

**MULTI-PARTNER AGRICULTURAL CONSERVATION PRACTICE TRACKING AND  
PLANNING GEOSPATIAL DATABASE**

**QUALITY ASSURANCE PROJECT PLAN**

Prepared by the Vermont Agency of Agriculture, Food and Markets

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## SECTION 1. QAPP OVERVIEW

The Quality Assurance Project Plan (QAPP) for the Multi-Partner Agricultural Conservation Practice Tracking and Planning Geospatial Database (Partner Database) details the following:

1. Major partner organizations involved in the impetus of this project and data entry;
2. Requirements for Partner Database users;
3. Methodology for conservation planning professionals in the State of Vermont to survey, verify and report conservation practices into the Partner Database;
4. Oversight of this data collection and reporting by the Vermont Agency of Agriculture, Food and Markets (VAAFAM);
5. Validation and submittal of this data to the Vermont Department of Environmental Conservation (DEC) for tracking non-point source nutrient load reductions for the agricultural sector in Vermont.

The goal of this QAPP is to ensure accurate data entry as well as usability of this data for tracking Total Maximum Daily Load (TMDL) reductions for the agricultural sector in Vermont. A TMDL estimates the waste load allocation that an impaired waterbody or surface water can receive and still meet Vermont water quality standards, as required by section 303(d) of the Federal Clean Water Act.

## SECTION 2. PROJECT MEMBERS AND ROLES

Project members, or partners, include organizations and institutions actively involved in agricultural conservation planning on farms in Vermont. Partner Database users include agricultural service providers who provide technical assistance to Vermont farms and are limited to staff who do not have a regulatory or enforcement role in their position.

Table 1. Key Partners and Their Organizational Roles

Name	Organizational Role	Partner Database Role
United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS)	NRCS provides technical and financial assistance to farmers and other private landowners to improve natural resources on their land. Assistance is provided using a voluntary approach and a variety of conservation programs.	Will use database to improve service delivery to farmers.
Vermont Association of Conservation Districts (VACD)	VACD is the membership association of Vermont's 14 Natural Resources Conservation Districts. VACD provides services to its members, facilitates state-wide dialogue among districts and technical partners, sponsors the	Report practices implemented as a result of technical assistance provided and use database to improve service delivery to farmers.

	Envirothon, and implements technical and financial assistance programs aimed at improving water quality with financial support from state, federal and private partners.	Farm visit and implementation reporting for VAAFMM funded grants and contracts will occur in the Partner Database.
United States Fish and Wildlife Service (USFWS)	The USFWS provides technical and financial assistance to private landowners to restore and improve habitat for important fish and wildlife species. The USFWS provides technical support to other resource conservation agencies and organizations.	Will use database to improve service delivery to farmers.
USDA Farm Service Agency (FSA)	FSA provides financial assistance to support farmers and ranchers through a variety of commodity, conservation, and disaster assistance programs, as well as, loans to producers through direct assistance or guaranteed through other providers.	Will use database to improve service delivery to farmers.
University of Vermont Extension (UVM)	UVM Extension integrates higher education, research and outreach to help Vermonters put knowledge to work in their families and homes, farms and businesses, towns and the natural environment. Faculty and staff, located in offices around the state, help improve the quality of life of Vermonters through research-based educational programs and practical information.	Report practices implemented as a result of technical assistance provided and use database to improve service delivery to farmers.  Farm visit and implementation reporting for VAAFMM funded grants and contracts will occur in the Partner Database.
The Lake Champlain Basin Program (LCBP)	LCBP works in partnership with government agencies from New York, Vermont, and Quebec, private organizations, local communities, and individuals to coordinate and fund efforts which benefit the Lake Champlain Basin's water quality, fisheries, wetlands, wildlife, recreation, and cultural resources.	Report practices implemented through funding programs and use database to improve service delivery to farmers.

Vermont Housing and Conservation Board (VHCB)	The VHCB supports and encourages the creation of affordable housing for Vermonters, in addition to conserving and protecting Vermont's agricultural lands, forestlands, historic properties, important natural areas, and recreational lands that are of primary importance to the economic vitality and quality of life of the State.	Report practices implemented through funding programs and use database to improve service delivery to farmers.
Vermont Land Trust (VLT)	The VLT conserves land with a legal tool called a conservation easement that permanently restricts development and protects natural features.	Will use database to improve service delivery to farmers.

Table 2. State Agencies and Their Organizational Roles

Name	Organizational Role	Partner Database Role
Vermont Agency of Agriculture, Food and Markets (VAAFM)	VAAFM's mission is to facilitate, support and encourage the growth and viability of agriculture while protecting the working landscape, human, animal and plant health, consumers and the environment. The Water Quality Division implements Vermont's agricultural water quality program, which enforces rules for the non-point source pollution control program, the Required Agricultural Practices, as well as medium and large farm operational permits. VAAFM also provides technical and financial assistance to agricultural operations to improve water quality on their lands.	Will train partners on use of the database, ensure the QAPP is met, and promote partner use of the database through grant agreement requirements. VAAFM will serve as clearinghouse for agricultural conservation practice data streams and compile and submit data to DEC to quantify pollution reductions.  Will report practices implemented as a result of VAAFM grant programs including the Farm Agronomic Practices (FAP) Program, Best Management Practices (BMP) Program, Conservation Reserve Enhancement Program (CREP), and the Capital Equipment Assistance Program (CEAP).

VT Department of Environmental Conservation (VT DEC)	The VANR-DEC Watershed Management Division's primary mission is to protect, maintain, enhance and restore the quality of Vermont's surface water resources. The Clean Water Initiative Program (CWIP) coordinates tracking, accounting, and reporting of clean water efforts for federal and state partners.	Will calculate nutrient load reductions based on conservation practice data exported from the Partner Database and provide TMDL reports to the EPA using VT DEC's BMP Accounting and Tracking Tool (BATT).
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### SECTION 3. PROJECT BACKGROUND AND DESCRIPTION

The Multi-Partner Agricultural Conservation Practice Tracking and Planning Geospatial Database (Partner Database) will improve planning and tracking of agricultural best management practice (BMP) implementation across the State of Vermont. The Vermont Agency of Agriculture, Food and Markets (VAAFAM), along with partners both within and outside of state government will access the database. The Partner Database will be accessed by VAAFAM and authorized partners via an online interface. In addition to enabling agricultural water quality partners to plan and track BMP implementation, the database will also allow for common BMP implementation reporting among the partners. These partners are listed above in Section 2.

The purpose of this QAPP is to enable the State of Vermont and partners to plan, survey, and track field and farmstead conservation practices implemented for mitigation of nutrient pollution to waters of the State. Many farmers in Vermont have undertaken efforts to reduce agricultural pollutants, and it is essential that the State account for conservation practices geospatially in the Partner Database to best estimate reductions in nutrient loading from agricultural operations.

Conservation practice data exports from the Partner Database will then be entered into the VT DEC's Clean Water Reporting Framework and nutrient pollution reductions will be estimated using the BMP Accounting and Tracking Tool (BATT). Estimated nutrient pollution reductions will be used to report Total Maximum Daily Load (TMDL) implementation progress.

While VAAF, NRCS, and VHC offer programs and cost sharing opportunities for farmers to make improvements to help mitigate nutrient loading, many farmers implement water quality improvement practices without State or Federal financial assistance. This Partner Database will ensure that conservation practices are reported geospatially, in the same manner and with the same merit regardless of state or federal financial assistance. The intended purpose of the data entered into the Partner Database is to meet the goals of the Partner Database, which are as follows:

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1. To improve coordination between conservation planning partners;
  2. To track conservation practices implemented on farms that will contribute to reductions in nutrient loading from the agricultural sector regardless of funding source;
  3. To reach the most comprehensive representation of nutrient load reductions to waters of the state from agriculture for TMDL tracking and reporting;
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Please note that intended purpose of Partner Database excludes any regulatory processes or components.

#### **SECTION 4. KNOWLEDGE, SKILLS AND ABILITIES OF PARTNER DATABASE USERS**

All Partner Database users must obtain the following knowledge, skills and abilities for use of this database:

- A. Must be knowledgeable of conservation practices and agricultural BMPs implemented on Vermont farms.
- B. Must understand the QAPP for data reported in the Partner Database.
- C. Ability to read and interpret practice standards including NRCS practice standards as well as the Partner Database Practices and Baseline Standards for Reporting (Appendix A).
- D. Ability to verify conservation practice implementation in the field or farmstead.
- E. Ability to establish and maintain effective working relationships and clear communications with landowners and farm operators about the use of these data to track agricultural pollutant reductions statewide.
- F. Ability to recognize and address any landowner concerns related to the database.
- G. Ability to search for farm operations, enter practices, generate reports, and use the necessary functions of the Partner Database.
- H. Ability to use farm visit notes to coordinate with other conservation planners and improve conservation service delivery to farmers.

## SECTION 5. CONSERVATION PRACTICE DOCUMENTATION AND REPORTING

While the Partner Database User Manual (available online [https://vtpartners.stone-env.net/resources/AgBMP\\_UserManual\\_v2.pdf](https://vtpartners.stone-env.net/resources/AgBMP_UserManual_v2.pdf)) is a comprehensive guide for use of the Partner Database, the following project documentation details the *intended use* for each of the attributes associated with a practice. The goal is to ensure a clear understanding by users of practice information.

- A. All users shall follow the Partner Database User Manual ([https://vtpartners.stone-env.net/resources/AgBMP\\_UserManual\\_v2.pdf](https://vtpartners.stone-env.net/resources/AgBMP_UserManual_v2.pdf)) for entering practices into the Partner Database. All fields must be associated with a specific farm operation, and all practices entered into the partner database must be associated with a specific field. See Appendix E. Partner Database User Instructions for user friendly instructions.
- B. Partner Database Users will report practice implementation data into the Partner Database identifying the specific practice and characterizing practice descriptions below:
  - I. **Practice:** This is the name of the conservation practice implemented and will be selected via a dropdown menu list. If the specific practice you are looking to enter is not available on the list, you can contact the database administrator. The practice could be added, or it may not be appropriate to track as a “practice” and alternatively could be tracked under the notes section of a farm visit.
  - II. **Status:** This dropdown list lets you select the status of the practice, from first having the farmer’s interest, to incorporating it into a plan, to implementation and finally expiration. Select from “interested”, “planned”, “installed”, or “expired.”
    - i. **The practice’s status will need to be updated as it changes.**
    - ii. If you enter a practice as planned, you are responsible to update that status once the practice has been installed, as another conservation planner will not likely change that practice status without prior knowledge of the planning and implementation phase for that specific project/practice.
  - III. **Field Verified:** This is a checkbox to specify whether the practice reported was field verified (defined in section seven below) or reported as a result of other documentation.
  - IV. **Meets NRCS Standards:** This is a checkbox that specifies if the practice implemented meets the NRCS standard for the practice. If “no”, explain why in the “notes” attribute.
  - V. **Required Ag Practice:** If the practice being planned or installed is necessary for the farmer to meet the Required Agricultural Practices, choose “yes”, if not, choose “no”. (For example, planting cover crops in a frequently flooded field would be a Required Ag Practice. If a farmer chooses to cover crop another field where cover crop is not necessary to meet the tolerable soil loss for the field, the user should not check the Required Ag Practice box.
  - VI. **Notes:** This is where you can add any notes relevant to the practice being planned or implemented (optional). If there are multiple components of a grant agreement, you can use the notes sections to detail which component you are entering, as each practice is entered individually despite potentially being funded under the same agreement.



- VII. **Funding Program:** Select the appropriate funding program from the dropdown list provided.
- i. If the practice was not funded by any organization and solely at the farmer's expense, please choose "Farmer".
  - ii. If the specific funding program you are looking to enter is not available on the list, you can select "Other" and provide more details in the Notes section or you can contact the database administrator (see Appendix E. for contact information) to request that program be added to the Program list.
  - iii. This field should **never** be left blank if a practice is documented as installed. If an installed practice is listed without a funding program, then that data will not be eligible for nutrient reduction credit.
- VIII. **Application Date:** Enter the date that an application was submitted for the funding program specified. Leave "null" until application is submitted. If you are unsure of the application date, you can leave this field "null".
- IX. **Approval Date:** Enter the date that the grant was approved by the specified funding program. Leave "null" until the application is approved.
- i. For VAAFMM funded grant programs, VAAFMM staff will be responsible for entering approval date once funding is *officially* offered for a project/practice.
  - ii. If you are unsure of the approval date, you should leave this field "null".
- X. **Install Date:** Input the date that the practice was installed. Only enter this once the practice has been completely installed. If the practice is still in the planning phase, this field must be left blank.
- XI. **Grant Status:** This is to specify the status of the farmer's grant application to a state or federal funding program.
- i. For practices that are planned and seeking a funding source, put the status of the grant process here.
  - ii. You may select "applied" once the grant application has been submitted, and "pending" once you've gotten confirmation that the application has been received. You may also choose to fill this out after the grant has been approved.
  - iii. Update this after the grant funding is approved.
  - iv. For practices implemented that are funded through a partner organization's private implementation funds, or funded by a farmer themselves, and there is no additional state or federal funding program to pay for implementation, leave this field "null".
- XII. **Grant ID:** Enter the grant ID associated with the funding program specified. This can be obtained from VAAFMM or NRCS once a grant is created for a practice or suite of practices. Leave "null" or blank until assigned.
- i. VAAFMM funded programs will contain a seven- or eight-digit Grant ID number. For many programs this will be the funding year, as well as three identification numbers for the grant (For instance Grant 02200-ARM-FAP-2018-023 would be

labeled 2018023). For other programs, the numbers will be the last seven or eight unique digits.

- ii. NRCS Contract numbers will contain the program year followed by the contract number.

XIII. **Draw Shape or Use Associated Field Shape:** The associated field shape will be selected and/or developed with polygon, line, or point features geospatially locating the practice implemented.

- C. Automatic Practice Lifespan End Date Generation: Users do not need to input the practice lifespan end date as the Partner Database will automatically generate the practice lifespan end date based on determined lifespans from USDA NRCS practice standards detailed in Appendix A. Partner Database Practices and Baseline Standards for Reporting.

## SECTION 6. FIELD PRACTICE VERIFICATION, SITUATIONS FOR REPORTING AND OVERSIGHT

Field assessment and verification of conservation practices are required to ensure that practices reported into the Partner Database with the status of “installed” were in fact implemented on the fields selected and to the extent reported in the Partner Database.

- A. All conservation practices reported into the Partner Database must meet the appropriate baseline standards as indicated in Appendix A. Partner Database Practices and Baseline Standards for Reporting. Unless NRCS standards are indicated as the baseline standard, all conservation practices reported into the Partner Database can meet either the qualifying conditions (see Appendix A) or NRCS Practice Standards.
- B. All Partner Database Users must directly field verify non-State or Federally funded conservation practices entered into the Partner Database in order for reductions to be calculated from that practice implementation. If a practice was not directly field verified, there is an attribute option for this in the Partner Database, but practices that are not field verified will not be exported for estimating and reporting nutrient reductions. Partners can use this feature as a tool to track which practices still need to be field verified.
- C. The following situations are acceptable to report a practice as field verified;
  - I. Practices implemented through VAAFPM or NRCS cost-share program; OR
  - II. In field visual documentation of the practice implemented during visits such as a farm or field assessment, field consultation, technical assistance consultation, field research; OR
  - III. Conservation Equipment Rental Programs where field verification of practice implementation occurs; OR
  - IV. Other conservation practice funding programs where field verification of practice implementation occurs.

- D. In order for a practice that has occurred more than 3 months in the past to be reported into the Partner Database, the practice must meet at least one of the following criteria;
  - I. The conservation practice was field verified by the user; OR
  - II. Conservation practice implementation was tracked by partner organizations as part of other programs and initiatives prior to launch of the Partner Database on May 1, 2019, no earlier than January 1, 2016, OR
  - III. Historical data was compiled by state or federal cost share programs since 2016 and these programs continually maintained procedures for field verification of these practices at the time of data generation.
- E. Oversight of practice verification will be managed by VAAFAM staff on an annual basis. VAAFAM staff will complete site visits in coordination with partners to gather insight on potential field assessment and practice verification issues, training and educational needs, revisions to baseline standards, or qualifying practice conditions and more.
  - I. Each participating organization responsible for practice verification and reporting are required to schedule a farm site visit at least once annually with VAAFAM staff for VAAFAM to quality-check practice verification and reporting methods.
  - II. If there are any deficiencies identified in the site visit, the user may be required to satisfy additional site visits, trainings or other corrective actions.

## SECTION 7. USER TRAINING REQUIREMENTS

- A. All users must receive a Partner Database training prior to receiving login access and the ability to report practices.
- B. Partnering organizations are listed above (Table 2), as well as any and all users (Appendix D).
- C. Partner Database training will include the following topic areas:
  - I. Overview of the QAPP;
  - II. Searching and navigating the database to find a farm operation or region of the state;
  - III. Assigning fields to a specific farm operation;
  - IV. Reporting conservation practice planning and implementation;
  - V. Adding a farm visit as well as viewing previous visits and interactions; and
  - VI. Generating reports from the Partner Database.
- D. Additional trainings may be required by the database administrator for all users to attend depending on continual improvements to the Partner Database, or major revisions to this QAPP.

## SECTION 9. DATA QUALITY AND PROCEDURES TO AVOID DOUBLE COUNTING

The State's efforts to reduce non-point source agricultural nutrient loading requires high-quality and verifiable data that will be used to inform reduction progress, targets, and goals. In order to prevent the double counting of any conservation practices, the database administrator will coordinate with NRCS to complete a geospatial join which will overlay the aggregated GIS data from the Partner Database within NRCS's system for practice tracking. This will identify any potential overlap, which can then be

flagged and removed to prevent double counting of practice implementation. Additionally, if a partner verifies a practice that is funded by NRCS, they must indicate as such when reporting the practice so that it can be automatically removed from the dataset provided to the VT DEC in order to prevent any double counting of conservation practice implementation.

## **SECTION 10. PRIORITY CONSERVATION PRACTICES FOR VERIFICATION**

While the intent is to verify the implementation of all conservation practices in Vermont, resources constraints require that priorities focus on practices with quantifiable nutrient pollution reductions (i.e., nutrient pollution reduction efficiency in place or under development). These practices are detailed below in Table 3 as well as the general process and method for tracking.

Agricultural production area management is not attributed nutrient reduction values in the same manner as other practices. Rather than tracking and quantifying nutrient reductions at the practice-level, production area management will be assessed at the site-level through VAAFMs inspections. Production area includes barnyards, heavy-use areas, waste storage, feed storage, and access roads. Nutrient pollutant reductions will be quantified for sites in full compliance with farm operational permits and Required Agricultural Practices. This involves exclusion of clean water runoff from the production area and management of the remaining runoff in a way that minimizes its pollution and complete containment and/or control and management of all wastes, including covered barnyards and/or diversion of runoff/silage waste to manure storage facilities. Upon this determination, an 80% total phosphorus load reduction will be applied to the production area.

Table 3. Priority Conservation Practices for Verification, Methods for Tracking to Support Nutrient Pollution Reduction Accounting

Practice Type	Total Phosphorus Load Reduction Efficiency (%)	Methods for Tracking
Barnyard/Agricultural Production Area Management	80%	VAAFM Inspection Staff inspect production areas of all farms in Vermont every year for large farm operations (LFOs), every three years for medium farm operations (MFOs), every seven years for certified small farm operations (CSFOs), and on a complaint basis for SFOs.
Livestock Exclusion	55%	State cost share programs (e.g. CREP, PSWF, FAP, BMP, GWFS) verified and reported by funding program administrator  Farmer implementation verified and reported by partners providing technical assistance or surveying farms for conservation practice implementation.
Forested Riparian Buffer	40% plus reduction from converting cropland to forest	
Filter Strip Riparian Buffer	40% plus reduction from converting cropland to grass/hay	
Forested Ditch Buffer	24% plus reduction from converting cropland to forest	
Filter Strip Ditch Buffer	24% plus reduction from converting cropland to grass/hay	
Conservation Crop Rotation, Change in Crop Rotation, Strip Cropping	Average 25% (depends on land use, soil, and slope)	
Conservation Tillage, Reduced Till, No Till	Average 27.5% (depends on land use, soil, and slope)	
Cover Crop, Nurse Crop	Average 28% (depends on land use, soil, and slope)	
Forage and Biomass Planting	Reduction from converting cropland to hay	
Crop to Hay	Reduction from converting cropland to hay	
Grassed Waterways	Need to define acres treated. To be reviewed.	
Hay Field Riparian Buffer	To be reviewed	
Nutrient Management Plan Implementation	To be reviewed	
Manure Injection	To be reviewed	
Manure Spreading Setback	To be reviewed	

## Appendix A. Partner Database Practices and Baseline Standards for Reporting

Table 4. Partner Database Practice List and Baseline Standards for Reporting

NRCS Practice Code	Database Practice Name	Practice Lifespan	Alternative Practice Name (DEC/VAAFM)	Baseline Standard for Reporting	Definition or Qualifying Conditions for Reporting
560	Access Road	10		NRCS	Implementation of an established route for equipment and vehicles.
902VTAg	Aeration	1	Aeration Tillage	Qualifying Conditions	A type of minimum tillage that is to be used in conjunction with conventional liquid manure application on perennial croplands. Soil aeration is only applicable to perennial forage crops and does not include chisel, moldboard, disk, subsoil or other forms of conventional tillage.
333	Amending Soil Properties with Gypsum Products	10		NRCS	Practice involving use of gypsum derived products to change the physical and/or chemical properties of soil to improve soil health and water quality.
366	Anaerobic Digester	10		NRCS	Practice involving a waste management system in which biological treatment breaks down animal manure and other organic materials in the absence of oxygen.
316	Animal Mortality Facility	15		NRCS	Practice applied for the treatment or disposal of animal carcasses due to routine mortality to reduce pollution impacts to surface water and groundwater resources. The mortality facility plan should be included in the waste management system plan for the operation and meet NRCS CPS Code 316.
575	Animal Trails and Walkways	10		NRCS	A trail or walkway with a constructed path with a vegetated or earthen surface. A trail/walkway is used to facilitate the movement of animals, people, or off-road vehicles.

NRCS Practice Code	Database Practice Name	Practice Lifespan	Alternative Practice Name (DEC/VAAFMM)	Baseline Standard for Reporting	Definition or Qualifying Conditions for Reporting
396	Aquatic Organism Passage	5		NRCS	Practice involving modification or removal of barriers that restrict or impede movement of aquatic organisms.
314	Brush Management	10		NRCS	Management or removal of woody plants that are invasive and noxious, typically to reduce the amount of woody species in pastures to improve forage of livestock and provide vegetative cover to protect soils, control erosion, reduce sediment, and improve water quality.
317	Composting Facility	15		NRCS	Practice involving containment and facilitation of aerobic microbial ecosystems for the decomposition of manure and/or other organic material to reduce water pollution potential and improve handling of material.
327	Conservation Cover	1	Corn/Crop to Hay Conversion	Qualifying Conditions	Establishment and management of permanent vegetative cover with the intention to reduce soil erosion and improve long-term soil health. Follow recommendations for planting rates, methods and dates by UVM Extension or agency field trials such as "Cornell Guide for integrated Field Crop Management" or VT Forages Home Page. See NRCS practice code 327 for detailed definition and practice standard. (Forage and Biomass planting standard 512)
328	Conservation Crop Rotation	1	Change in Crop Rotation	Qualifying Conditions	Land that is managed to change crop types cyclically over time with the intention of reducing soil erosion and/or improving long-term soil health and quality, typically between an annual crop (e.g., corn, soybeans) and a perennial crop (e.g., hay). May involve change from continuous

NRCS Practice Code	Database Practice Name	Practice Lifespan	Alternative Practice Name (DEC/VAAFMM)	Baseline Standard for Reporting	Definition or Qualifying Conditions for Reporting
					cropland to crop rotation or extending duration of perennial crop in existing crop rotation. Crops and tillage system will reduce sheet, rill, and wind erosion to within the soil loss tolerance (T).
656	Constructed Wetland	15		NRCS	An artificial wetland ecosystem with hydrophytic vegetation designed for biological treatment of high flow runoff from feed storage areas meeting NRCS CPS Code 656.
332	Contour Buffer Strips	5		NRCS	Establishment of narrow strips of permanent, herbaceous vegetative cover around the hill slope, and alternated down the slope with wider cropped strips that are farmed on the contour to reduce sheet and rill erosion and reduce water quality degradation from the transport of sediment and nutrients downslope. Buffer strips are not part of a normal crop rotation (however, they may be harvested or grazed) and remain in place until they need to be renovated or re-established
340	Cover Crop	1	Cover Crop*	Qualifying Conditions	Establishing a seasonal cover on annual cropland for soil erosion reduction and conservation purposes. Seasonal cover consists of a crop of winter rye or other herbaceous plants seeded at recommended rate per acre to provide effective soil coverage. Cover crop establishment shall be timed so that the soil will be adequately protected during critical erosion periods and selected cover crops will have the physical characteristics necessary



NRCS Practice Code	Database Practice Name	Practice Lifespan	Alternative Practice Name (DEC/VAAFM)	Baseline Standard for Reporting	Definition or Qualifying Conditions for Reporting
					to provide adequate soil loss protection.
342	Critical Area Planting	10	Corn/Crop to Hay Conversion	Qualifying Conditions	Establishing permanent vegetation on sites that have, or are expected to have, high erosion rates, and on sites that have physical, chemical or biological conditions that prevent the establishment of vegetation with normal practices.
362	Diversion	10	Agricultural Production Area Management	NRCS	Implementation of a channel generally constructed across the slope with a supporting ridge on the lower side. This practice applies to land uses where surface water runoff control and management are needed. A few purposes of this practice it to; break up concentrations of water on long slopes, divert water away from farmsteads, and divert water away from active gullies or critically eroding areas.
554	Drainage Water Management	1		NRCS	The process of managing the drainage volume and water table elevation by regulating the flow from a surface or subsurface agricultural drainage system. One purpose of the practice is to reduce nutrient, pathogen, and pesticide loading from drainage systems into downstream receiving waters.
201	Edge-of-Field Water Quality Monitoring Data Collection and Evaluation	Depends on Crop Rotation Cycle	Edge of Field Water Quality Data Collection	NRCS	"Activities by which a producer measures the effectiveness of conservation practices and systems through edge of field monitoring."
202	Edge-of-Field Water Quality Monitoring System Installation	Depends on Crop Rotation Cycle	Edge of Field Water Quality System	NRCS	Activity addresses the system installation associated with edge-of-field water quality monitoring.

NRCS Practice Code	Database Practice Name	Practice Lifespan	Alternative Practice Name (DEC/VAAFM)	Baseline Standard for Reporting	Definition or Qualifying Conditions for Reporting
374	Farmstead Energy Improvement	10		NRCS	Development and implementation of improvements to reduce or improve the energy efficiency of on-farm energy use.
903VTA <sub>g</sub>	Feed Bunk Closure	5		Qualifying Conditions	Closure of feed bunk due to investment in feed management change through State Capital Equipment Assistance Program, or as required by the State due to potential or actual water quality risk from feed bunk leachate and proximity to surface water. Feed Bunk can be used for storage, such as farm equipment, but cannot be used for the storage of loose feed.
592	Feed Management	1		NRCS	*Point Feature at the farmstead: Manipulating and controlling the quantity and quality of available nutrients, feedstuffs, or additives fed to livestock and poultry.
382	Fence	10	Livestock Exclusion	Qualifying Conditions	To enclose or divide an area of land with suitable permanent or temporary barrier to restrict movement of livestock.
904VTA <sub>g</sub>	Fence - Exclusion	10	Livestock Exclusion	Qualifying Conditions	Exclusion of livestock from surface waters by installing fence or other barrier. May include acceptable alternatives such as reinforced stream crossing (NRCS Code 528) or water gap structures (see qualifying conditions for water gap) providing limited access for watering or fencing to limit access for livestock stream crossing.
386	Field Border	10		NRCS	A strip of perennial grass or shrubs established around the edge of a field to provide erosion protection by stabilizing field edge and provide a buffering effect for improved water quality.
393	Filter Strip	10	Riparian Buffer Hay	Qualifying Conditions	Areas of managed and maintained grasses or hay located adjacent to surface waters that

NRCS Practice Code	Database Practice Name	Practice Lifespan	Alternative Practice Name (DEC/VAAFM)	Baseline Standard for Reporting	Definition or Qualifying Conditions for Reporting
					filter out pollutants from runoff. Minimum 25-foot width, no manure application, no gully erosion or channelized flow.
512	Forage and Biomass Planting	5	Corn/Crop to Hay Conversion	Qualifying Conditions	Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species suitable for pasture, hay, or biomass production.
655	Forest Trails and Landings	5		NRCS	A temporary or infrequently used route, path, or cleared area.
410	Grade Stabilization Structure	15		NRCS	Implementation of a grade stabilization structure to stabilize grade, reduce erosion, and improve water quality.
412	Grassed Waterway	10	Grassed Waterways	Qualifying Conditions	A shaped or graded channel that is established with suitable vegetation to convey surface water at a non-erosive velocity using a broad and shallow cross section to a stable outlet. Stabilizing areas prone to field gully erosion by establishing grass-lined swales.
561	Heavy Use Area Protection	10	Agricultural Production Area Management	NRCS	Heavy Use Area Protection is used to stabilize a ground surface that is frequently and intensively used by people, animals, or vehicles in order to provide a stable, non-eroding surface for areas frequently used by animals, people or vehicles, and/or to protect or improve water quality.
315	Herbaceous Weed Treatment	5		NRCS	Management or removal of herbaceous weeds that are invasive and noxious on all lands except active cropland.
595	Integrated Pest Management	1		NRCS	A site-specific combination of pest prevention, pest avoidance, pest monitoring, and pest suppression strategies.
907VTAg	Irrigation - Pasture/Hay	1		Qualifying Conditions	Controlled application of water to hay or pasture lands in order to meet crop moisture requirements

NRCS Practice Code	Database Practice Name	Practice Lifespan	Alternative Practice Name (DEC/VAAFM)	Baseline Standard for Reporting	Definition or Qualifying Conditions for Reporting
					when rainfall is not sufficient to do so.
908VTA <sub>g</sub>	Irrigation - Waste Application	1		Qualifying Conditions	Controlled application of wastewater from sources such as milk house waste collection pond, to hay or pasture lands in order to meet crop moisture requirements when rainfall is not sufficient to do so.
468	Lined Waterway or Outlet	15		NRCS	A waterway or protected outlet section having an erosion-resistant lining of concrete, stone, synthetic turf reinforcement fabrics, or other permanent material to prevent erosion and improve runoff water quality.
516	Livestock Pipeline	20		NRCS	Implementation of a pipeline and appurtenances to convey water for livestock or wildlife.
909VTA <sub>g</sub>	Manure Incorporation	1		Qualifying Conditions	Manure Incorporation is defined as the mixing of dry, semi-dry, or liquid organic nutrient sources (including manures, biosolids, and compost) into the soil profile within three days from time of application by a range of field methods.
901VTA <sub>g</sub>	Manure Injection	1	Manure Injection	Qualifying Conditions	Manure is mechanically applied below the soil surface, at the root zone with surface closure at the time of application. A method of manure incorporation with minimal soil disruption and reduced risk of surface runoff, including disk and shank injection.
484	Mulching	1		NRCS	Applying plant residues or other suitable materials to the land surface for improving moisture management, preventing erosion, reducing concentrated flow, and increasing organic matter.

NRCS Practice Code	Database Practice Name	Practice Lifespan	Alternative Practice Name (DEC/VAAFM)	Baseline Standard for Reporting	Definition or Qualifying Conditions for Reporting
900VTAg	Nurse Crop	1	Cover Crop*	Qualifying Conditions	Nurse crop, such as oats, planted at time of seeding an annual crop field to perennial forages, and provides cover on annual cropland for soil erosion reduction and conservation purposes. Nurse crop seeded at recommended rate per acre to provide effective soil coverage while other perennial crops germinate and establish.
500	Obstruction Removal	10		NRCS	"Activity involving the removal and disposal of buildings, structures, other works of improvement, vegetation, debris or other materials. "
319	On-Farm Secondary Containment Facility	15		NRCS	Practice involving implementation of a permanent facility to provide secondary containment of oil and petroleum products used on farm to control accidental release of products and prevent contamination of groundwater and surface waters.
782	Phosphorus Removal System	10		NRCS	A system installed to intercept subsurface (tile) flow, ground water or surface runoff flow, and reduce the concentration of phosphorus.
378	Pond	20		NRCS	Construction of a water impoundment to store water for livestock, erosion control, flow detention, and other uses such as improving water quality.
520	Pond Sealing or Lining, Compacted Soil Treatment	15		NRCS	A liner for an impoundment constructed using compacted soil with or without soil amendments, installed to reduce seepage losses from impoundments constructed for water conservation and environmental protection
522	Pond Sealing or Lining, Concrete			NRCS	A liner for an impoundment constructed using reinforced or nonreinforced concrete and

NRCS Practice Code	Database Practice Name	Practice Lifespan	Alternative Practice Name (DEC/VAAFMM)	Baseline Standard for Reporting	Definition or Qualifying Conditions for Reporting
					installed to reduce seepage losses from impoundments constructed for water conservation and environmental protection.
521	Pond Sealing or Lining, Geomembrane or Geosynthetic Clay Liner	20		NRCS	A liner for an impoundment constructed using a geomembrane or a geosynthetic clay material, installed to reduce seepage losses from an impoundment for water conservation, and/or protect soil and water from contaminants.
528	Prescribed Grazing			NRCS	Managing the harvest of vegetation with grazing and/or browsing animals with the intent to achieve specific ecological, economic, and management objectives.
533	Pumping Plant	15		NRCS	A facility that delivers water at a designed pressure and flow rate. This practice may be applied as part of a resource management system to achieve one or more of the following purposes: Delivery of water for irrigation, watering facilities, wetlands, or fire protection, Removal of excessive subsurface or surface water, Provide efficient use of water on irrigated land, Transfer of animal waste as part of a manure transfer system, Improvement of air quality, Reduce energy use.
329	Residue & Tillage Management, No Till	1	Conservation Tillage*	Qualifying Conditions	Any tillage and planting system that leaves a minimum of 30% of the soil surface covered with plant residue after the tillage or planting operation (e.g., reduced till, no-till). For silage corn, this could involve required application of a cover crop or use of zip? strip-till, zone-till or minimum tillage equipment.

NRCS Practice Code	Database Practice Name	Practice Lifespan	Alternative Practice Name (DEC/VAAFM)	Baseline Standard for Reporting	Definition or Qualifying Conditions for Reporting
345	Residue Management, Reduced Till	1	Conservation Tillage*	Qualifying Conditions	Any tillage and planting system that leaves a minimum of 30% of the soil surface covered with plant residue after the tillage or planting operation (e.g., reduced till, no-till). For silage corn, this could involve required application of a cover crop or use of zip-till, zone-till or minimum tillage equipment.
391	Riparian Forest Buffer	15	Riparian Buffer Forested	Qualifying Conditions	Areas of managed and maintained woody vegetation (shrubs and trees) located adjacent to surface waters that filter out pollutants from runoff. Minimum 25-foot width, no manure application, no gully erosion or channelized flow.
390	Riparian Herbaceous Cover	5		NRCS	Establishment of herbaceous plants in the transitional zone between upland and aquatic habitats to improve water quality, reduce erosion and improve bank stability, enhance streambank protection among other purposes.
558	Roof Runoff Structure	15		NRCS	Implementation of structure(s) that will collect, control and convey precipitation runoff from a roof to protect surface water quality by excluding roof runoff from contaminated areas among other purposes.
367	Roofs and Covers	10		NRCS	Implementation of practices to divert precipitation away from barnyards and/or waste storage facilities to protect clean water from dilution with wastewater and protect nearby surface water quality.
350	Sediment Basin	10		NRCS	Implementation of a basin constructed with an engineered outlet, to capture and detain sediment-laden runoff for a sufficient length of time to allow it to settle out in the basin.

NRCS Practice Code	Database Practice Name	Practice Lifespan	Alternative Practice Name (DEC/VAAFM)	Baseline Standard for Reporting	Definition or Qualifying Conditions for Reporting
574	Spring Development	20		NRCS	Collection of water from springs or seeps to provide for livestock and wildlife
570	Stormwater Runoff Control			NRCS	Controlling the quantity and quality of stormwater runoff.
578	Stream Crossing	10		Qualifying Conditions	A stabilized area or structure constructed across a stream to provide controlled access for people, livestock, equipment, or vehicles. Crossing has adequate width for intended use, and surface runoff is diverted around the approaches to prevent erosion.
395	Stream Habitat Improvement and Management	5		NRCS	Practice to maintain, improve or restore physical, chemical and biological functions of a stream, and its associated riparian zone, necessary for meeting the life history requirements of desired aquatic species.
580	Streambank and Shoreline Protection	10		NRCS	Treatment(s) used to stabilize and protect banks of streams or constructed channels, and shorelines of lakes, reservoirs, or estuaries.
585	Stripcropping	5	Change in Crop Rotation*	Qualifying Condition	Land that is managed to change crop types cyclically over time with the intention of reducing soil erosion and/or improving long-term soil health and quality, typically between an annual crop (e.g., corn, soybeans) and a perennial crop (e.g., hay). May involve change from continuous cropland to crop rotation or extending duration of perennial crop in existing crop rotation.
587	Structure for Water Control	20		NRCS	A structure in a water management system that conveys water, controls the direction or rate of flow, maintains a desired water surface elevation, or measures water.



NRCS Practice Code	Database Practice Name	Practice Lifespan	Alternative Practice Name (DEC/VAAFM)	Baseline Standard for Reporting	Definition or Qualifying Conditions for Reporting
606	Subsurface Drain	20		NRCS	A conduit installed beneath the ground surface to collect and/or convey excess water.
607	Surface Drain, Field Ditch	15		NRCS	A graded channel on the field surface for collecting excess water.
789	Transition to Organic Production	1		NRCS	*Point
612	Tree/Shrub Establishment	15		NRCS	Establishing woody plants by planting seedlings or cuttings, by direct seeding, and/or through natural regeneration.
620	Underground Outlet	20		NRCS	A conduit or system of conduits installed beneath the surface of the ground to convey surface water to a suitable outlet.
635	Vegetated Treatment Area	10		NRCS	An area of permanent vegetation designed for the treatment of high flow runoff from feed storage areas meeting NRCS CPS Code 635.
360	Waste Facility Closure	15		NRCS	The decommissioning of waste storage facilities, and/or the rehabilitation of contaminated soils, to improve surface water and ground water quality.
906VTA <sub>g</sub>	Field Waste Stacking Area (RAP)	10		Qualifying Conditions	Identification and siting of waste stacking areas imposing the minimum impact to ground and surface water resource concerns. Sites shall meet the Required Agricultural Practices (RAPs) regulations for field stacking of manure or other agricultural wastes (Section 6.02).
905VTA <sub>g</sub>	Field Waste Stacking Area (NRCS)	10		NRCS	A site identified by a soil scientist where manure can be temporarily stacked while imposing the minimum impact to ground and surface water resource concerns by meeting the criteria of VT supplement 8-31-1 Field Waste Stacking Areas as per Chapter 8 in

NRCS Practice Code	Database Practice Name	Practice Lifespan	Alternative Practice Name (DEC/VAAFMM)	Baseline Standard for Reporting	Definition or Qualifying Conditions for Reporting
					the Agriculture Waste Management Field Handbook.
632	Waste Separation Facility	15		NRCS	A filtration or screening device, settling tank, settling basin, or settling channel used to partition solids and/or nutrients from a waste stream.
313Cl	Waste Storage Facility - Clay Liner	15	Agricultural Production Area Management	NRCS	Practice involving containment and/or control and management of agricultural wastes by constructing an embankment, excavating a pit or dugout, or by fabricating a structure.
313Co	Waste Storage Facility - Concrete Liner	15	Agricultural Production Area Management	NRCS	Practice involving containment and/or control and management of agricultural wastes by constructing an embankment, excavating a pit or dugout, or by fabricating a structure.
313G	Waste Storage Facility - Geomembrane Liner	15	Agricultural Production Area Management	NRCS	Practice involving containment and/or control and management of agricultural wastes by constructing an embankment, excavating a pit or dugout, or by fabricating a structure.
634	Waste Transfer	15		NRCS	A system using structures, pipes or conduits installed to convey wastes or waste byproducts from the agricultural production site to storage/treatment or application.
629	Waste Treatment	10		NRCS	The use of unique or innovative mechanical, chemical or biological technologies that change the characteristics of manure and agricultural waste.
629M	Waste Treatment – Milk House	10		Qualifying Conditions	A waste treatment practice designed by a qualified professional and meets NRCS CPS Code 629. The purpose is to provide an infiltration area to remove sediment, organic matter, chemicals, nutrients and other

NRCS Practice Code	Database Practice Name	Practice Lifespan	Alternative Practice Name (DEC/VAAFMM)	Baseline Standard for Reporting	Definition or Qualifying Conditions for Reporting
					pollutants from milk house wastewater.
629S	Waste Treatment - Silage	10		NRCS	The use of unique or innovative mechanical, chemical or biological technologies that change the characteristics of manure and agricultural waste.
638	Water and Sediment Control Basin	10		NRCS	An earth embankment or a combination ridge and channel constructed across the slope of a minor drainageway.
910VTAg	Water Gap	5		Qualifying Conditions	Water ramp or watering facility which provides livestock with stabilized access to water for drinking, adequately sized for expected usage, and where surface runoff is diverted from approach to watering gap, with fence or other barriers to delineate boundaries and sufficient to meet intended use, located and installed so as not to impede aquatic organism movement in stream.
642	Water Well	20		NRCS	A hole drilled, dug, driven, bored, jetted or otherwise constructed into an aquifer for water supply.
614	Watering Facility	20		NRCS	A watering facility is a means of providing drinking water to livestock or wildlife.
659	Wetland Enhancement	15		NRCS	The augmentation of wetland functions beyond the original natural conditions on a former, degraded, or naturally functioning wetland site; sometimes at the expense of other functions.
657	Wetland Restoration	15		NRCS	The return of a wetland and its functions to a close approximation of its original condition as it existed prior to disturbance on a former or degraded wetland site.

## Appendix B. Partner Database User Agreement

Users accessing the Partner Database will be required to agree to the following user agreement after receiving training and prior to reporting practices into the Partner Database.

### TERMS AND CONDITIONS OF USE:

**We are all in this together. The actions individual users take can have a large impact on our system for tracking and reporting agricultural conservation practices in Vermont. That is why users must follow this User Agreement. If you violate this policy, we may suspend or terminate your Partner Database user account.**

**By signing below, I agree to follow the Partner Database User Agreement, including:**

- i. I understand the Vermont Agency of Agriculture, Food and Markets has the right to relinquish my user access for any potential or actual breach of this agreement, including but not limited to inadvertent but repeated breach of this agreement,
- ii. I agree to follow the Quality Assurance Project Plan for reporting practices into the Multi-Partner Agricultural Conservation Practice Tracking and Planning Geospatial Database,
- iii. I agree to maintain confidentiality of my individual user login information and password,
- iv. I agree to use the Partner Database or reports generated from the Partner Database for the intended purpose (see Partner Database goals in Section 3), and
- v. I understand that in the event of change or termination of my position, I am required to notify the database administrator and my user access will be terminated.

Name:

Signature:

Date:

Organization:

## Appendix C. Farm Waiver Form for Practice Reporting

The purpose of this waiver is to release information relating to conservation practice implementation on your farm into the Partner Database.

The Partner Database, formally the *Multi-Partner Agricultural Conservation Practice Tracking and Planning Geospatial Database*, is a conservation tracking and planning tool administered by the Vermont Agency of Agriculture, Food and Markets (VAAFM).

Conservation planning organizations including, but not limited to, the University of Vermont Extension (UVM), the Natural Resource Conservation Districts (Districts), and the Vermont Association of Conservation Districts (VACD) have access to the Partner Database to plan and track conservation practices implemented on farms.

On an annual basis, these practices will be aggregated *without* farm identifiable information and sent to the Vermont Department of Environmental Conservation (DEC) to report nutrient reductions from agriculture towards meeting Total Daily Maximum Loads (TMDLs) required by the Environmental Protection Agency (EPA).

Providing information related to conservation practices implemented on your farm, both with and without financial assistance, will help account for the work farmers across the State are doing to improve water quality in Vermont.

Information that the Natural Resources Conservation Service (NRCS) gathers related to your farm or agricultural operation is protected from disclosure to others by Section 1619 of the 2008 Farm Bill. NRCS *must* obtain your permission prior to releasing any information related to your farm/operation.

By placing an "X" in the boxes below and signing this form, you authorize the release of the designated information related to your farm to be entered into the Partner Database for the purpose of tracking conservation practices. You may revoke this voluntary authorization at any time by providing VAAFM and NRCS a written request to discontinue entering information into the Partner Database.

I, \_\_\_\_\_, authorize the release of the following information to the Partner Database:

- Conservation practice implementation completed on my farm without any financial assistance.
- Conservation practice implementation funded or supported by the United States Natural Resources Conservation Service (USDA NRCS), or Farm Service Agency (FSA).

Note: Conservation practice implementation funded or supported by VAAFM will already be tracked in the Partner Database.

Note: Information provided through this waiver will not be accessed or viewed by regulatory staff, nor used for regulatory purposes.

\_\_\_\_\_  
Landowner/Producer/Cooperator Signature

\_\_\_\_\_  
Date

Farm Name: \_\_\_\_\_

Farm E 911 Address:

## Appendix D. Distribution List

Please contact the Database Administrator for any questions, concerns, or access issues with the partner database: *Judson Peck, (802) 522-7041, Judson.Peck@Vermont.gov*

Table 5. Names and contacts of those parties with access to the Partner Database.

Name	Affiliation	Email Address
Judson Peck	Vermont Agency of Agriculture, Food and Markets	Judson.Peck@Vermont.gov
Nina Gage	Vermont Agency of Agriculture, Food and Markets	Nina.Gage@Vermont.gov
Aaron Thomas	VACD	aaron.thomas3@vt.nacdnet.net
Amanda Gervais	UVM Extension	amanda.gervais@uvm.edu
Brittany Cole	VACD	brittany.cole@vt.nacdnet.net
Brodie Haenke	Conservation District	broderick.haenke@vt.nacdnet.net
Catherine Davidson	UVM Extension	catherine.davidson@uvm.edu
Cindy Watrous	VACD	cynthia.watrous@vt.nacdnet.net
Elizabeth Bazluke	VACD	elizabeth.bazluke@vt.nacdnet.net
Emily Irwin	Conservation District	emily.irwin@vt.nacdnet.net
Gianna Petito	Conservation District	gianna@winooskinrcd.org
Heather Darby	UVM Extension	heather.darby@uvm.edu
Heather Johnson	Conservation District	essexnrcd@gmail.com
Henry Webb	VACD	henry.webb2@vt.nacdnet.net
Jeannie Bartlett	Conservation District	jeanne.bartlett@vt.nacdnet.net
Jeff Carter	UVM Extension	jeff.carter@uvm.edu
Jeff Farber	VACD	jeff.farber@vacd.org
Jeff Sanders	UVM Extension	jeffrey.sanders@uvm.edu
Jen Alexander	Conservation District	acap.jennifer@gmail.com
Jill Arace	VACD	jill.arace@vacd.org
Jimmy Young	VACD	james.young@vt.nacdnet.net
John Bruce	UVM Extension	john.bruce@uvm.edu
Jonas Hastings	UVM Extension	jonas.hastings@uvm.edu
Joseph Bondi	VACD	joseph.bondi@vt.nacdnet.net
Justin Michaud	VACD	justin.michaud@vt.nacdnet.net
Katelyn Czyzyk	VACD	katelyn.czyzyk@vt.nacdnet.net
Keith Hartline	VACD	keith.hartline@vt.usda.gov

Kerry OBrien	Conservation District	kerry.obrien@vt.nacdnet.net
Kristen Balschunat	Conservation District	kristen@winooskinrcd.org
Kristin Williams	UVM Extension	kristin.williams@uvm.edu
Lauren Newman	VACD	lauren.newman@vt.nacdnet.net
Lindsey Ruhl	UVM Extension	lindsey.ruhl@uvm.edu
Lisa Niccolai	Conservation District	lisa.wrnrcd@gmail.com
Liza Lemieux	Conservation District	eliza.lemieux@vt.usda.gov
Margo Ghia	Conservation District	ghia.wcnrcd@gmail.com
Merritt Gleason	UVM Extension	merritt.gleason@uvm.edu
Michelle Smith	VACD	michelle.l.smith@vt.nacdnet.net
Nate Severy	UVM Extension	nathaniel.severy@uvm.edu
Pam Stefanek	Conservation District	pam.stefanek@vt.nacdnet.net
Peter Danforth	Conservation District	lccddirector@gmail.com
Rachel Orr	UVM Extension	rachel.orr@uvm.edu
Sara Ziegler	UVM Extension	sara.ziegler@uvm.edu
Sarah Damsell	Conservation District	sarah.damsell@vt.nacdnet.net
Silene DeCiucies	Conservation District	lccdagoutreach@gmail.com
Stefano Pinna	Conservation District	stefano@pmnrcd.org
Susan Brouillette	UVM Extension	susan.brouillette@uvm.edu
Tucker Malone	VACD	tucker.malone@vt.nacdnet.net



# Appendix E. Partner Database User Instructions

## Summary

1. **Login**
2. **Search for Farm**
3. **Add Field** (if does not already exist, fields must be associated with a farm)
4. **Add Practice** (practices must be associated with a field)
5. **Add People**
6. **Add Visits**
7. **Create Map**
8. **Create Report**

## Login

1. Login to the Partner Database (PDB) using your username and password: <https://vtpartners.stone-env.net>
2. Contact **Judson Peck** for any login issues or to request access: [judson.peck@vermont.gov](mailto:judson.peck@vermont.gov)

## Search for Farm

1. Click **Search & Add Data** from the main menu
2. In the search bar at the top of the page, type in the name of the farm, operator or town
  - a. NOTE: Search is sensitive – name must match exactly including special characters – typing fewer characters is often more successful
  - b. NOTE: Can also search by town and choose farm from the list of farms
  - c. NOTE: If the farm does not exist in the system, contact Judson Peck, who will provide a quick form of the necessary information to add a farm (administrators only)
3. Click on the farm from the search list – automatically zooms to the farm (facility) point and displays fields associated with that facility in green
4. View farm information for both the facility and the operation by clicking on the **Details** button under the “Farm Information” header
  - a. NOTE: *Facility* is the farmstead, one or more facilities may exist for a farm *operation* (business)
  - b. Click “Edit” to update or add farm information, click “Save” after editing

## Add Fields

1. Click on the **Fields** tab to view fields associated with the selected farm (facility) – displayed on the map as green polygons
2. **NOTE: All practices must be associated with a field – may need to draw/edit fields first**
3. NOTE: Can draw fields with non-cropland land uses, including Farmstead, Associated Ag Land, Other Rural Land, etc. for non-cropland practices
4. Click on the three arrows along the left of the screen to view the **Map Controls**
5. Change **Basemap** from the default topo to satellite/imagery for drawing

6. Check **CLU Boundaries** under Optional Layers – displayed as orange polygons
7. NOTE: CLU (Common Land Unit) is a 2008 NRCS layer that has been stripped of all Farm, Tract and Field numbers – for reference only
8. Click **Add Field** and complete the following information:
  - a. Field Name – enter what the farm uses
  - b. Landuse and Crop – required
  - c. Management – optional
  - d. Lease – yes/no
9. There are TWO ways to add a field to a farm – Draw Shape or Select CLU:
  - a. Click **Draw Shape** – use the pointer to click and draw a new field boundary, double click to finish drawing – can edit the shape by clicking and dragging the nodes, right click to delete nodes – click “Finish Shape” and then “Save”
  - b. Click **Select CLU** – use the pointer to select an orange CLU polygon, which will turn yellow when selected – click “Finish Shape” and then “Save”
10. NOTE: Database automatically creates a unique **Field ID** and calculates **Acres**
11. Once the field has been added to the farm (green), either by drawing a new shape or selecting from the CLU, it appears in the field list and can be edited at any time if needed
12. NOTE: Click on the headers to sort the list in ascending or descending order
13. NOTE: Click on the line item to view more details, edit, or delete the entry
14. NOTE: Click on “Menu” in the top left corner and navigate back to the farm in order to ‘refresh’ the page if there is a delay/glitch in creating the field

## Add Practices

1. Click the **Practices** tab to view practices associated with the farm (facility), displayed on the map as polygon, line or point features with various symbology
2. Click **Add Practice** button and complete the following information accordingly:
3. Select **Practice** type from the dropdown list
4. Select **Status** – practices may be drawn in the PDB as **Planned** status – only change to **Installed** status once the practice has been implemented
5. NOTE: Only practices reported as installed will receive nutrient reduction credit for the TMDL
6. Check **Field Verified** if you visually saw the practice implemented in the field to the practice standards or qualifying conditions outlined in the QAPP
7. Check **Meets NRCS Standards** if the practice was implemented according to NRCS Practice Standards
8. Check **Required Ag Practice** if the practice was implemented to meet compliance with the RAPs (i.e. buffers, tolerable soil loss, livestock exclusion, etc.)
9. **Notes** – add optional notes
10. Select funding **Program** from the dropdown list – *required* for Installed practices, but can be funded by the “Farmer” (no cost-share)
11. Add **Application Date, Approval Date, Grant Status** and **Grant ID** if funded by a grant
12. Enter **Install Date** of when the practice was implemented in the field – *required* for installed status practices

13. **Lifespan End Date** is automatically calculated based on NRCS practice lifespans, calculated from the Install Date – lifespan (years) is displayed to the right – practice only receives nutrient reduction credit for the TMDL for the duration of the lifespan
14. **Associated Field – all practices are required to be associated with a field** – if a field does not exist, complete step #10. Click the “Select Field” button and click on a field in the map (turns green) and then click “Save” to select the associated field for the practice. NOTE: Associating a field links the Field ID with the practice, not the field’s shape.
15. There are TWO ways to create a practice shape – Draw Shape or Use Associated Field Shape:
  - a. Check **Use Associated Field Shape** if the practice boundary is the same as the associated field boundary
  - b. Click **Draw Shape** and use the pointer to draw on the map by clicking, double click to finish drawing – the shape turns yellow and gray and white points appear – click and drag the points to modify the shape, right click on a point to delete it – click “Finish Shape” when done drawing
16. Click “Save” to finish adding the practice, the practice appears in the practice list
17. NOTE: Click on “Menu” in the top left corner and navigate back to the farm in order to ‘refresh’ the page if there is a delay/glitch in creating the practice
18. NOTE: Click on the line item to view more details, edit, or delete the entry
19. NOTE: Click on the headers to sort the list in ascending or descending order
20. Practice list and practices that appear on the map can be **filtered** by “Status”, “Program”, and “Year” by clicking on the dropdowns at the top of the Practices tab
21. A practice can be duplicated, i.e. second year of cover cropping, rather than re-drawing every year. Click on the practice from the practice list and then click **Duplicate & Edit** – editing options appear as entered from the previous practice entry – update the practice as needed, i.e. install date, and then click “Save”
22. NOTE: Practices cannot be added to multiple fields at time, i.e. cover crop to multiple fields – this functionality will be created soon
23. Practices can also be added by **uploading GIS shapefiles** using the “Upload FGDB Zip” – NOTE: shapefiles must be in a specific format – contact Judson Peck for the GIS template and detailed instructions

## People Involved

1. Click on the **People Involved** tab to view the farm operator(s) and other partners working with the farm
2. Add yourself to the farm if you provide technical services by clicking **Add People to Farm**
3. Scroll through the list or type the name into the box to filter – click “+” to add the person to the farm
4. If the person does not exist in the system, click **Create New Person** at the bottom
5. Once added to the farm, add the person’s **Role** and update any contact information
6. NOTE: Click on the headers to sort the list in ascending or descending order
7. NOTE: Click on the line item to view more details, edit, or delete the entry
8. NOTE: Deleting the person involved removes the person from the farm, but does not delete the person’s contact

## Visits & Interactions

1. Click on the **Visits & Interactions** tab to view visits and interactions with the farm from multiple organizations

2. Click **New Visit** to add your visit or interaction with the farm
3. Complete information – click the **Change** button to set the **Person Contacted** from the list, or create a new person (see above)
4. NOTE: Documenting visit information is helpful for yourself and other partners working with the farm – recommend noting all “On-Site Visits” at a minimum – VAAFMM or other agency enforcement/inspectors will not be able to view this information, only partners
5. NOTE: Click on the headers to sort the list in ascending or descending order
6. NOTE: Click on the line item to view more details, edit, or delete the entry

## Create Map

1. Click on the three arrows along the left of the screen to view the **Map Controls**
2. Click on green arrow next to **Export Map Tools**
3. Type **title** of map
4. Choose map **format** from dropdown (PDF, JPG, PNG)
5. Check **Show Field Details** to include field details on the map (Field ID, Name, Acres, etc.)
6. Click **Print Map** – the map will load in a new tab in your internet browser – make sure any pop-up blockers are disabled – may take a few minutes for the map to generate
7. NOTE: Everything displayed on the map screen will be exported into the map – use practice filters (#20) to modify what is displayed on the map; fields tab can also be exported as a map
8. NOTE: Optional Layers that are selected will also be mapped

## Create Report

1. Click **Menu** button at top left corner of screen
2. Click **Generate Reports**
3. Click on one of three types of reports to generate:
  - a. Detailed Practice Report
  - b. Summary Practice Report
  - c. Interactions Report
  - d. NOTE: Not all report types may be displayed depending on your user access role
4. For all report types, expand the green headers and check any or all of the options of the data to include and the filtering options
5. Click **Submit** or **Get CSV** to export the selected information as a CSV file, which will download to your computer
6. Detailed Practice Report also has the option to export shapefiles, which can be loaded into ArcGIS – click **Get Shapefile** to download to your computer