will this application address water quality, soil quality or soil erosion practices in a conservation plan?	50
Has the applicant not received EQIP funding in the past five years (prior to application)?	100

i. Estimate percentage of eligible landowners who may participate, description of how to provide outreach, history of working with landowners, and how to encourage participation

The Lake Champlain Basin has approximately 550 dairy farmers and an extensive number of small forestland owners. We anticipate reaching approximately 120-140 farmers with EQIP practices, approximately 100 landowners with forestry practices, 20-30 landowners with wetland restoration, and 35 landowners with conservation easements. These numbers are considered low estimates and we anticipate our historical ability to reach out to farmers with the tremendous network of partners participating in this proposal to exceed our goals.

While state agencies closely work with many landowners and will be using all the outreach tools at our disposal, including farm visits, educational materials and media, the strength of the outreach and education in this proposal is our partners, both traditional and new. Some of these partners have excellent reputations with landowners, such as the University of Vermont Extension System, which works with at least half of the agricultural producers in the LCB through their research, educational workshops and outreach, direct practice implementation and equipment sharing programs. Other partners include:

- VHCBC and VLT, in partnership with the VT Agency of Agriculture, Food & Markets, have a long history of success in conserving land in permanent easements in Vermont through a

public/private partnership. VHCB is a quasi-state agency with a dedicated source of state funding (the property transfer tax) that has been a consistent source of state match funds for agricultural easements for over 25 years. VLT, a statewide land trust with a professional staff of 40, has the capacity to both develop projects for funding, and provide ongoing easement stewardship. VHCB has protected approximately 620 farms and 149,000 acres to date, mostly in partnership with VLT. Of these, 339 farms and approximately 66,300 acres were protected with a combination of state and federal funding through NRCS (FRPP). VLT has protected an additional 220 farms and 35,000 acres, bringing the total farmland protected in the state to approximately 840 farms and over 184,000 acres, representing 15% of the state's agricultural land.

- Vermont Association of Conservation Districts, the New York Soil and Water Conservation Districts and CWICNY have historical roots that date to the Dust Bowl days where their non-regulatory, locally-based educational capability was developed. Districts are municipalities of state government, and as such have unique partnering opportunities with state agencies, and act as a direct connection to landowners providing one-on-one technical assistance and education and outreach.
- Non-governmental organizations have developed strong reputations for their ability to work with local landowners and affect change. One such partner, the Friends of the Northern Lake Champlain has secured extensive grant funding to reach out to landowners to educate and develop projects that are then ready for NRCS and state funding opportunities in a streamlined, speedy process.

This RCPP proposal has also provided the opportunity for developing new partnerships that will enable a far more comprehensive, holistic approach to broad-based landowner education as we move forward in our shared goal of water quality improvement.

- Three main dairy cooperatives (Agri-Mark, Dairy Marketing Services, and St. Albans Cooperative), as well as primary lending institutions such as the VT Economic Development Authority, have provided substantial match to this proposal towards education and outreach. Their staff will participate in an extensive training program to help them assist farmers in identifying potential water quality concerns and accessing the resources needed to correct them. They will also be using the methods at their disposal such as websites, meetings and events to share information to ensure that all landowners in the priority watersheds are aware of the resources available to them.
- Keurig Corporation and SerVermont are coordinating to provide assistance in practice installation with youth corps that will help with practices such as livestock exclusion fence and riparian buffer installation.
- The Vermont private sector is stepping up in a significant way to partner with the State for water quality efforts. Keurig Green Mountain, Inc. intends to partner with the State of Vermont and make a significant investment in addressing water quality including phosphorus run-off impacts on Lake Champlain. University of Vermont and LimnoTech will be key partners with the State and Keurig in the research and development of a portfolio of projects for these funds and all projects will include an element of education and outreach to extend impacts locally.
- The VT Farm to Plate Program was created in 2009 to strengthen and develop Vermont's food system. The F2P network, a collaborative of over 350 member organizations includes several working groups that focus on dairy production, stewardship and soil and water, and is committing resources to provide outreach to their partners and clients.

These new and local partners are especially critical in reaching beginning, limited resource and socially disadvantaged farmers through their local connections and outreach abilities.

Participation will be encouraged with the use of additional incentives (such as the Wetlands calculator and the Environmental Stewardship Program), however, the backlog that currently exists in NRCS, and in

the funding programs of the VT Agency of Agriculture, the grant programs provided by VTDEC (which have allowed for NGOs to development work leading to shovel-ready projects) and the easement requests waiting in VHCB demonstrate a strong willingness by producers to address water quality concerns and the current ability of agencies and partners to successfully connect landowner needs with available resources. We see no barriers or concerns in achieving full project goals.

j. How will the project help assist producers in meeting regulatory requirements?

The draft VT TMDL includes provisions for raising standards in state regulatory requirements in the state's Accepted Agricultural Practices (AAPs) and forestry Accepted Management Practices (AMPs) as well as a need for increased inspection and enforcement. Vermont intends on continuing the media and personal outreach necessary to explain the changing regulatory environment to farmers which has already led to a record number of farms signing up with NRCS in 2014. Many of the small dairy farmers and forested landowners in VT may not meet current regulations before any future rule amendments, and we have been limited in our resources to provide this oversight and assistance. This RCPP proposal will help accelerate the implementation of necessary conservation practices that will help farmers in Vermont and New York meet each state's regulations and improve water quality by targeting the highest priority needs. Farmers will become certified as compliant with state regulations, and become positioned for the Environmental Stewardship Program with additional RCPP-funded water quality improvements.

k. Description of any adjustment of terms

All programs

EQIP

1. Explore higher payment rates (where possible) where current costs are affecting practice implementation. In some areas, per unit costs are higher than current NRCS estimates.
2. Explore sliding scale on cost-share rates, where early adopters benefit from a higher cost-share than those who apply at a later date.
3. Explore contract flexibility to allow farms to alternate where cover crops will be planted each year based on rotations or weather issues out of their control.

ACEP

1. Explore increasing flexibility in the soils waiver category for priority farms
2. Explore a pilot for a non-appraisal-based evaluation system for easements to simplify enrollment

l. Alternative funding arrangements.

This proposal is not requesting any alternative funding arrangements.

n. Certifications

All required forms (SF424, a, b) will be attached to final document

o.1. DUNS number -80-9376718

o.2. SAM registration: The VT Agency of Agriculture, Food and Markets: Laura DiPietro.

