

**FY2018 ANNUAL REPORT ON FINANCIAL AND TECHNICAL ASSISTANCE FOR  
AGRICULTURAL WATER QUALITY**

Prepared for the Vermont General Assembly in Accordance with  
6 V.S.A. § 4825

Submitted by  
Vermont Agency of Agriculture, Food and Markets

January 15, 2019

To: Vermont General Assembly

RE: Vermont Agency of Agriculture, Food & Markets annual report to the Vermont Legislature on financial and technical assistance for water quality.

The Vermont Agency of Agriculture, Food & Markets (VAAFM) presents this annual report to the General Assembly of Vermont regarding activities in support of the objectives of Subchapter 3: Water Quality; Financial And Technical Assistance of 6 V.SA. Chapter 215, including use of State, federal, and private funds: (1) undertaken during the preceding fiscal year; (2) in progress during the current fiscal year; (3) projected for the following fiscal year; and (4) remaining to be undertaken after the following fiscal year.

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## Executive Summary

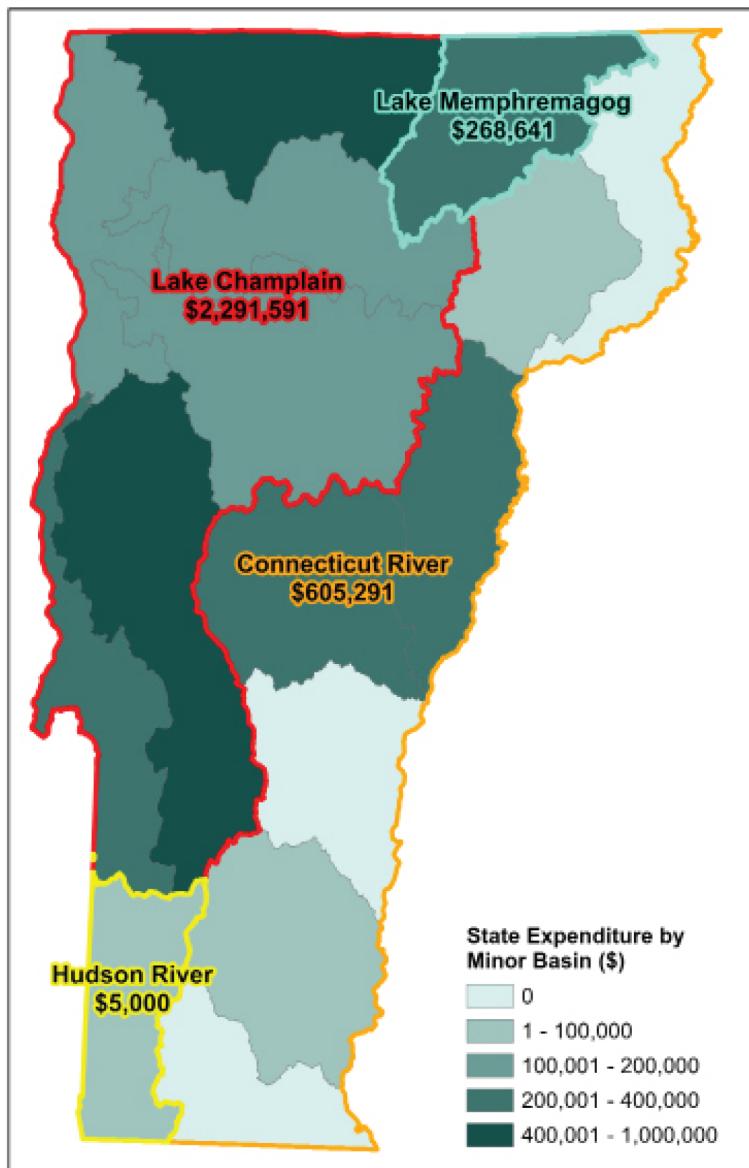
### Vermont Agency of Agriculture, Food & Markets Water Quality Division

### FY 2018 Financial Assistance for Farmers Summary

The Water Quality Division within the Agency of Agriculture, Food and Markets (VAAFM) utilizes farmer assistance, education, research, regulations, monitoring, and compliance and enforcement programs that are designed to improve farm management in order to meet the State's goals in improving and protecting water quality.

In FY 2018, the Water Quality Program invested more than \$3.2 million of State funds in on-farm implementation of conservation practices to improve water quality. Vermont farmers invested just under \$1 million in cost-share contributions towards implementation of these projects.

#### FY18 ON-FARM IMPLEMENTATION BY MAJOR AND MINOR BASIN



**7162 ACRES**  
IMPROVED WITH FARM AGRONOMIC PRACTICES  
**87 PRACTICES**  
BEST MANAGEMENT PRACTICES INSTALLED  
**\$3.2 MILLION**  
STATE EXPENDITURE FOR ON-FARM  
IMPLEMENTATION

**NEARLY \$1 MILLION**  
INVESTED BY VERMONT FARMERS



Before (above) and after (below) installation of heavy use area protection and clean water diversion project on a small farm in Swanton, VT completed through the BMP Program.



Implementation (below) of cover cropping after corn harvest with a No-Till Grain Drill acquired by a group of small farms in Craftsbury, VT, through the CEAP Program.



 **VERMONT**  
AGENCY OF AGRICULTURE, FOOD & MARKETS  
WATER QUALITY DIVISION

## FINANCIAL ASSISTANCE PROGRAM DESCRIPTIONS

### Farm Agronomic Practices FAP:

Financial assistance to Vermont farms for implementation of soil-based agronomic practices that improve soil quality, and reduce erosion.



*Before (above) and after (below) installation of heavy use area protection and clean water diversion project on a small farm in Georgia, VT through the BMP Program.*

### BEST MANAGEMENT PRACTICES BMP:

Technical and financial assistance program to assist farmers with on-farm improvements designed to abate agricultural waste discharges into state waters.



### CONSERVATION RESERVE ENHANCEMENT PROGRAM CREP:

Technical and financial assistance program designed to reduce sediment runoff and improve water quality by removing land from agricultural production and establishing vegetative buffers.

### CAPITAL EQUIPMENT ASSISTANCE PROGRAM CEAP:

Financial assistance for new or innovative equipment that will aid in the reduction of surface runoff of agricultural wastes to state waters, improve water quality of state waters, improve manure management, separate phosphorus (P) from manure, and decrease greenhouse gas emissions.

### GRASSED WATERWAY AND FILTER STRIP PROGRAM GWFS:

Technical and financial assistance to Vermont farmers for in-field agronomic best practices to address critical source areas, erosion, and surface runoff through establishment of perennially vegetated grassed waterways, filter strips, critical source area seeding, and associated infrastructure.

### PASTURE AND SURFACE WATER FENCING PROGRAM PSWF:

Pasture management technical and financial assistance to Vermont farmers to improve water quality and on-farm livestock exclusion from surface waters statewide.

## SUMMARY OF FY2018 FINANCIAL ASSISTANCE PROGRAMS

| PROGRAM                        | STATE EXPENDITURE  | TOTAL OBLIGATION | IMPACT   |
|--------------------------------|--|------------------|--|
| FAP                            | \$175,552  | \$249,905        | 7162 Acres Improved  |
| Sample FAP Practices Installed | 3796 Acres : Cover Crop                                    |                  | Average 28% reduction in total P <sup>1</sup>  |
|                                | 716 Acres : Conservation Tillage                           |                  | Average 27.5% reduction in total P <sup>1</sup>  |
| BMP                            | \$2,516,842  | \$2,875,230      | 87 Practices Installed   |
| Sample BMP Practices Installed | 20 Waste Storage Structures                                |                  | 42% reduction in total P <sup>2</sup>  |
|                                | 2 Silage Leachate  |                  | 1 acre of feed storage can lose as much nutrients as 120 acres of cropland <sup>3</sup>  |
|                                | 15 Heavy Use Area Protection & 8 Clean Water Diversion     |                  | 53% reduction in total P for barnyard runoff management <sup>2</sup>                     |
| CREP                           | \$48,297   | \$48,297         | 41.57 Acres of Cropland Buffer   |
| Sample CREP Practices          | 22.1 Acres of Cropland Converted to Riparian Forest Buffer |                  | 40% reduction in total P, plus reduction from converting cropland to forest <sup>1</sup> |
| CEAP                           | \$469,275  | \$902,400        | 43 Pieces of Equipment/Technology  |
| Sample CEAP Equipment Acquired | 6 Conservation Tillage Equipment                           |                  | Average 27.5% reduction in total P <sup>1</sup>  |
|                                | 2 Silage Management Equipment                              |                  | 1 acre of feed storage can lose as much nutrients as 120 acres of cropland <sup>3</sup>  |
|                                | 5 Cover Crop Equipment                                     |                  | Average 28% reduction in total P <sup>1</sup>  |
|                                | 1 Phosphorus Removal Technology                            |                  | Estimated 86.7% removal by concentration of total P <sup>4</sup>                         |
| GWFS                           | *New in 2018   |                  |  |
| PSWF                           | *New in 2018   |                  |  |

<sup>1</sup>Vermont Agency of Natural Resources, Department of Environmental Conservation - Current Methods to Measure Nutrient Pollutant Reductions

<sup>2</sup>A tool for estimating best management practice effectiveness for phosphorus pollution control. MW Gitau, WJ Gburek, AR Jarrett - Journal of Soil and Water Conservation, 2005.

<sup>3</sup>Evaluation of silage leachate and runoff collection systems on three Wisconsin dairy farms. AWunderlin, E Cooley, B Larson, C Herron, D Frame, A Radatz, K Klingenberg, T Radatz, and M Holly - Discovery Farms Wisconsin, 2016.

<sup>4</sup>DVO Phosphorus Recovery System Case Study-Edaleen Dairy. C Frear - Newtrent LLC, 2017.

## Best Management Practices Program

The Best Management Practice (BMP) Program is a voluntary program to assist farmers with on-farm improvements designed to abate agricultural waste discharges into the waters of the State of Vermont. The Program was created to provide State technical and financial assistance to Vermont farmers to improve water quality. The BMP Program identifies and assists in resolving risk of surface and ground water contamination from agricultural wastes. Technical assistance, which includes a combination of agricultural, civil, and environmental engineering consultation and design, is available on a priority basis at no cost to the farmer. Financial assistance is available to help assist the farmer with the construction costs of the designed practice(s).

### BMP FY 2018

In the FY 2018, 47 BMP grants to Vermont farmers were completed, resulting in the implementation of 87 conservation Best Management Practices that addressed water quality concerns. Figure 1 below summarizes state, federal, private and other funding spent on practice implementation. Private funding was contributed by the landowner or farmer and represents at least 10% of total funds spent on the cost of construction implementation. Other funding spent represents private grant funding resources used to meet match requirements. Overall, through FY 2018, these voluntary conservation programs enabled \$2,516,842.61 in State expenditures to leverage \$1,319,055.41 in federal expenditure, as well as \$696,974.69 in cost-share contributions from Vermont farmers and agricultural landowners.

***Total State expenditure on the construction of BMP practices in FY 2018 amounts to  
\$2,516,842.61.***

*Figure 1. Summary of FY 2018 BMP Project Funding Pertaining to the 47 BMP grants completed,*

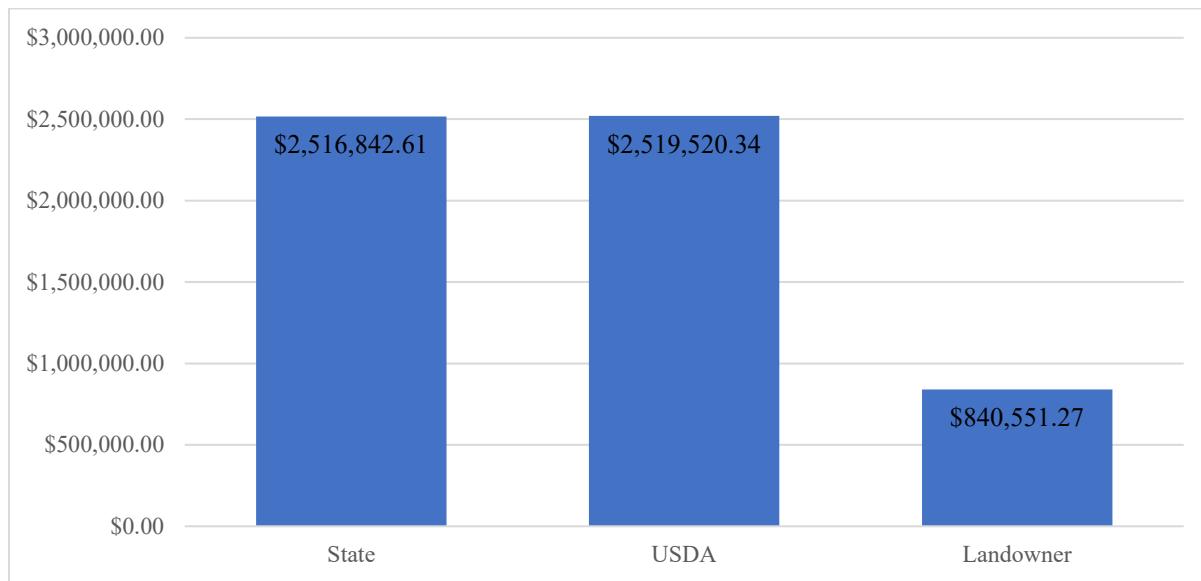
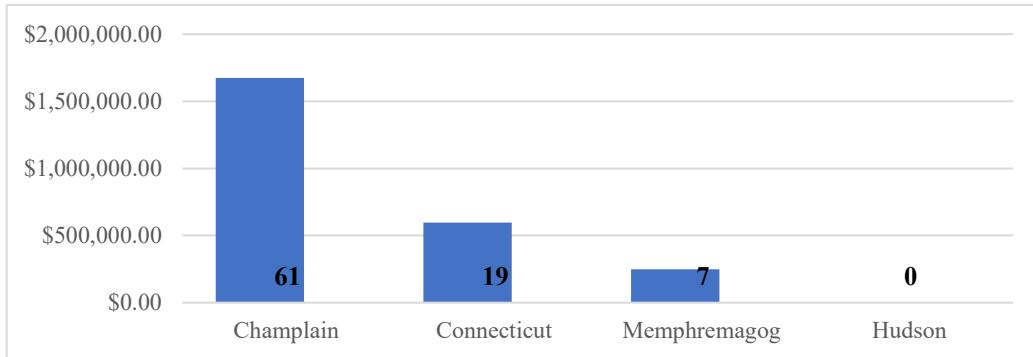


Figure 3 below summarizes State expenditure and the number of practices implemented in each major watershed basin. Most practices were implemented in the Lake Champlain Basin accounting for 70% of practices implemented. Figure 4 displays total funds spent per county; with the majority of spending occurring in Franklin, Orleans and Addison Counties. In support of planning, development, and implementation of BMP projects in FY 2018, Agency staff made 544 site visits to participant farms.

*Figure 2. FY18 State BMP Expenditure and Practice Implementation by Watershed*



*Figure 3. FY18 State BMP Expenditure by County*

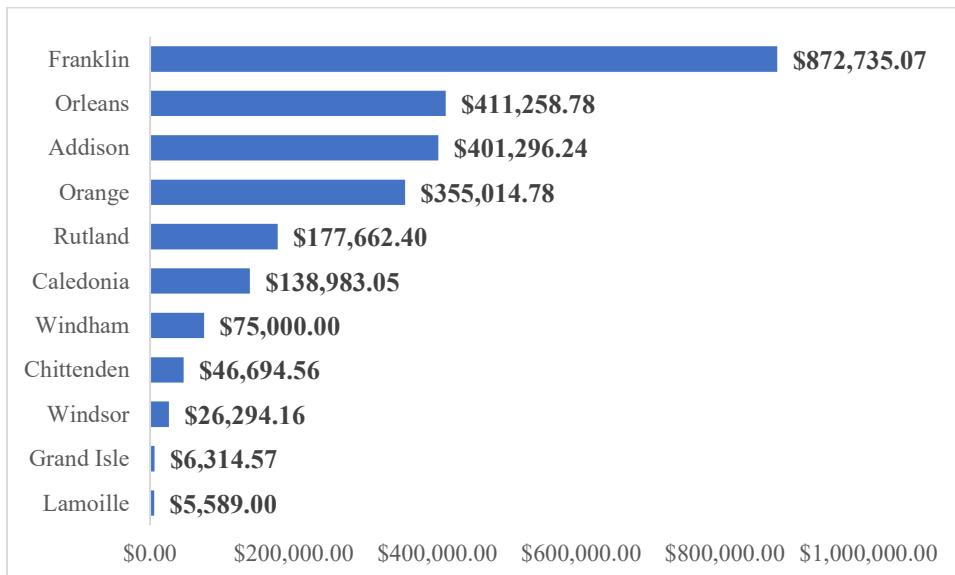
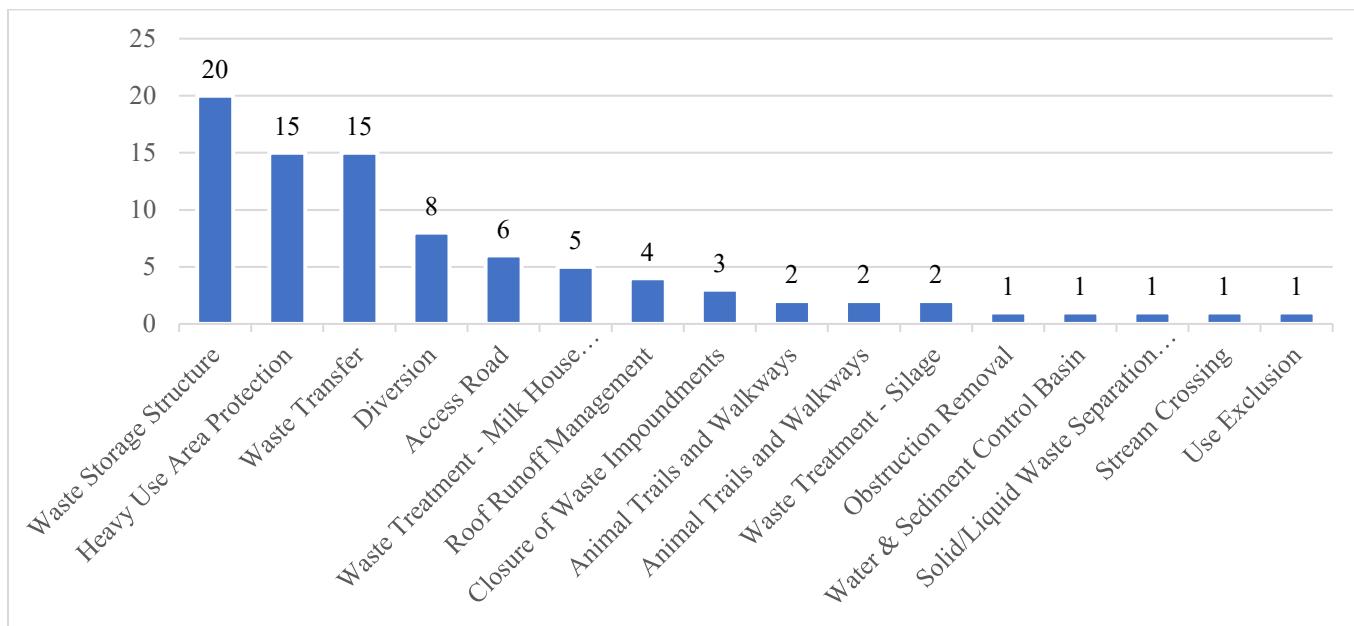


Figure 5 below illustrates each type of practice implemented in FY 2018 and the number implemented for each type of practice. Of the 87 practices implemented, the majority were Waste Storage Structures (23%). Waste Storage Structures include manure pits, silage leachate management systems, solid manure stacking facilities, 'Slurystores', and in-ground pits lined with clay, concrete, or geosynthetic liner. The next most implemented practice under the BMP Program were Heavy Use Area Protection (17%), which includes barnyards and improved surfaces that are typically high traffic and are prone to erosion and Waste Transfer (17%) which includes waste holding tanks, pumps and plumbing installed to transfer waste from a collection point to a storage point. Descriptions of the conservation practices can be found on the Vermont NRCS website at this site address:

[https://efotg.sc.egov.usda.gov/references/public/VT/TABLE\\_OF\\_CONSERVATION\\_PRACTICES.pdf](https://efotg.sc.egov.usda.gov/references/public/VT/TABLE_OF_CONSERVATION_PRACTICES.pdf)

*Figure 4. FY18 BMP Implementation by Conservation Practice Type*

To augment VAAFM BMP engineering capacity, additional projects are contracted to external Architecture and Engineering (A&E) consultants. VAAFM engineers facilitate project management and assign projects requiring specific expertise to A&E consultants. During FY 2018, \$158,948.60 was spent on contracting A&E consultants to serve 15 farms. The consultants are hired to produce preliminary plans, final designs including construction documents and specifications, engineering cost estimates, construction oversight and project certification.

## BMP FY 2019

As of November 1, 2018, the BMP Program has received 35 applications in FY19. These applications will be reviewed for funding by July of 2019 and prioritized for funding in fiscal year 2020 unless otherwise determined to be an immediate priority for water quality. During FY 2019 a total of \$434,012.44 has been spent on construction costs as of November 1, 2018 for practices associated with these and prior year grants. In 2017 the BMP Program established a priority due date of April 1st of each year for application ranking. Applications are prioritized utilizing the Prioritization Matrix, a tool that ranks projects on criteria that weights applications pursuant with 6 V.S.A. Chapter 215 shown in Attachment 2.

## BMP Program Trends – FY 2020 & Beyond

By looking at recent year metrics as shown in Table 1, Figure 6 and Figure 7 the BMP Program can project future spending by trends in the:

- Number of BMP applications received
- Number of grants awarded indicating the amount of funds obligated
- Amount of funds spent on construction indicating the expenditure of the funds previously obligated by grants
- Percent change in the milk price
- The BMP program staff capacity which includes turn over, new hires and cumulative years of staff experience

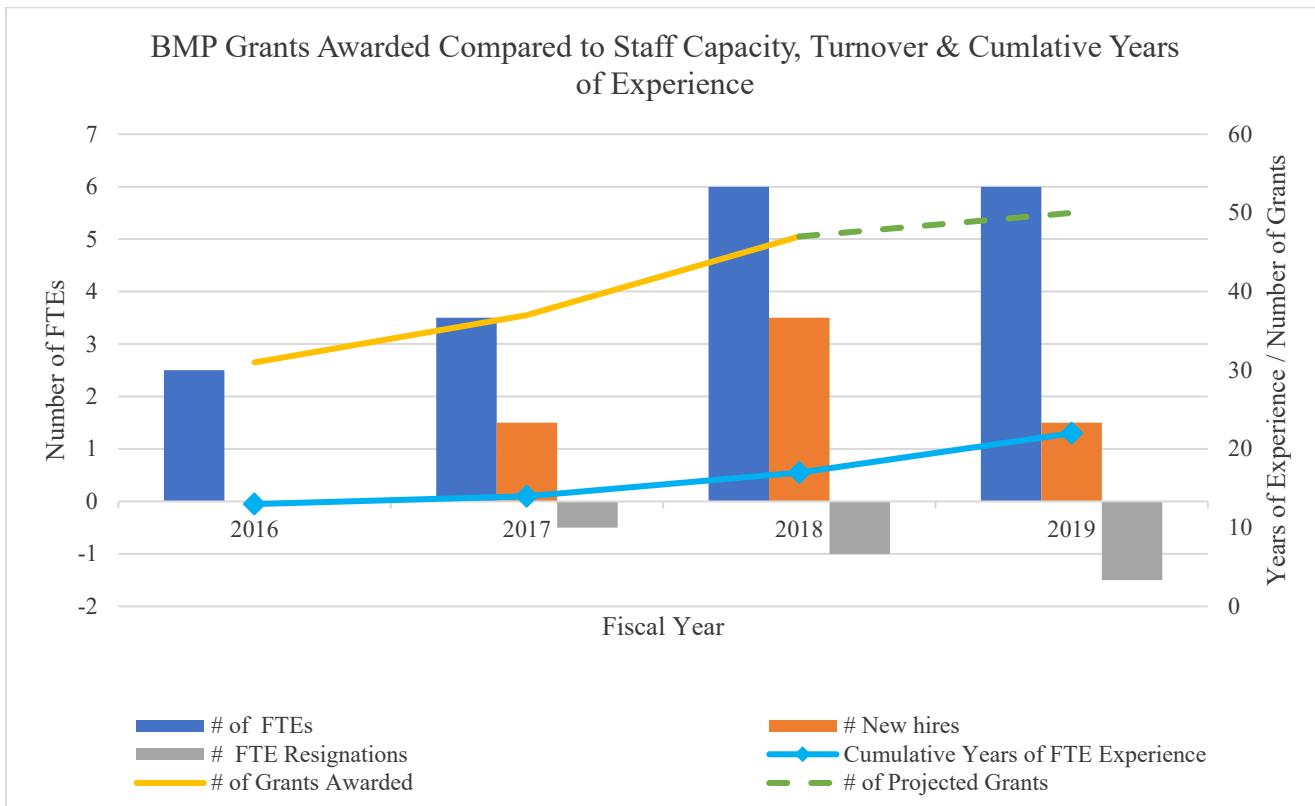
Table 1. BMP Recent Year Metrics

| FY   | # of Applications | # Grants Awarded (obligated funds) | # of Projects Completed (grants closed out) | State Funds Spent during FY on Project Construction (funds previously obligated) |
|------|-------------------|------------------------------------|---|--|
| 2016 | 95                | 31                                 | 36  | \$ 1,386,728.44  |
| 2017 | 124               | 37                                 | 30  | \$ 1,131,778.21  |
| 2018 | 100               | 47                                 | 54  | \$ 2,516,842.61  |
| 2019 | 35                | 30                                 | 9   | \$ 434,012.44  |

In FY 2018, a total of 100 BMP applications were received, of which 69 were prioritized for funding under the program. In comparison 124 applications were submitted in FY17. The increase in application submission in FY17 can be partly attributed to the 2016 revision of the Required Agricultural Practices (RAPs). The RAPs increased the number of farms scheduled for inspections through the Certified Small Farm Operation Program. When water quality issues are identified during the farm inspection process often the farmer elects to submit a BMP application. Of the 100 applications that were received in FY 2018, 62% of them were received between January 1, 2018 and June 30, 2018.

*In FY 2018, the BMP program added 2.5 FTE positions and revised the program's cost share policy to increase the funding caps. This resulted in a 122% increase in spending, a 27% increase in grants awarded and an 80% increase in projects completed.*

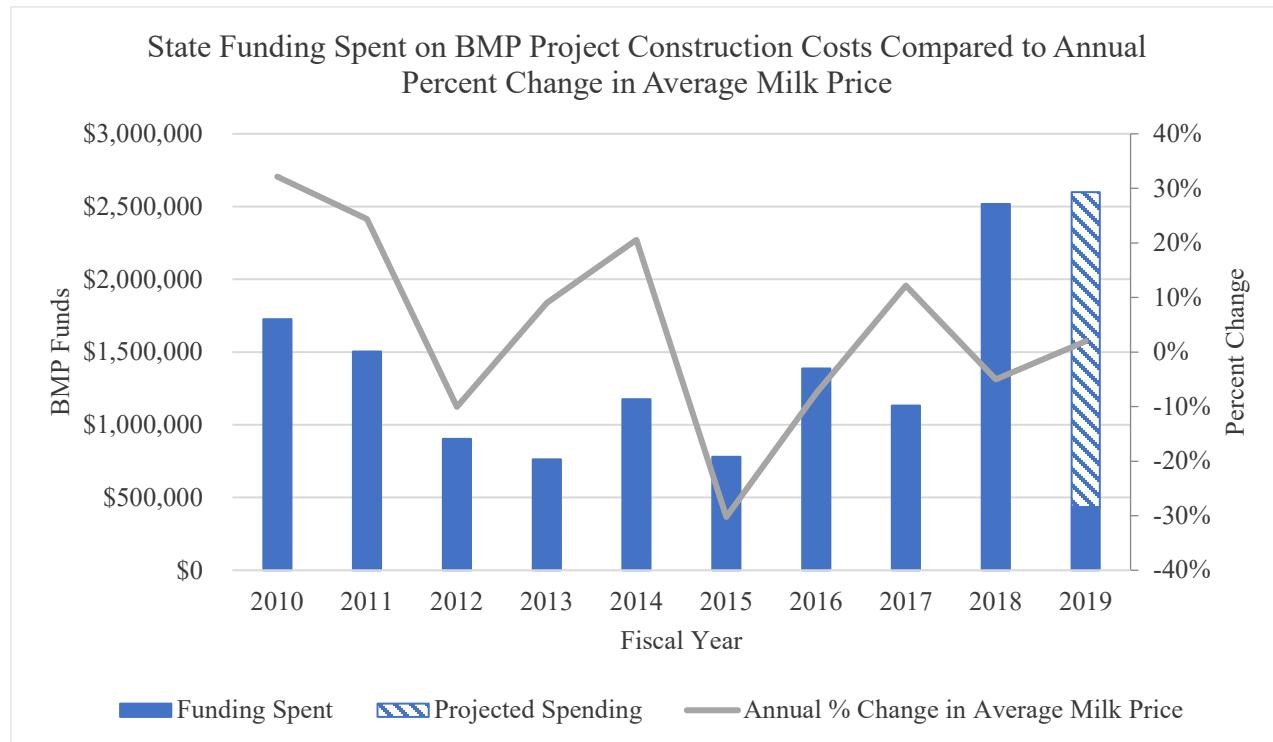
Figure 5. BMP Program Staff Capacity &amp; Trend in Grants Awarded 2016 - 2019



Historically, the most notable correlation between funding spent on the construction of BMP practices is the annual percent change in the milk price as reported by USDA and shown in Figure 7. When milk prices increase from the year prior farmers are more likely to invest in capital water quality improvements that often do not have a financial return on

investment. Based on program trends from FY16-19, the BMP program anticipates state expenditures between 2.5 and 3.5 million in FY19. This remains subject to volatile milk prices which often indicates a farmers' ability to pay for the 10% minimum cost share requirement for the BMP program.

*Figure 6. BMP Funds Spent Compared to Milk Prices 2010 – 2018*



## BMP Project Examples

### *COVERED MANURE STACK PAD*



*From left to right, site prep work, concrete wall & slab pour and the finished hoop structure.*

Visible from a major roadway in Cambridge, a hoop structure now stands on a small diversified dairy farm. The structure took the place of an uncovered manure stack that posed a risk of nutrient runoff into the Lamoille River. For a small heard of dairy cows that are heavily bedded with fibrous material, a stacking pad is a cost-effective option for storing manure during the winter months. Siting the structure right off the back side of the barn allows for easy access and eliminates the

need to transport manure to a remote stack site in unfavorable conditions. This fifth-generation farm is proud to be passing on a legacy that has invested in protecting the state's water quality.

### *WATER DIVERSION PRACTICES LEVERAGE NRCS EQIP*

A small farm located in the Missisquoi watershed took a big step to improve the farm's impacts on water quality. The BMP project included expansion of the existing concrete barnyard area to protect a high traffic area and fully capture runoff from the barnyards. Previously, high animal traffic in this area caused a sloped area with exposed shale bedrock to become severely denuded, leading to erosion and the loss of several feet of sloped shale

hillside. The expanded barnyard allows animals to directly access newly installed animal trails on their way to pasture. This expansion and associated rooftop runoff management allows all runoff from the barnyards to be captured and stored in the farm's waste storage facility, and also positions the farm to upgrade their waste storage with a new 'Slurystore' to be installed next year as part of an NRCS EQIP contract.



*From left to right, before and after photos of heavy use area protection implementation.*

### *HEAVY USE AREA AND CLEAN WATER DIVERSION*

In 2018, a heavy use area and clean water diversion project was installed at a Certified Small Farm Facility in Georgia, VT that houses beef cattle. Being an organic producer, the cows are required to have outdoor access year-round. An unimproved barnyard area adjacent to the barn was suffering from excessive erosion and nutrient runoff into a tributary of the Mill River, which empties into the St. Albans Bay. Both of these surface waters are on Vermont's 303(d) List of Impaired Waters. The addition of heavy use area protection infrastructure allows manure-contaminated barnyard runoff to be redirected to and contained within an existing concrete waste storage facility, while clean stormwater runoff from the barn roof and upland areas are diverted away from the site before they have an opportunity to come into contact with animal wastes.



*From left to right, before and after photos show clean water diversion and heavy use area protection.*

## Conservation Reserve Enhancement Program

The Conservation Reserve Enhancement Program (CREP) is a part of the Conservation Reserve Program (CRP), the country's largest private-land conservation program. CREP is a voluntary program administered by the United States Department of Agriculture (USDA) Farm Service Agency (FSA). This Program incentivizes agricultural landowners to remove high priority environmentally sensitive land from agricultural production and implement conservation practices on the parcel. Landowners are provided upfront financial incentive payments for participating in the program and are paid an annual rental rate for the 15-year contract period. Federal cost-share provides 90% of the implementation costs for CREP, while in most instances, 100% of implementation costs for forested riparian buffers may be covered with financial assistance from the US Fish and Wildlife Service Partners for Fish and Wildlife (PFW).

The State of Vermont's incentive payments provide up to \$1,905.00 per acre based on land use and cropping history and Federal incentive payments provide \$100.00 per acre upon agreement execution. In addition, FSA provides annual rental payments to agricultural landowners in Vermont of, on average, \$186.00 per acre for the duration of the contract for removing environmentally sensitive land from agricultural production.



*Photo courtesy of Katherine Kain, US Fish and Wildlife Service, Image shows a 50-foot wide CREP riparian buffer planting at Chapman Family Farms with students from nearby Farm-to-School Programs in Tunbridge, VT along the first branch of the White River.*

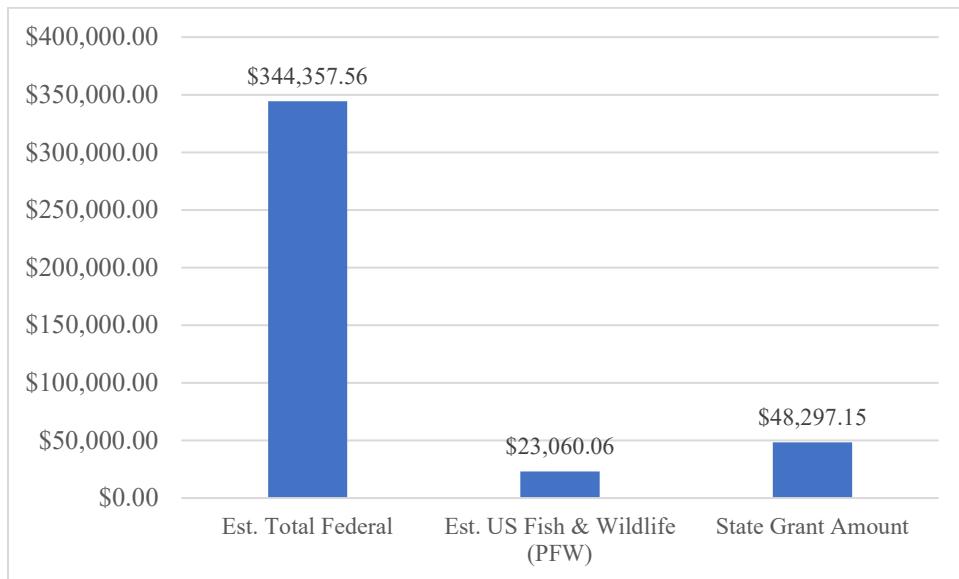
### CREP FY 2018

Through FY 2018, a total of 41.57 acres of farmland was contracted into CREP. As a part of this Program, \$48,297.15 in State funding was expended as incentive payments for implementation of 6 unique CREP contracts with agricultural landowners. Below is a summary of state, federal, and private funding for FY 2018. In support of planning, development, and implementation of CREP projects in FY 2018, Agency staff made 55 site visits to participant farms. Further information regarding this Program can be found in the Annual Performance Report to the FSA for CREP FY 2018, which summarizes expenditures for CREP through the federal FY 2018.

Estimated federal spending includes federal incentive payments, estimated annual rental payments for the life of the contract, and total cost share payments for practice implementation. Figure 8 below summarizes state, federal, and partner expenditures for the six CREP contracts executed in FY 2018.

***Every State dollar leverages \$7.13 federal dollars for planting riparian forest buffers along Vermont's waterways, and compensation to farmers for removing this environmentally sensitive land from agricultural production.***

*Figure 7. Summary of FY 2018 CREP Funding Sources*



## **CREP FY 2019**

In the State FY2019, it is anticipated there unfortunately may not be implementation of any CREP projects. This is a result of a change to the Code of Federal Regulations (CFR) for the CRP program despite landowner interest in Vermont's CREP program. A small change to the Federal Register that occurred in 2015 was recently incorporated and enacted in the USDA Farm Services Agency CRP manual. This change revised characteristics for ineligible lands as follows;

*"(d) Notwithstanding paragraphs (a), (b), and (c) of this section, land will be ineligible for enrollment if, as determined by the Deputy Administrator, the land is one of the following,*

*(4) Land for which Tribal, State, or other locals laws, ordinances, or other regulations require any resource conserving or environmental protection measures or practices and the owners or operators of such land have been notified in writing of such requirements;".*

In Vermont, CREP planning is targeted to streamside agricultural land and compensates producers for removing this land from production and converting it to Riparian Forest Buffers, Grass Filter Strips, and Grass Waterways under 15-year contracts. Vermont State agricultural water quality regulations (Required Agricultural Practices) require perennially vegetated buffers and manure application setbacks of 25 feet from top of bank on cropland; however, *these buffers can remain in agricultural production as hay*. The Vermont Farm Service Agency (FSA) has been directed that changes to CFR and CRP manual make any agricultural lands affected by the 25' vegetated buffer requirement ineligible for enrollment in CRP/CREP.

Since landowners are paid a rental payment for land enrolled in CRP/CREP as compensation for taking that land out of production, the Agency believes the *intent* of the above 2015 CFR addition was to prevent landowners from enrolling land in CRP/CREP where a law, ordinance, or regulation required them to remove that land from production and implement a practice that provided functions and values equivalent to buffers implemented via CRP/CREP.

Vermont's RAP-required 25' perennially vegetated manure setbacks on cropland *can be harvested and fertilized to maintain productivity*. Therefore, these minimally protective buffers do not provide the greatly enhanced water quality and environmental protection that CRP/CREP buffers offer, this acreage has been considered ineligible to be enrolled in

CRP/CREP. Along with Vermont, many other states with CRP/CREP have similar baseline, water quality requirements for farms and yet producers should be able to utilize CRP/CREP if they wish to implement practices that go above-and-beyond a state's bare minimum requirements.

As of December 13, 2018, the United States Congress has passed the farm bill and included language that will require a change to the Code of Federal Regulations regarding CRP/CREP land eligibility. The intent of this language included by Vermont's federal legislators is to make all land eligible for CRP/CREP even if a state has resource conserving laws in place. In order for this eligibility issue to be repaired and Vermont land eligible once again for CRP/CREP, the Vermont USDA NRCS State Technical Committee must agree that making farm land regulated under the RAPS eligible for enrollment in the CRP/CREP program is not contrary to the purpose of the program. Additionally, the CRP/CREP Program Manual needs to be revised to reflect the changes as passed in the 2018 farm bill.

### **CREP Program Trends – FY 2020 & Beyond**

The Agency anticipates the continuation of this Program for FY2020 and into the future, despite current issues regarding land eligibility for CRP/CREP. The Agency is actively working with state and federal partners to resolve this issue.

Recent changes to the RAPs will require farms of all sizes to maintain 25' of perennial vegetation adjacent to surface waters and all size farms now need a minimum of 10' of perennial vegetation along ditches in annually cropped fields. In addition, all field-borne gully erosion will have to be addressed with grassed waterways, strip and contour cropping, filter strips, or other agronomic practices. These regulatory changes require an increase in filter strips, grassed waterways and other conservation practice implementation on all farms in Vermont, which will likely generate an increased interest in CREP.

Fair, or even attractive, incentive and rental rates set by USDA does not make the CRP an attractive option in Vermont on its own. The State's "Enhancement" payments are essential tools to ensure CREP is adopted by as many producers as possible. Conservation planners who can provide outreach and explain the benefits of CREP to a producer, integrate CREP into farms, and engage in conservation planning, are key to increasing enrollment in CREP. For this reason, the Agency and program partners have secured additional funding for a CREP Position to assist with outreach for the program as well as enrollment and project planning. With increasing numbers of farms interested in participating in CREP, additional CREP staff will be necessary to aid farmers as they work towards compliance with the RAPs, as well as helping to identify and solve on-farm resource concerns.

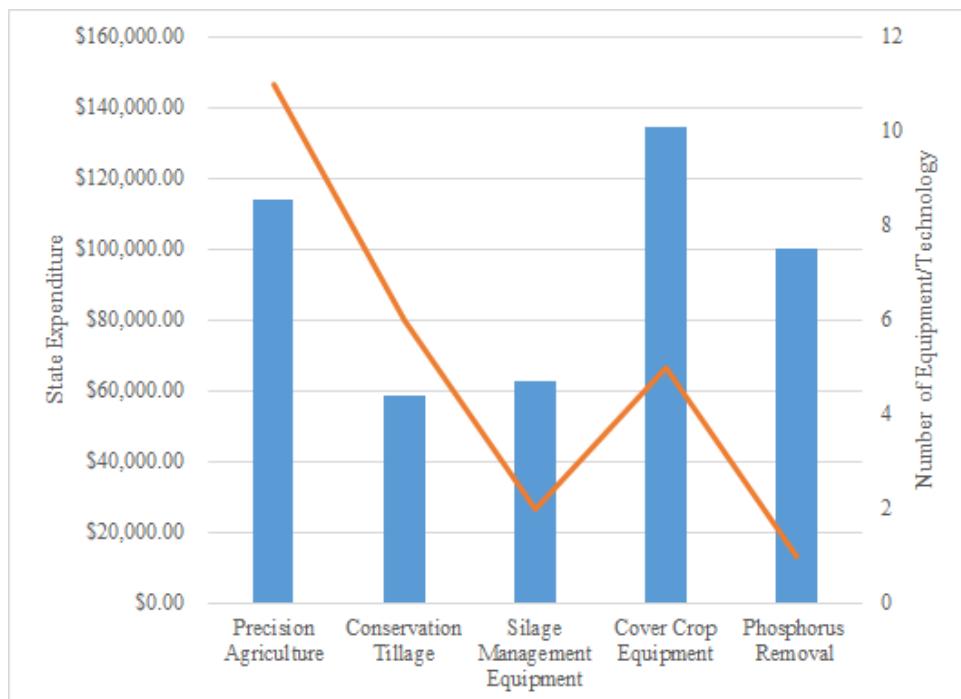
## **Capital Equipment Assistance Program**

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The Capital Equipment Assistance Program (CEAP) is voluntary program which offers financial assistance to farms, nonprofit organizations, and custom applicators in Vermont. CEAP assists in the purchase of innovative equipment or technology that will aid in the reduction of surface runoff of agricultural wastes to State waters, improve water quality of State waters, reduce odors from manure application, separate phosphorus from manure, decrease greenhouse gas emissions, and reduce costs to farmers when they apply manure.

### **CEAP FY 2018**

In FY 2018, there were 25 pieces of equipment or technology acquired through CEAP grants, providing a total of \$469,274.98 in state expenditures. Figure 7 below provides a summary of the different types of equipment acquired, as well as relative state expenditure per equipment category.

*Figure 8. FY 2018 CEAP Equipment and/or Technology*

The program offered different funding caps based on the type of equipment. See Table 2. below for the different funding rates offered in FY18. While there are many different types of field and farm equipment that can improve water quality on an agricultural operation, those that provide a more direct and higher reduction in surface runoff are provided higher funding rate. For instance, No-Till Grain Drills are used for planting of cover crops after crop harvest in the fall and sometimes earlier. This equipment drills a seed into the ground with minimal soil disturbance and doesn't require any tillage of the soil prior to planting. Cover Crops provide living cover for the soil through winter and spring, reducing erosion and runoff from fields, preserving soil and nutrients during spring floods, as well as increasing organic matter for improved soil health and water infiltration.

*Table 2. Funding caps per equipment category for FY18 CEAP Program*

| <b>Equipment Type</b>                        | <b>Examples of Eligible Equipment</b>                 | <b>Funding Rates:</b>          |
|--|---|--------------------------------|
| Phosphorus Removal Technology or Equipment   | -Physical or chemical removal methods or technologies | 90% cost-share up to \$300,000 |
| Precision Agricultural Equipment             | -Manure Application Record Keeping Units*<br>-Scales  | 90% cost-share up to \$25,000  |
| Conservation Tillage                         | -No-Till Corn Planter<br>-Ridge-Till                  | 90% cost-share up to \$10,000  |
| Cover Crop Management and Field Improvements | -No-Till Grain Drill<br>-Roller Crimper               | 90% cost-share up to \$40,000  |

|  |   |                               |
|--|---|-------------------------------|
| Manure and Silage Management Equipment<br>(manure management equipment requires purchase of Manure Application Record Keeping Unit*) | -Dragline system<br>-Injectors<br>-Irrigation<br>-Baling equipment (eligible only as an alternative leachate management, requires a referral visit from a VAAFM engineer to ensure eligibility) | 90% cost-share up to \$50,000 |
|--|---|-------------------------------|

\*Equipment listed above is only eligible for funding when purchased as a complete unit. Single items may be purchased to complete a unit with proof of a complete, operational system. Disablement of a flow meter, display, modules or GPS technology would cause this grant to be cancelled.

Flow Meters are an example of a precision agricultural mechanism used in liquid manure application, primarily for measurement, as well as increasing safety of manure application. The meter counts every gallon that passes through to provide an exact measurement of applied nutrients. Flow Meters, in conjunction with a GPS system, provide accurate records for farmers to use with Nutrient Management Plans. The meters and GPS systems can also produce precise maps detailing how the manure was applied across the field area. Monitoring of flow rates provides additional water quality safety measure because a drop-in flow rates or leaks would be immediately visible to the operator through the display screen.

This equipment and/or technology acquisition in FY18 has enabled improvement or increase of existing conservation practices as well as implementation of new conservation practices for 21 farms, two custom operators and three organizations. Annual reports for equipment acquired in FY2018 are due December 20, 2018. The Agency will report on the overall impact and use of equipment in the subsequent Annual Report on Financial and Technical Assistance.

## CEAP FY 2019

In October of 2018, CEAP funding opportunity was made available to Vermont farmers, custom operators and organizations. This funding round included different funding caps allocated to the various equipment categories dependent on water quality impact, all with a 90% cost-share opportunity. Almost two million dollars in requests for funding for a total of 60 pieces of equipment was received, see Table 3 below. Preliminary grant awards will be offered in January of 2019 for up to a total of \$1,000,000.00 in state funding to be allocated for innovative equipment acquisition and conservation practice implementation on Vermont Farms.

*Table 3. Summary of FY19 CEAP applications.*

|  | FY19 Applicants |
|--|-----------------|
| Monetary Request for Funding             | \$1,893,766.95  |
| Number of Applicants                     | 53              |
| Pieces of Equipment/Technology Requested | 60              |

Of the applications submitted, the majority (57%) were for the Cover Crop and Field Improvement Category, and are primarily No-Till Grain Drills used for planting of cover crops after the main seasonal crop has been harvested. Manure and Silage Management Equipment applications comprised 26% of applicants followed by Precision Agriculture and Conservation Tillage.

In addition to the funding round offered October to November of 2018 for equipment, the Agency will be releasing a funding opportunity for well proven and recognized Phosphorus removal and separation technologies. The 2018 Vermont Legislature allocated up to \$1.4 Million in State funds for this purpose, of which up to \$900,000 will be allocated through

this Phosphorus Removal/Separation Equipment grant funding opportunity. The remainder of funds will be allocated to the Governor's Vermont Phosphorus Innovation Challenge (VPIC).

## **CEAP FY 2020 & Beyond**

The Agency anticipates the continuation of this program at or above its current capacity into the FY 2020. The substantial response the Agency received through the most recent rounds of CEAP prescribe the demand for this program. Specifically, farmers are looking for financial assistance to aid in capital equipment acquisition. With low market prices for milk and extremely tight profit margins in the Vermont dairy industry, many other operational costs are prioritized before investments in new or innovative capital equipment.

Many operations seek assistance for the transition to no-till, a crop management method that is greatly beneficial for water quality and soil health on farms. Innovative equipment necessary for this transition includes no-till corn planter toolbars as well as no-till grain drills used to plant cover crops once the main crop has been harvested. New requirements for frequently flooded fields require all fields to be cover cropped through the winter months, additionally driving the necessity for no-till grain drills. In addition to these, many farm operators, custom applicators, and organizations are interested in innovative manure application equipment such as injection for annual crops and grassland, or dragline systems. Manure injectors place manure a few inches below the soil surface to ensure optimum crop uptake of the nutrients available while reducing the risk of runoff and volatilization. Dragline systems pump manure directly from a waste storage facility through pipelines to the manure spreader or injector as it drives through a crop field. Having a dragline system reduces the truck traffic on the road when manure can be spread right from a manure storage and it reduces compaction by not driving a heavy manure tanker in the fields, a benefit for the community, soil, water quality and the farm operation.

In addition to the aforementioned equipment, CEAP funds are also available for physical or chemical methods of phosphorus removal such as dissolved air flotation technology. The CEAP program incentivizes Vermont farmers to voluntarily invest in innovative equipment and technology upgrades that are beneficial for water quality, furthering the reduction of non-point source agricultural pollution.

## **Farm Agronomic Practice Program**

The Farm Agronomic Practices (FAP) Program is voluntary program which offers financial assistance to farms, nonprofit organizations, and custom operators in Vermont. The FAP Program incentivizes agronomic practices, improving soil quality, reducing erosion, and improving water quality. Financial assistance is also available for educational and instructional activities that increase farmer understanding of the impact of agricultural waste discharges as well as any federal or state water quality regulations and requirements.

Grant funding through the FAP program is provided on a per acre payment rate (see table below), rather than as a cost share or reimbursement opportunity. Due to this program structure, the Agency does not request information on the total cost of implementation nor the estimated cost covered by the grant recipient. The Agency does reference USDA NRCS payment rates which are developed based on regional cost and chooses to provide a less favorable rate in order to promote and leverage federal funding to improve water quality in Vermont.

*Table 4. Payment rates per practice for FY18 FAP Program*

| Agronomic Practice         | Payment Rate  |
|----------------------------|---------------|
| Cover Cropping - Broadcast | \$40 per acre |
| Cover Cropping - Drill     | \$50 per acre |
| Strip Cropping             | \$25 per acre |
| Conservation Crop Rotation | \$35 per acre |

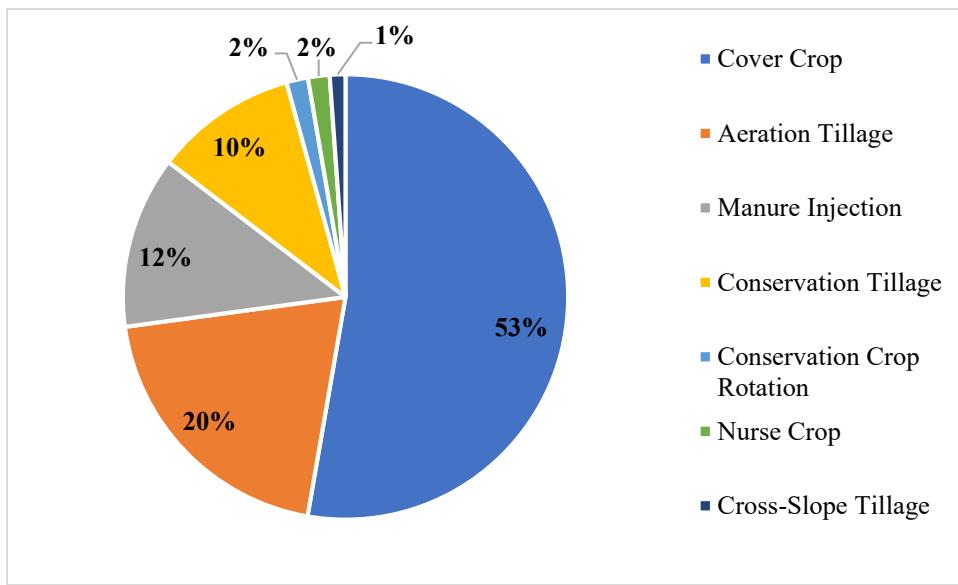
|  |               |
|--|---------------|
| Nurse Crop Cover Cropping                              | \$10 per acre |
| Cross-Slope Tillage                                    | \$10 per acre |
| Conservation Tillage (Zone Till, No Till & Mulch Till) | \$12 per acre |
| No-Till Pasture and Hay Land Renovation                | \$12 per acre |
| Aeration Tillage                                       | \$12 per acre |
| Manure Injection                                       | \$25 per acre |

## FAP FY 2018

In FY 2018, a total of \$175,551.60 of state funding supported 47 farms to implement agronomic practices, as well as five organizations to provide and/or attend educational and instructional opportunities. Figure 9 below summarize the percentage of total acreage contracted into the FAP Program per practice type in FY18. Out of the ten eligible practices available for payments under this program, the majority of implementation was Cover Crops (53%), followed by Aeration Tillage (20%), and Manure Injection (12%).

*Overall, state expenditure for the FAP program in FY18 improved 7,162 acres of agricultural land in Vermont, incentivizing implementation of agronomic practices to reduce erosion and nutrient loading to waters of the state.*

Figure 9. Summary of FY 2018 agronomic practice implementation



## FAP FY 2019

Total State expenditure for the FAP program in FY19 is \$154,646.73 as of December 1, 2018. The vast majority of these 43 grants that have received payment in FY19 have been for cover crop implementation. A total of 80 grants have been awarded under this program for fall and spring agronomic practices during FY19 and two grants have been awarded for educational and instructional grant awards.

Changes to the FY19 FAP program include a reduction in cover crop payment rates per acre in order to better support a greater number of operations with a limited program budget and to realize increased implementation as a result. In addition, the Agency and its partners have secured an additional \$164,000 in funding for the FAP program from the Lake Champlain Basin Program for implementation of agronomic practices in the Lake Champlain basin. This will augment the

program's existing \$150,000 statewide budget and enable an increase in implementation of agronomic practices across Vermont.

Additional changes to the FAP program in FY19 include the geospatial informational system (GIS) verification of all acreage claimed under this program in addition to existing field check verification of practice implementation. This will ensure more accurate data on the acreage reported for statewide phosphorus reductions, as well as provide an additional verification for payments under this program. Accurate GIS data for all practice implementation increases the opportunity to target regions of the state for improved technical assistance to transition farm management to agronomic best practices, as well as education and outreach about the benefits and financial assistance opportunities available to farms for implementation of agronomic practices. To date, more than 7,000 acres have been verified for implementation on the ground as well as geospatially through the FY19 FAP Program, compared to FY18 total acreage of 7,162 acres.

## FAP FY 2020 & Beyond

The Agency anticipates the continuation of this program at or above its current capacity into the FY 2020 forward. This program provides a modest incentive for significantly effective agronomic practices that reduce surface runoff from agricultural fields. Payment rates provided often barely cover the cost of purchasing seed for cover crops, let alone fuel, labor and machinery for implementation. The current economic climate of dairy farming is one that is dire. Unless there is financial assistance provided, agronomic practices are not a priority to keep agricultural operations running. The FAP Program provides a modest incentive payment for farmers to continue implementation of practices to reduce surface runoff and erosion in agricultural lands, improving water quality statewide.

## Grassed Waterway and Filter Strip Program

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The Grassed Waterway and Filter Strip (GWFS) Program provides technical and financial assistance to Vermont farmers for in-field agronomic best practices to address critical source areas, erosion, and surface runoff. This program provides compensation to farmers via incentive payments for participation (\$500/acre) and cost-share to cover 90% of the installation costs for establishing perennially vegetated grassed waterways, filter strips, critical source area seeding, and associated infrastructure if necessary, on agricultural cropland adjacent to surface waters and ditches (6 V.S.A. § 4900). Contrary to similar existing financial assistance programs, the benefit of this program is that all of the practices implemented under GWFS can be harvested.

### GWFS FY 2018

The GWFS program was developed and launched in FY18, yet no state expenditure on grant agreements for project implementation occurred in FY18. Administration of the Program, as well as technical assistance, has been contracted to both the Vermont Association of Conservation Districts and the Franklin and Grand Isle Farmers Watershed Alliance, while the Agency will manage implementation funds. The Program's goal is to reduce soil erosion and improve soil and water quality on cropland that contributes a disproportionately high level of nutrients in runoff. Such areas of cropland are considered "Critical Source Areas" (CSAs), representing a small proportion of the landscape yet a high proportion of nonpoint source pollution loads.

### GWFS FY 2019

In FY19, there has been one grant awarded under this program in the Lake Memphremagog watershed that enabled conversion of 21.83 acres of critical source land to be seeded and converted from annual crop land to harvestable perennial grassland with limited manure application capability. This acreage included five practices total; three filter strips directly adjacent to surface water as well as two critical source area seedings. Total state expenditure for this project was \$17,850.00.

## **GWFS FY 2020 & Beyond**

The Agency anticipates this new program will be expanded through the current fiscal year. While it is difficult to estimate landowner interest within the first year of the program, the Agency anticipates the program to evolve in its first few years of development as contractors provide outreach to the agricultural community about this new program opportunity.

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## **Pasture and Surface Water Fencing Program**

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The Pasture and Surface Water Fencing (PSWF) Program (the Program) provides technical and financial assistance to Vermont farmers to improve water quality through improved and expanded pasture management, as well as on-farm livestock exclusion from surface waters statewide. Technical assistance to farmers under this program addresses and mitigate water quality concerns on their farms. The goal of this Program is increase participant understanding of best pasture practices for water quality, identify water quality improvement projects, in addition to providing technical service to farms that cannot, or choose not to, meet the requirements of other programs that promote livestock exclusion from surface waters, such as the Conservation Reserve Enhancement Program (CREP) and the Environmental Quality Incentives Program (EQIP). Providing pasture management assistance and grazing assistance where water quality benefits can be realized from improved management is also a large component of this Program.

### **PSWF FY 2018**

The PSWF program was developed and launched in FY18, yet no state expenditure on grant agreements for project implementation occurred in FY18. Administration of the Program has been contracted to University of Vermont (UVM) Extension's Center for Sustainable Agriculture Pasture Program, while the Agency will manage practice implementation funds.

### **PSWF FY 2019**

In FY19, there have been two grants agreements signed and completed under this Program thus far. One grant agreement is located in the Poultney-Mettowee watershed, while the other grant agreement is located in the Lake Champlain Watershed., The Poultney-Mettowee grant allocated \$13,100.00 for the implementation of interior temporary fence for creation of grazing paddocks, fencer for electrifying fence, permanent exterior exclusion fence, an improved permanent watering area, pipeline for water transport, and the creation of a stream crossing. The Lake Champlain grant allocated, \$21,117.00 for the implementation of permanent exterior exclusion fence, installation of filter strips, and installation of a watering facility. Several other grants are pending execution.

### **PSWF FY 2020 & Beyond**

With many projects in the planning phase of this Program, the Agency and the UVM Center for Sustainable Agriculture's Pasture Program predict that the rate of implemented projects and grant agreements will increase dramatically in the second year of this Program. Over 30 projects are in the planning phase at this point, and outreach for this Program is scheduled to be increased to reach a wider audience that will hopefully bring additional producers into the Program.

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## **Looking Ahead**

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Moving forward, and looking ahead to FY 2020, the Agency anticipates an increase in program demand and will need to increase capacity to serve customer needs as well as improve process and efficiency as increased funding is awarded. As implementation of the revised RAPs occurs across Vermont, farms previously not required to have scheduled farm water quality inspections are actively working toward RAP compliance. In many instances this requires conservation practice

implementation and/or management changes for the farm operation. While some resource concern remediation may be required through regulatory inspections or enforcement, some BMPs such as riparian forested buffers are voluntary. There are farms that are waiting for an inspection to trigger their engagement in a conservation practice due to their financial challenges of implementing these necessary projects. In the current climate of low milk prices and threatened livelihoods for Vermont dairy farmers, funding for education and outreach is essential in helping farmers identify pathways to implement the necessary practices and to support voluntary conservation on private agricultural land.

Currently, the Agency supports financial and technical assistance for implementation of conservation practices through the programs described in this report: BMP Program, CREP, and CEAP, as well the Farm Agronomic Practices (FAP) Program. Outside of these programs, the main funding available to farmers to help offset conservation practice implementation cost is the federally funded Environmental Quality Incentives Program (EQIP), which requires a 'whole farm approach', or requires farmers to address all potential resource concerns at once, an often-challenging financial burden for Vermont farms facing economic uncertainty.

The BMP Program, CREP, and CEAP provide opportunities to significantly offset costs for Vermont farmers and agricultural landowners to implement conservation practices and best management practices that improve water quality on farms in the State of Vermont as directed by state policy for agricultural water quality management as codified at 6 V.S.A. § 4801(1).

**For more information on the Agency of Agriculture, Food & Markets Water Quality Division grant opportunities, regulations, or educational opportunities visit [Agriculture.Vermont.gov](http://Agriculture.Vermont.gov), or call 802-828-2431.**

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*Attachment 1. List of All BMP Applicants from FY 2018 to Date*

| Size        | County     | Practice  | Date App'led |
|-------------|------------|---|--------------|
| CSFO        | Franklin   | Manure/waste storage/Waster transfer system/Access road/Barnyard or heavy use/Clean water diversion/Laneway development     | 12/11/2017   |
| CSFO        | Washington | Manure/waste storage/Waste/wash water treatment/  | 9/18/2017    |
| CSFO        | Franklin   | Laneway development/stream crossing   | 12/7/2017    |
| SFO         | Windsor    | Manure/waste storage  | 10/23/2017   |
| SFO         | Windsor    | Manure/ waste storage facility  | 12/6/2017    |
| LFO         | Addison    | Silage or feed leachate   | 10/30/2017   |
| MFO         | Windsor    | Manure/waste storage/Barnyard or heavy use/Clean water diversion  | 11/28/2017   |
| SFO         | Orleans    | waste storage/wash water storage/barnyard runoff/clean water diversion  | 7/19/2017    |
| MFO         | Addison    | Manure/waste storage/Access road/Barnyard or heavy use  | 11/22/2017   |
| MFO         | Addison    | Waste/wash water storage & treatment  | 11/22/2017   |
| LFO         | Franklin   | Silage or feed leachate treatment/curtain drain around bunk   | 8/28/2017    |
| CSFO        | Orleans    | Manure/waste storage/Access rd/Barnyard or heavy use/Clean water diversion/Laneway development/Exclusion                    | 1/2/2018     |
| SFO         | Orleans    | Waste/wash water storage  | 9/18/2017    |
| CSFO        | Franklin   | Manure/waste storage/Waste/wash water treatment/Access road/Barnyard or heavy use/Clean water diversion/Laneway development | 12/14/2017   |
| CSFO        | Addison    | Silage or feed leachate treatment   | 9/7/2017     |
| MFO         | Franklin   | Manure/waste storage/waste strasfer system/silage leachate/access road for stacking/barnyard HOA runoff                     | 7/13/2017    |
| CSFO        | Orleans    | Manure/wast storage/Laneway development   | 1/2/2018     |
| SFO         | Addison    | Clean water diversion   | 9/18/2017    |
| CSFO        | Orleans    | Sileage collection/Laneway development  | 12/28/2017   |
| SFO         | Washington | Manure/waste storage/Waste/wash water treatment   | 12/19/2017   |
| CSFO        | Orleans    | Manure/waste storage/Waste/waste water treatment/Access road/Barnyard or heavy use/Clean water diversion/Exclusion          | 9/18/2017    |
| CSFO        | Rutland    | Laneway development/stream crossing   | 12/21/2017   |
| CSFO        | Addison    | clean water diversion   | 9/7/2017     |
| CSFO        | Orange     | Manure/waste storage/Access road/Barnyard or heavy use  | 12/4/2017    |
| MFO         | Addison    | Manure/waste storage  | 10/30/2017   |
| SFO         | Caledonia  | Manure/waste storage/Barnyard or heavy use area runoff control/Clean water diversion/Exclusion                              | 10/12/2017   |
| CSFO        | Franklin   | Clean water diversion   | 11/1/2017    |
| CSFO        | Orleans    | barnyard runoff/laneway development   | 7/20/2017    |
| CSFO        | Orleans    | Waste/wash water treatment/Barnyard or heavy use/Laneway devlpment  | 9/18/2017    |
| LFO         | Orleans    | Manure/waste storage/Clean water diverson   | 11/13/2017   |
| Non-RAP/SFO | Windsor    | Barnyard or heavy use runoff/Access road/Laneway Development  | 8/7/2017     |
| LFO         | Orange     | barnyard runoff control/clean water diversion   | 7/18/2017    |
| MFO         | Franklin   | Manure/waste storage/wate transfer system   | 11/13/2017   |
| SFO         | Addison    | Manure/waste storage  | 2/26/2018    |
|             | Rutland    | Silage or feed leachate Barnyard or heavy use area Clean water diversion Covered barnyard                                   | 3/9/2018     |
| CSFO        | Franklin   | Waste transfer Silage or feed leachate Access rd Laneway  | 3/2/2018     |
| CSFO        | Rutland    | Manure/waste storage Clean water diversion  | 3/2/2018     |
| MFO         | Essex      | Barnyard or heavy use   | 3/2/2018     |
| SFO         | Caledonia  | Barnyard or heavy use Exclusion fencing   | 3/2/2018     |
| CSFO        | Orange     | Manure/waste storage Barnyard or heavy use Clean water diversion  | 3/1/2018     |

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| SIZE | COUNTY     | PRACTICE   | DATE APPROVED |
|------|------------|--|---------------|
| LFO  | Franklin   | feed leachate storage and irrigation   | 3/1/2018      |
| MFO  | Addison    | Animal mortality access  | 2/28/2018     |
| CSFO | Caledonia  | Barnyard or heavy use Clean water diversion  | 2/26/2018     |
| SFO  | Washington | Waste/wash water storage Waste/wash water treatment  | 3/13/2018     |
| CSFO | Franklin   | Silage or feed leachate Access Rd Clean water diversion  | 2/23/2018     |
| CSFO | Addison    | Manure/waste storage Silage or feed leachate Barnyard or heavy use Clean water diversion   | 2/22/2018     |
| SFO  | Washington | Pan washing system for maple syrup evaporator  | 2/23/2018     |
| CSFO | Franklin   | Access Rd Laneway development  | 2/20/2018     |
| SFO  | Rutland    | Manure/waste storage Barnyard or heavy use   | 2/20/2018     |
| SFO  | Bennington | Waste/wash water treatment   | 2/14/2018     |
| CSFO | Orleans    | Manure/waste storage   | 2/27/2018     |
| LFO  | Orleans    | Manure/waste storage Waste transfer system   | 3/23/2018     |
| CSFO | Caledonia  | Manure/waste storage Access rd Barnyard or heavy use area Clean water diversion Exclusion  | 4/1/2018      |
| CSFO | Franklin   | Silage or feed leachate Access Rd Barnyard or heavy use  | 4/1/2018      |
| MFO  | Essex      | Improved calf Hutch Area   | 3/30/2018     |
| SFO  | Bennington | Manure/waste storage Silage or feed leachate Barnyard or heavy use area Unsure   | 3/30/2018     |
| CSFO | Orleans    | Manure/waste storage Access road Barnyard or heavy use area Clean water diversion Exclusion  | 3/29/2018     |
| CSFO | Orange     | Manure/waste storage Silage or feed leachate Access road Barnyard or heavy use area Clean water diversion                                  | 3/29/2018     |
| CSFO | Orleans    | Barnyard or heavy use area Laneway development Exclusion   | 3/22/2018     |
| CSFO | Franklin   | Barnyard   | 3/28/2018     |
| CSFO | Franklin   | Barnyard or heavy use Clean water diversion Laneway  | 3/27/2018     |
| CSFO | Orleans    | Equip assistance through DEC-RCPP  | 3/12/2018     |
| MFO  | Addison    | Manure/waste storage Waster transfer Access rd Clean water diversion   | 3/26/2018     |
| CSFO | Franklin   | Manure/water storage Access rd Barnyard or heavy use Exclusion fencing   | 3/13/2018     |
| CSFO | Orleans    | Manure/waste storage Waste transfer Waste/wash water storage Access Rd Barnyard or heavy use Clean water diversion Exclusion               | 3/22/2018     |
| LFO  | Orange     | Manure/waste storage Waste transfer  | 3/22/2018     |
| CSFO | Rutland    | Manure/waste storage/compost storage   | 3/20/2018     |
| SFO  | Orange     | Manure/waste storage Barnyard or heavy use   | 3/20/2018     |
| SFO  | Franklin   | Decommission pit   | 3/19/2018     |
| MFO  | Addison    | Manure/waster storage Access rd  | 3/19/2018     |
| CSFO | Orange     |  | 3/16/2018     |
| CSFO | Caledonia  | Manure/waste storage Composting facility   | 3/15/2018     |
| CSFO | Franklin   | Waste/wash water treatment Clean water diversion   | 2/6/2018      |
| SFO  | Addison    | Manure/waste storage Barnyard or heavy use area  | 3/26/2018     |
| SFO  | Rutland    | Compost stack pad  | 2/12/2018     |
| MFO  | Bennington | Manure/waste storage/Covered barnyard  | 9/7/2017      |
| MFO  | Addison    | Farm access rd & culvert or bridge   | 10/12/2017    |
| CSFO | Addison    | Waste transfer system/Access road/Clean water diversion  | 12/21/2017    |
| CSFO | Essex      | Slab to stack solid manure/Access rd/Barnyard or heavy use runoff/Clean water diversion/Laneway development                                | 1/2/2018      |
| CSFO | Addison    | Manure/waste storage/waste transfer/waste/wash water/leachate treatment,access rd/clean water diversion                                    | 8/8/2017      |
| CSFO | Franklin   | Silage or feed leachate treatment  | 1/25/2018     |
| CSFO | Franklin   | Manure/waste storage Waste transfer Barnyard or heavy use  | 4/1/2018      |
| CSFO | Franklin   | Manure/waste storage/Waste/wash water treatment/Barnyard or heavy use runoff/laneway development   | 8/7/2017      |
| SFO  | Orange     | Barnyard or heavy use  | 2/5/2018      |
| CSFO | Franklin   | Barnyard or heavy use Clean water diversion  | 2/1/2018      |
| SFO  | Chittenden | Waste/wash water treatment   | 2/1/2018      |
| CSFO | Orleans    | Silage or feed leachate treatment  | 1/31/2018     |
| CSFO | Franklin   | Manure/waste storage Waste transfer system Waste/wash water storage Waste/wash water treatment Barnyard or heavy use Clean water diversion | 1/31/2018     |
| SFO  | Rutland    | Manure/waste storage Barnyard or heavy use area  | 1/31/2018     |
| CSFO | Chittenden | Barnyard or heavy use Clean water diversion Exclusion  | 1/31/2018     |
| MFO  | Essex      | Manure/waste storage/barnyard or heavy use/clean water diversion   | 9/21/2017     |
| CSFO | Franklin   | Manure/waste storage Access road Barnyard or heavy use runoff Clean water diversion Laneway development/stream crossing                    | 1/25/2018     |
| MFO  | Grand Isle | Manure/waste storage Waste transer system  | 2/8/2018      |
| SFO  | Addison    | Manure/waste storage/barnyard or heavy use/clean water diverson/laneway development/exclusion  | 9/18/2017     |
| CSFO | Washington | Waste/wash water treatment   | 4/1/2018      |
| CSFO | Orleans    |  | 4/1/2018      |
| MFO  | Essex      | Manure/waste storage   | 4/27/2018     |
| LFO  | Franklin   | Silage or feed leachate  | 2/25/2018     |
| SFO  | Franklin   | Manure/waste storage/Clean water diversion   | 6/27/2018     |

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| Size    | County     | Practice                           | Date App'l R |
|---------|------------|------------------------------------|--------------|
| SFO     | Addison    | Waste/wash water storage           | 4/12/2018    |
| CSFO    | Franklin   | Manure/waste storage               | 4/19/2018    |
| LFO     | Franklin   | Silage or feed leachate            | 2/25/2018    |
| CSFO    | Franklin   | Waste/wash water storage           | 4/27/2018    |
| CSFO    | Franklin   | Clean water diversion              | 4/27/2018    |
| SFO     | Addison    | Wood Chip heavy use area           | 5/2/2018     |
| CSFO    | Orleans    | Manure/waste storage               | 5/3/2018     |
| LFO     | Washington | Manure/waste storage               | 5/3/2018     |
| CSFO    | Orange     | Silage or feed leachate treatment  | 5/4/2018     |
| CSFO    | Orange     | Manure/waste storage               | 5/4/2018     |
| SFO     | Orleans    | Manure/waste storage               | 5/4/2018     |
| SFO     | Washington | ?                                  | 5/10/2018    |
| CSFO    | Caledonia  | Water transfer system              | 5/11/2018    |
| Non-RAP | Addison    | Exclusion fencing                  | 5/16/2018    |
| CSFO    | Franklin   | Manure/waste storage/stack pad     | 5/17/2018    |
| CSFO    | Franklin   | Clean water diversion              | 5/17/2018    |
| SFO     | Franklin   | Manure/waste storage               | 5/17/2018    |
| MFO     | Franklin   | ?                                  | 5/21/2018    |
| CSFO    | Windsor    | Manure/waste storage               | 5/24/2018    |
| CSFO    | Franklin   | Waste/wash water storage           | 5/25/2018    |
| SFO     | Bennington | Slaughter waste/wash water storage | 5/29/2018    |
| SFO     | Franklin   | Barnyard or heavy use              | 6/13/2018    |
| CSFO    | Franklin   | Clean water diversion              | 6/22/2018    |
| CSFO    | Rutland    | Manure/waste storage               | 6/29/2018    |
| CSFO    | Orleans    | Manure/waste storage               | 7/9/2018     |
| CSFO    | Orleans    | Manure/waste storage               | 7/9/2018     |
| CSFO    | Caledonia  | Silage or feed leachate treatment  | 7/9/2018     |
| CSFO    | Franklin   | Unspecified                        | 7/12/2018    |
| CSFO    | Orleans    | Waste transfer system              | 7/16/2018    |
| MFO     | Franklin   | Waste/wash water treatment         | 7/16/2018    |
| MFO     | Orleans    | Manure/waste storage               | 7/19/2018    |
| CSFO    | Orange     | Manure/waste storage               | 7/19/2018    |
| SFO     | Franklin   | Manure/waste storage               | 7/26/2018    |
| CSFO    | Caledonia  | Waste transfer system              | 8/6/2018     |
| SFO     | Windsor    | Manure/waste storage               | 8/9/2018     |
| CSFO    | Caledonia  | Waste/wash water storage           | 8/22/2018    |
| CSFO    | Rutland    | Exclusion fencing                  | 8/29/2018    |
| LFO     | Orleans    | Manure/waste storage               | 8/31/2018    |
| SFO     | Chittenden | Laneway development                | 9/7/2018     |
| SFO     | Chittenden | Manure/waste storage               | 9/7/2018     |
| Non-RAP | Addison    | Woodchip pad                       | 9/18/2018    |
| SFO     | Washington | Manure/waste storage               | 10/1/2018    |
| CSFO    | Rutland    | Waste transfer system              | 10/11/2018   |
| CSFO    | Orleans    | Manure/waste storage               | 10/18/2018   |
| CSFO    | Addison    | Manure/waste storage               | 10/24/2018   |
| CSFO    | Orleans    | Manure/waste storage               | 10/29/2018   |
| CSFO    | Rutland    | Manure/waste storage               | 10/30/2018   |
| CSFO    | Franklin   | Barnyard or heavy use area         | 11/1/2018    |

*Attachment 2. BMP Applicant Prioritization Matrix*

BMP Prioritization Matrix  
Vermont Agency of Agriculture

Last name, First name - Farm name

Engineer:  
Date:

|  |  |  |   |                         |               | Points |
|--|--|--|---|-------------------------|---------------|--------|
| 1)   | In which watershed is this farm located?   | Champlain<br>25  | Memphremagog<br>20  | Connecticut<br>15       | Hudson<br>10  |        |
| 2)   | Is the water quality concern due to physical site constraints?   |  |   | Yes<br>20               | No<br>0       |        |
| 3)   | Is the project in a priority watershed?<br><br>HUC12 (+5): Pike River, Rock River,<br>McKenzie Brook, East Creek,<br>Hubbardton River, Mettowee River,<br>Indian River | Basins (+5): Missisquoi Bay,<br>St. Albans Bay, South Lake A,<br>South Lake B  | 5-10  | 0                       |               |        |
| 4)   | How severe is the water quality concern that the applicant is proposing to mitigate?   | Low Severity<br><br>High Severity       | No WQ concern<br>Low loading concern<br>Low potential for discharge<br>High loading concern<br>High potential for discharge | Low<br>Moderate<br>High | 0<br>10<br>20 |        |
| 5)   | Does this farm have adequate waste storage?  |  |   | Yes<br>0                | No<br>10      |        |
| 6)   | Is this farm under VAAFM or ANR investigation or enforcement?  |  |   | Yes<br>15               | No<br>0       |        |
| 7)   | Have the resource concerns been documented in an inspection?   |  |   | Yes<br>10               | No<br>0       |        |
| 8)   | Does the farm have a business or viability plan?   |  |   | Yes<br>10               | No<br>0       |        |
| 9)   | Does the proposed project present innovative opportunities?  |  |   | Yes<br>10               | No<br>0       |        |
| 10)  | Has the farm received a BMP grant of similar size and scope?   |  |   | Yes<br>0                | No<br>10      |        |
| 11)  | Is the project receiving technical assistance from additional source(s)?   |  |   | Yes<br>15               | No<br>0       |        |
| 12)  | Is the project receiving funding from additional source(s)?  |  |   | Yes<br>15               | No<br>0       |        |
| 13)  | Is the applicant willing and able to construct?  |  |   | Yes<br>15               | No<br>0       |        |
| 14)  | Rate the project based on the complexity of construction?  | Low Complexity<br><br>High Complexity | Gutters and swales<br>Cast in place slabs<br>Infiltration / treatment areas<br>Geomembrane lining<br>Pour in Place Concrete | Low<br>Moderate<br>High | 15<br>10<br>5 |        |
| <b>Total</b>   |  |  |   | Possible                | 200           | 0      |
| Is the application fast-track <sup>1</sup> eligible? |  |  |   | Yes                     | No            |        |