



Water Quality Division

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VT Agency of Agriculture, Food and Markets



Overview

- Education, Technical and Financial Assistance
- Inspection and Enforcement



OTTER CREEK, LITTLE OTTER CREEK, AND LEWIS CREEK WATERSHED BASIN 3

December 2024 | FINAL PLAN


Tactical Basin Plan was prepared in accordance with 10 VSA § 1253(6), the Vermont Water Quality Standards, the Federal Clean Water Act and 40 CFR 135.6, and the Vermont Surface Water Management Strategy.

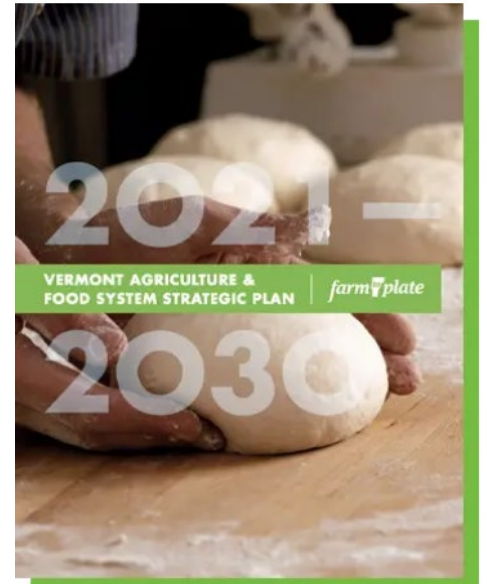
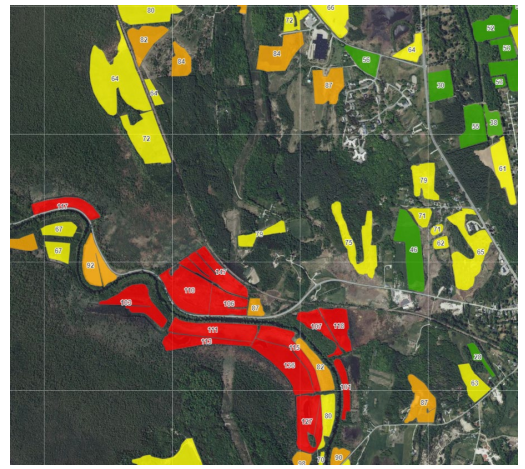
Agricultural Water Quality Planning

- **Statewide** – Vermont Nonpoint Source Management Plan
- **Regional** – Tactical Basin Plans
- **Field Scale** – Strategic Watersheds, targeted conservation efforts and critical source area fields
- **Sector wide** – Farm to Plate Vermont Agriculture and Food System Strategic Plan

Vermont Nonpoint Source Management Program Plan 2021-2025

Submitted to U.S. Environmental Protection Agency
September 4, 2020

 Vermont Department of Environmental Conservation
1 National Life Drive
Montpelier, VT 05602



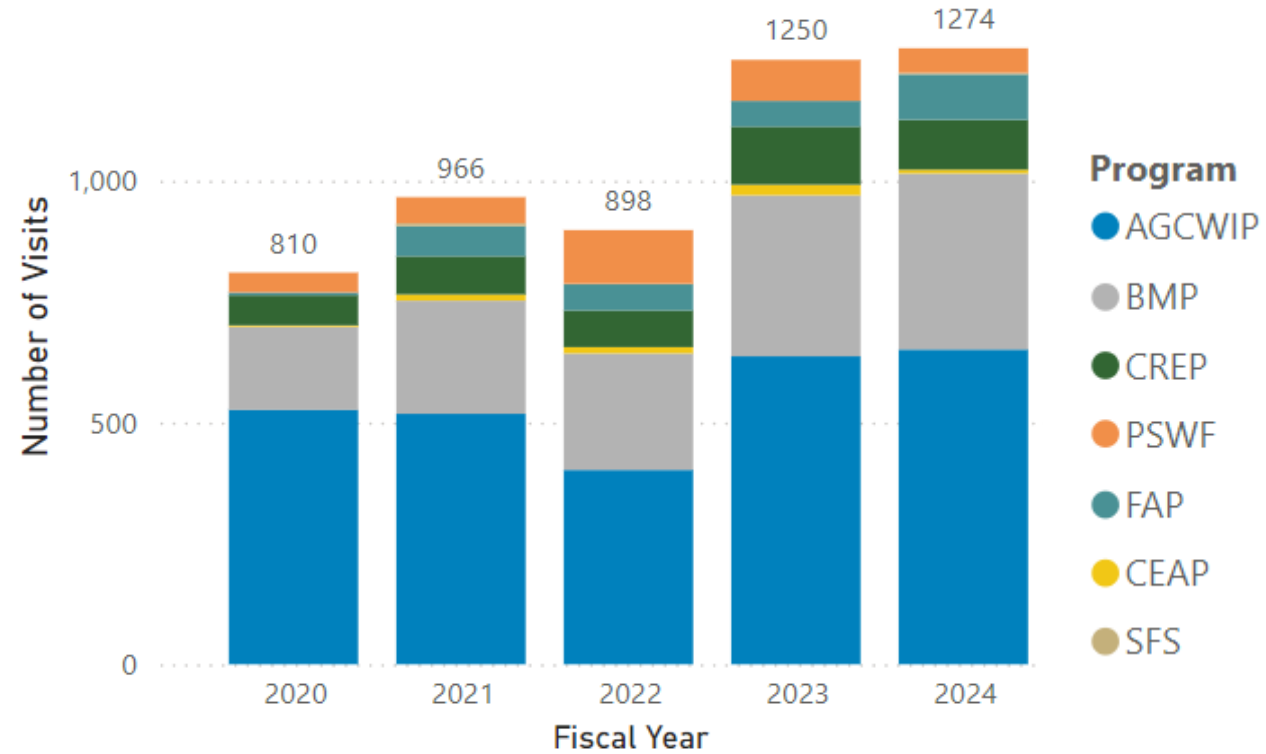
Technical Assistance & Education



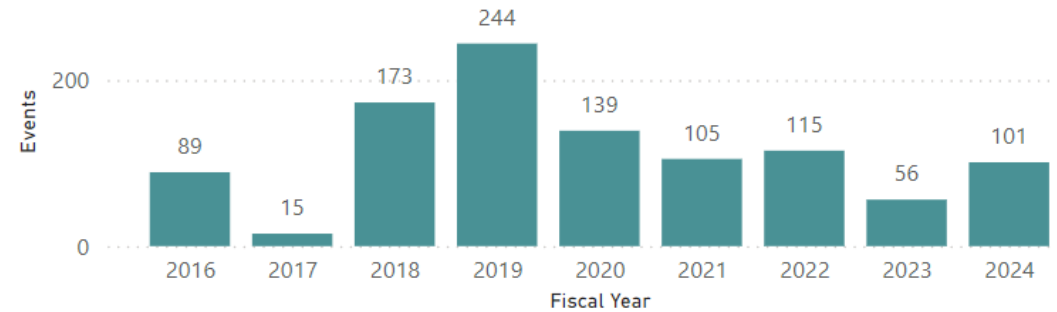
Technical Assistance & Education








Visits by Fiscal Year and Program



Events by Fiscal Year



Financial Assistance Programs

PROGRAM	PROGRAM FOCUS	
<p>Farm Agronomic Practices Program</p> <p>FAP</p>	<p>Per acre payments for agronomic practices that improve soil quality and reduce runoff and erosion. Support for educational or instructional activities also available.</p>	
<p>Best Management Practices Program</p> <p>BMP</p>	<p>Technical engineering consultations, financial assistance, and federal project cost assistance for structural on-farm improvements to protect or improve water quality.</p>	
<p>Conservation Reserve Enhancement Program</p> <p>CREP</p>	<p>Technical and financial assistance for removing land from agricultural production and establishing vegetative buffers.</p>	
<p>Capital Equipment Assistance Program</p> <p>CEAP</p>	<p>Financial assistance for new or innovative equipment that will improve water quality, improve manure management, or decrease greenhouse gas emissions.</p>	
<p>Seeding and Filter Strip Program</p> <p>SFS</p>	<p>Technical and financial assistance to address erosion and surface runoff through the establishment of perennially vegetated and harvestable filter strips, seedings, and grassed waterways.</p>	

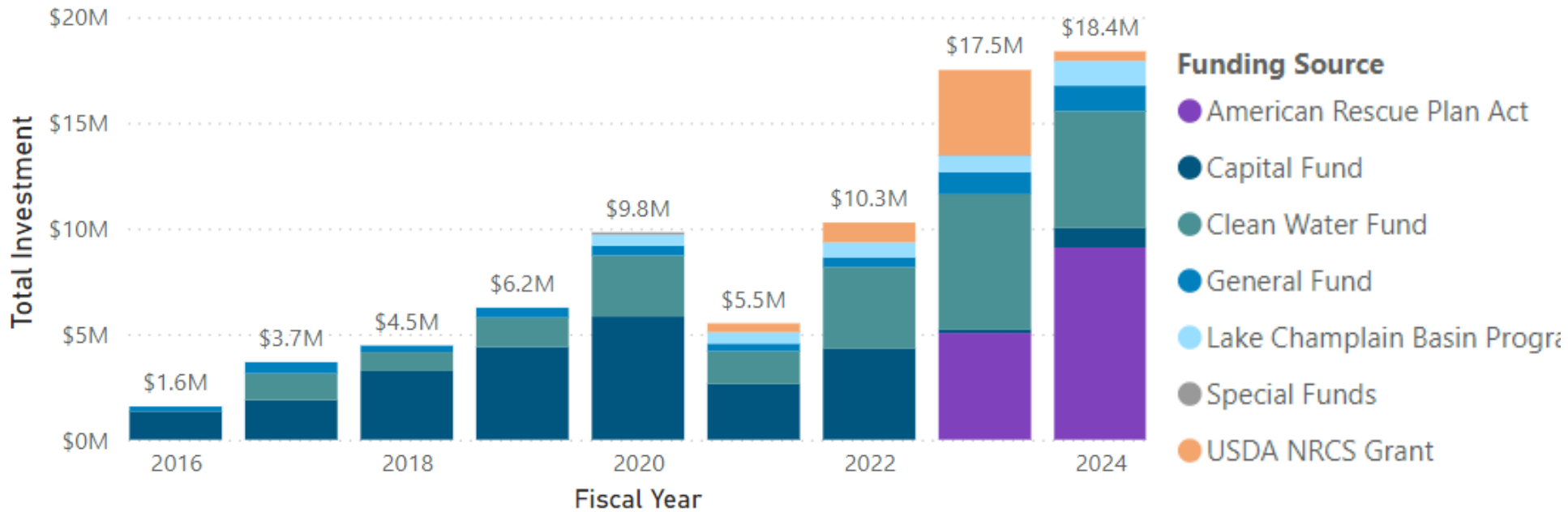
AAFM WQ Programs

PROGRAM	DESCRIPTION	
<p>Pasture and Surface Water Fencing Program</p> <p>PSWF</p>	<p>Pasture management technical and financial assistance for livestock exclusion from surface waters and grazing system improvements.</p>	
<p>Vermont Farmers Ecosystem Stewardship Program</p> <p>VFESP</p>	<p>Supplemental financial assistance to support farmers to enroll in the USDA-NRCS Conservation Stewardship program (CSP).</p>	
<p>Vermont Pay for Performance Program</p> <p>VPPF</p>	<p>Innovative, performance-based program which provides financial compensation for reducing phosphorus (P) losses from farms.</p>	
<p>Agricultural Clean Water Initiative Program</p> <p>AGCWIP</p>	<p>Funding for local and regional partners to improve water quality through education and outreach, technical assistance, organizational capacity development, and conservation practice surveys.</p>	

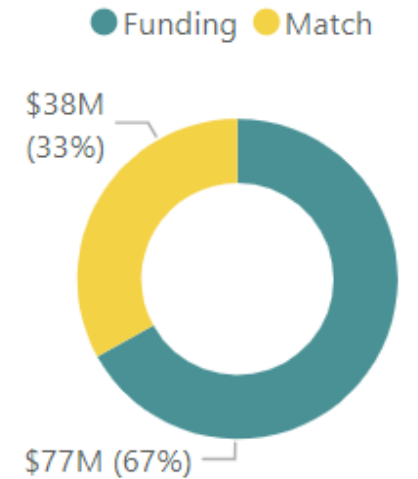
Financial Assistance



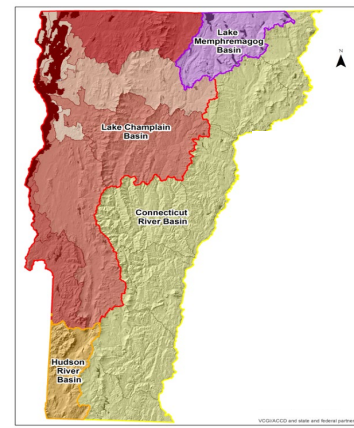
Total Investment by Fiscal Year and Funding Source



Total Investment by Type

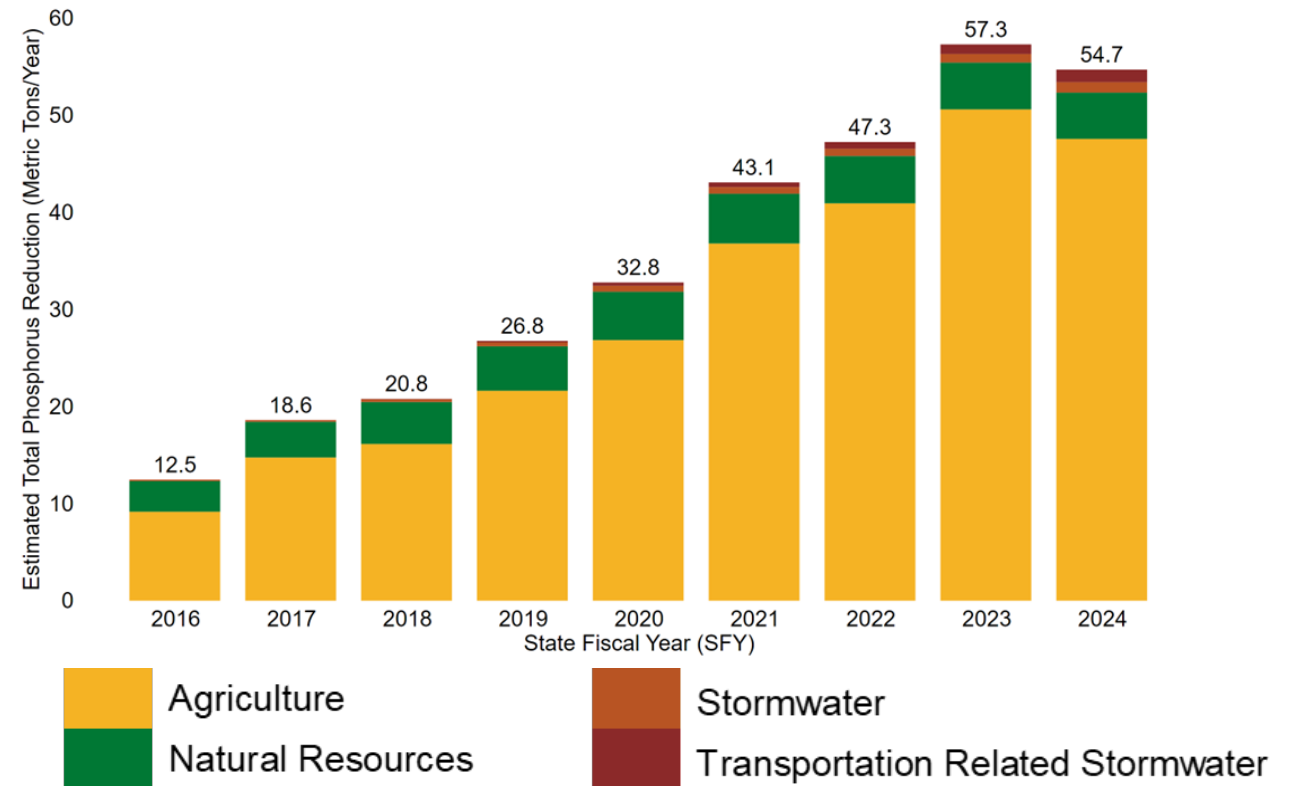


Total Maximum Daily Load (TMDL) Progress – Lake Champlain

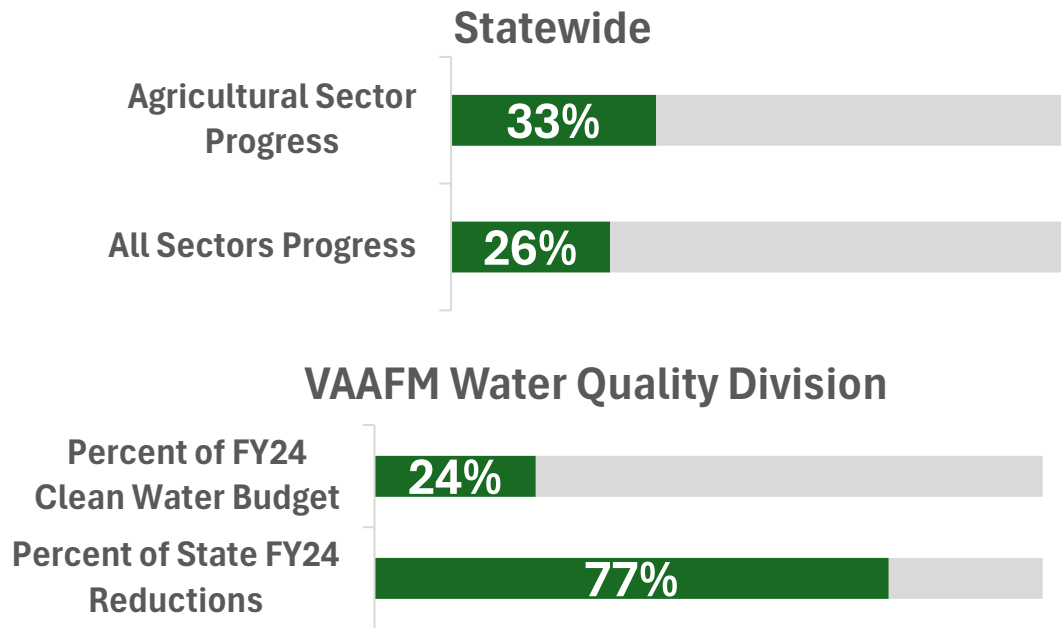
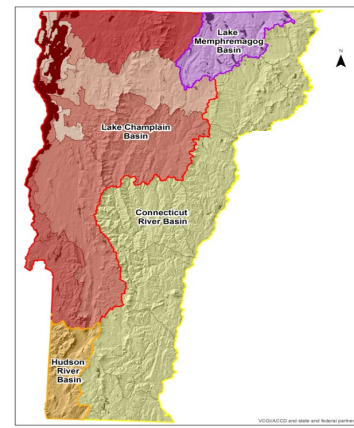


SFY2024 Progress – 26%

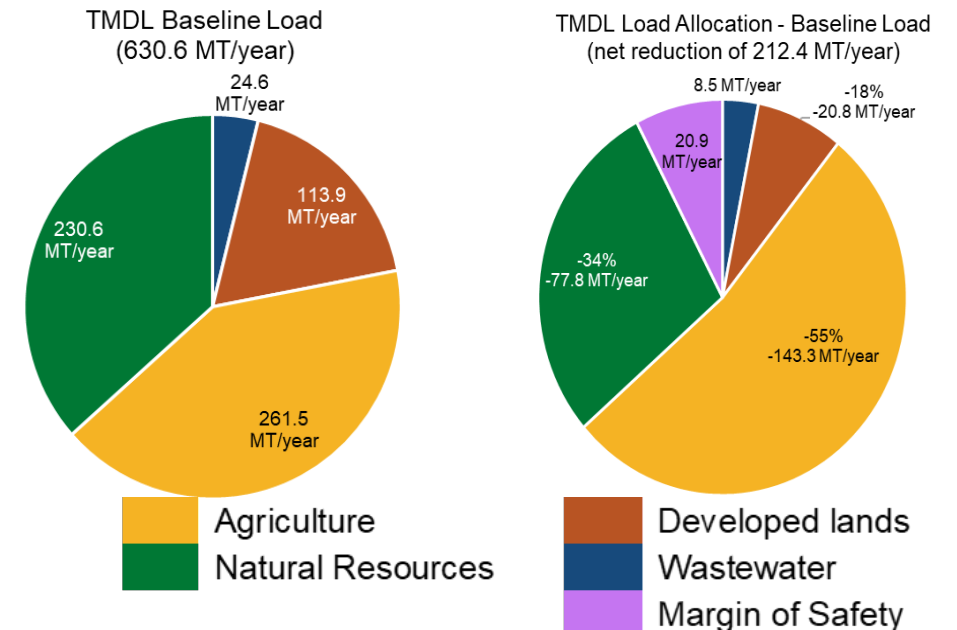
Estimated total phosphorus load reductions in effect during SFY 2016–2024.



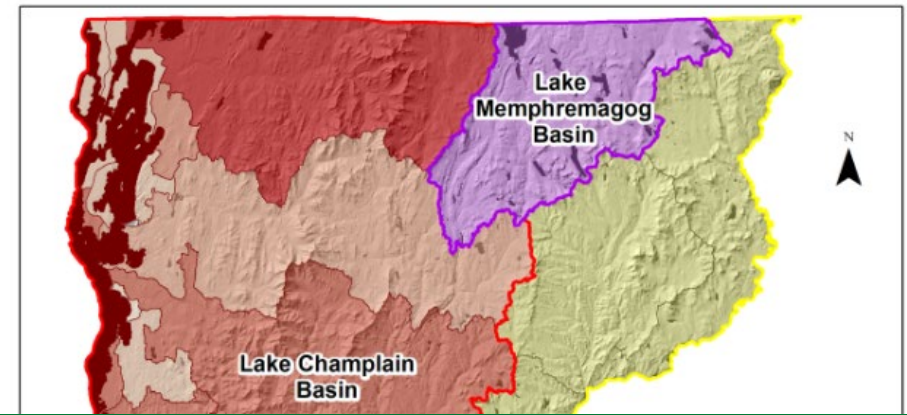
TMDL Progress – Lake Champlain



Lake Champlain TMDL Baseline Load, and Modeled Load Increase (+) or Reduction (-) by Sector. Percentage indicates percent reduction from baseline for sectors with a required reduction.

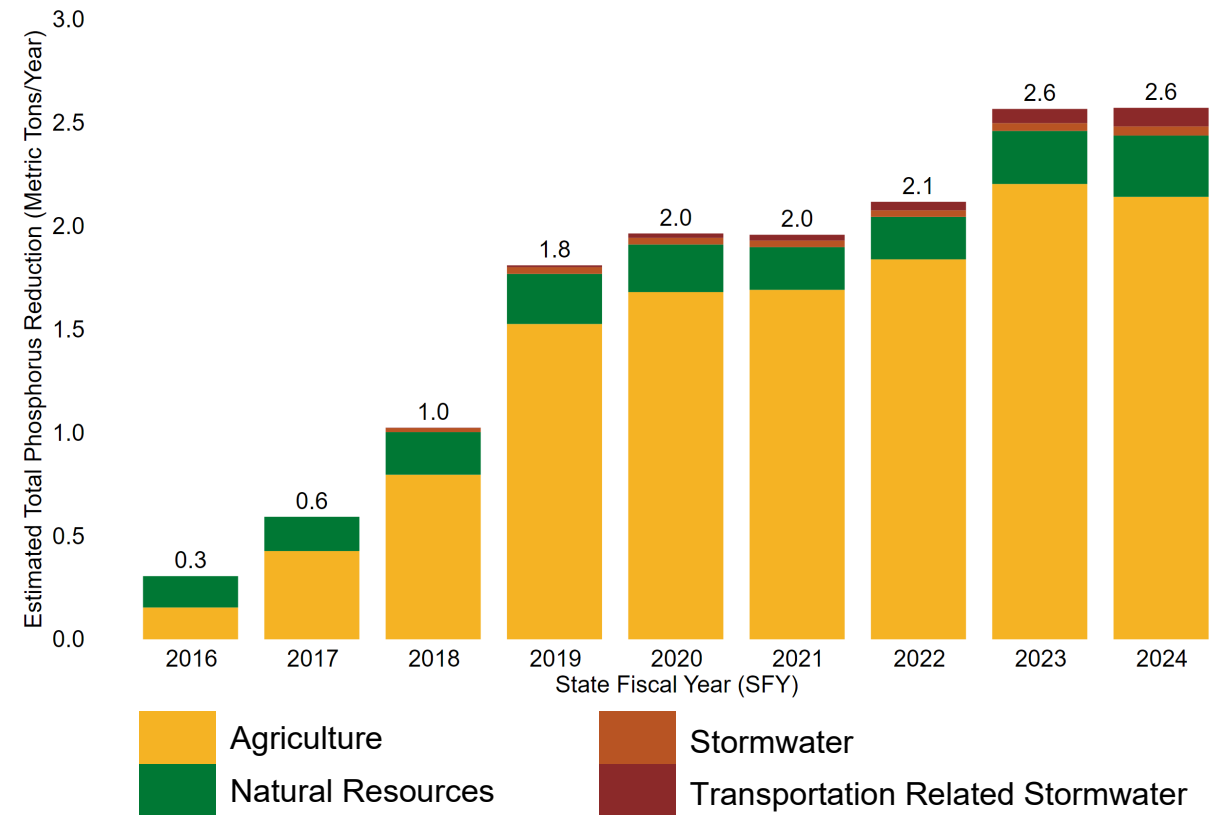


TMDL Progress – Lake Memphremagog

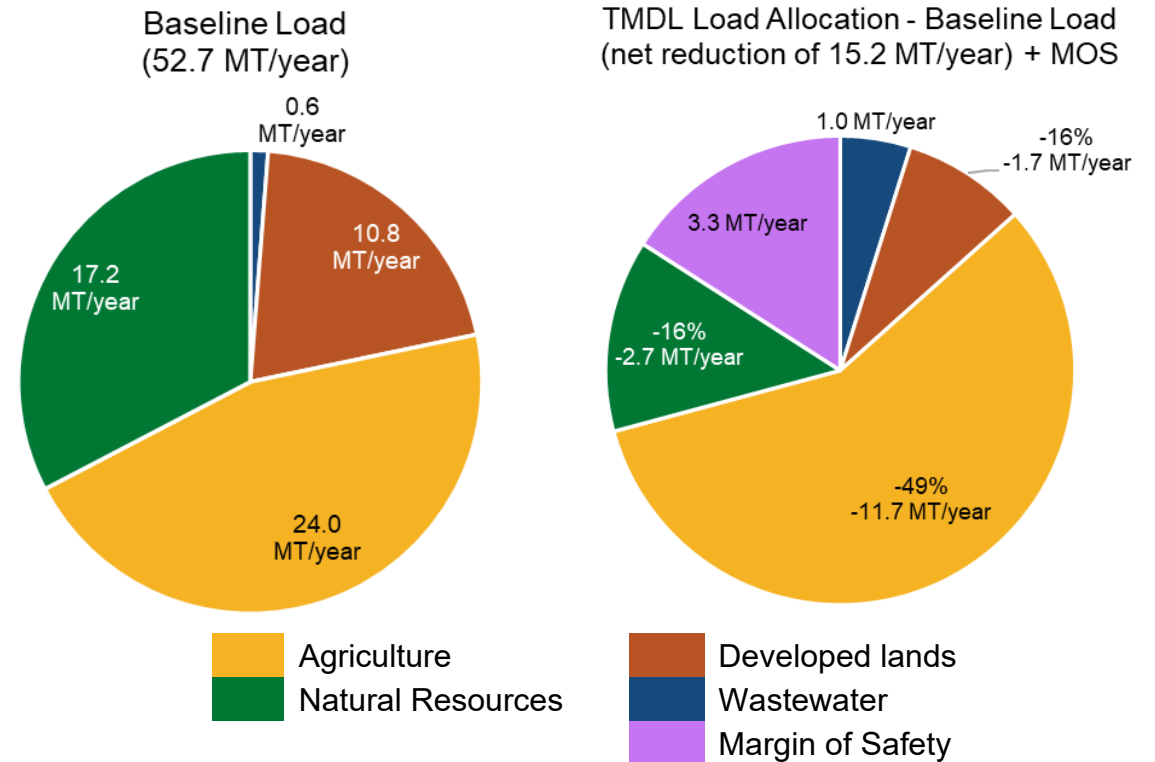
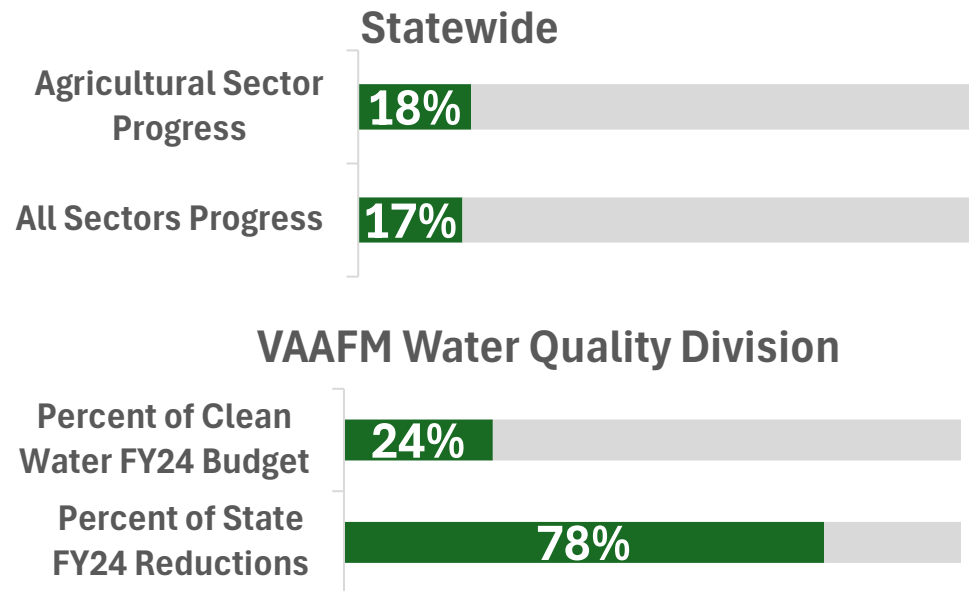
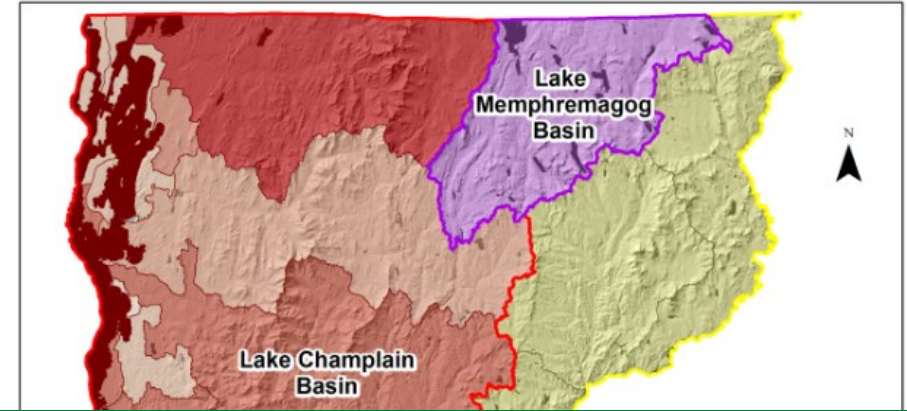


SFY2024 Progress - 17%

Estimated total phosphorus load reductions in effect during SFY 2016–2024.



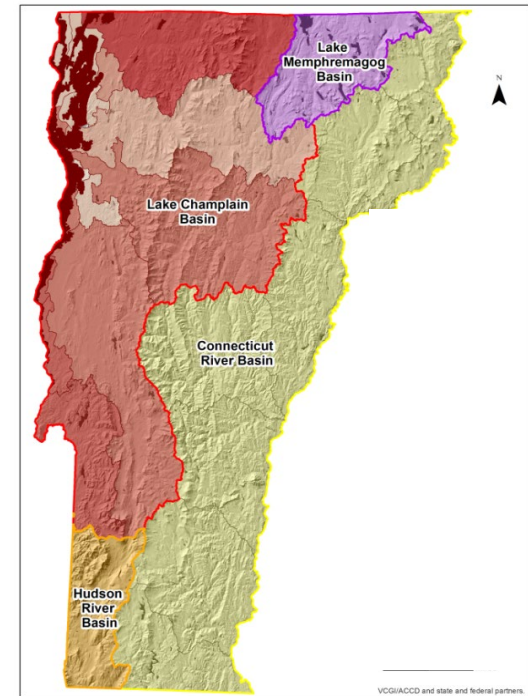
TMDL Progress – Lake Memphremagog



TMDL Progress – Long Island Sound

Under Development

- Nitrogen (N) reduction estimates dependent on the development of baseline loading rates and N reduction efficiencies for clean water projects in the Connecticut River Basin
- EPA efforts underway to develop consistent methods for all five states in the Long Island Sound drainage.



Vermont Agricultural Water Quality Partnership (VAWQP)



“Conservation on farms can be a bit like completing a puzzle, taking one piece at a time and finding the best fit.” - Sarah Damsell, District Manager Orleans County Conservation District

PURPOSE & MISSION: Improve agricultural water quality in Vermont by coordinating partner efforts to provide education, technical and financial assistance to the farming community.

GOALS:

- 1) To improve water quality and wildlife habitat on all engaged farmland owner's and operators' properties
- 2) Deliver technical and financial assistance in the most efficient and effective manner
- 3) Provide the best service experience possible for the landowner

VAWQP Partners

- USDA Natural Resources Conservation Service
- USDA Farm Service Agency
- Vermont Association of Conservation Districts
- United States Fish and Wildlife Service
- University of Vermont Extension
- Vermont Agency of Natural Resources Department of Environmental Conservation
- Vermont Agency of Agriculture, Food and Markets
- Vermont Housing and Conservation Board
- Lake Champlain Basin Program



Best Management Practices (BMP) Program

Before (left) and after (right) installation of a heavy use area protection BMP project on a small farm in Swanton, VT to reduce livestock impacts to nearby waters and provide an area that is more easily managed for livestock barnyard area.



2008 – PRE-CREP 04.16.2008



2008, year of implementation:

stream fenced,
reinforced cattle
x-ing installed,
buffer planted,
water tub is
behind feeder

2008 – POST CREP



2022: year 14

2022 – 14 Years Later

Conservation Reserve Enhancement Program (CREP)

Riparian area pre- restoration, post-restoration and 14 years after restoration through the CREP Program. Additional conservation practices supported included livestock exclusion and fencing, a reinforced cattle crossing, riparian forest buffer planting and water source development for cows to replace stream access.



Pasture & Surface Water Fencing (PSWF) Program

Before (left) and after (right) of a riparian area restored through the PSWF Program. This project included implementation of a grassed filter strip, fencing, and watering sources.



Seeding and Filter Strip (SFS) Program

Before (left) and after (right) installation of a 50-foot-wide grass filter strips along a corn field in the Memphremagog watershed.

Regulatory



10 Years since Act 64 of 2015

- Revised RAPs (2x)
- Certified Small Farms, Custom Applicators and Technical Service Providers (TSPs)
- Increased inspection timeframes (1yr LFO, 3yr MFO and 7 yr CSFO)
- Revised MOUs with ANR and AGO
- Required Farms to receive education
- Rules for TSPs, Revised BMP Rule and MFO GP (2x)
- Revised TMDL for Lake Champlain
- Implemented BMPs on Farms
- Increased transparency (sending more referrals)
- Fulfilled significantly large public records requests
- Created WQ Database
- Revolutionized SharePoint Record Management
- Streamlined implementation (\$2.2M in 2015; \$18.4M in 2024)
- Secured millions in federal funding for additional programming
- Hired staff (13 in 2014; 33 today)



From 2016 – 2024, Vermont agriculture has lost:

350 dairy farms

14,000 dairy cows

72,000 acres of cropland and pasture

In 2022, 57% of all Vermont farms were unprofitable and lost a combined \$85 million

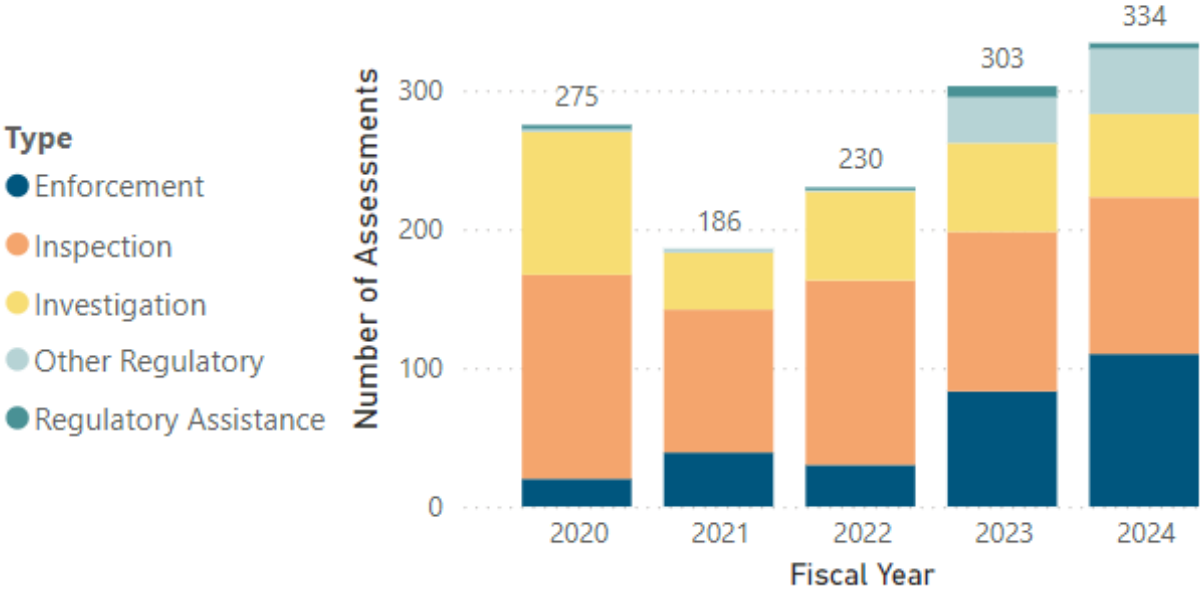
From 2016 – 2024, Vermont farmers have implemented:

500,000 acres of new conservation practices to cleanup Lake Champlain which include: cover crop, no-till, rotational grazing.

Inspection & Enforcement



Assessments by Fiscal Year and Type



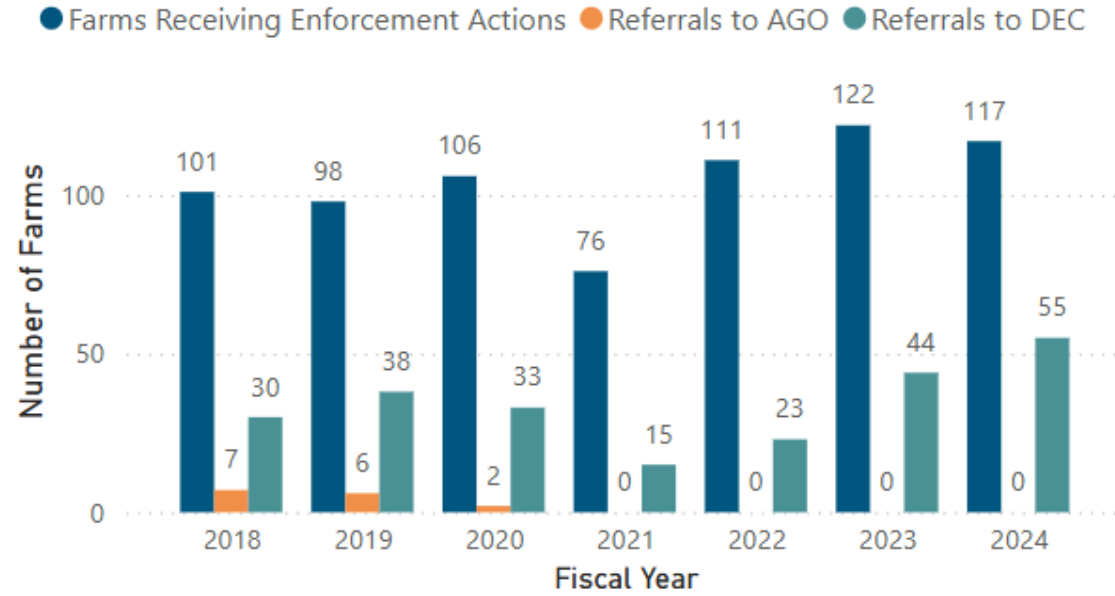
Farms Receiving Enforcement Actions by Year



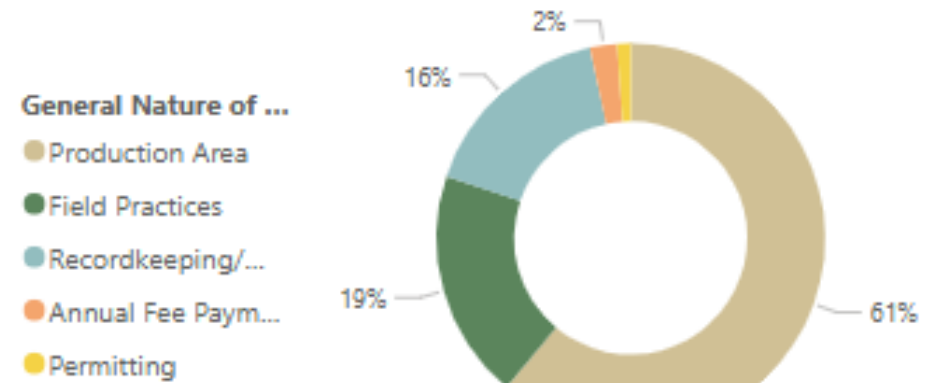
Inspection & Enforcement



Farms Receiving Enforcement Actions and Referrals



Counts/Violations by General Nature of Violation



Federal vs. State Regulation of Agricultural Water Quality

Point Source = Federal CAFO
(Clean Water Act)

Non-Point Source = Agency of
Agriculture State programs
(RAP, MFO and LFO regulations)

Legal Decisions of Federal CAFO

2003 CAFO Rule

Included a duty to apply for a CAFO permit for “potential” to discharge.

Waterkeeper decision

“the regulatory scheme enacted by Congress; the Clean Water Act gives the EPA jurisdiction to **regulate and control only actual discharges** – **not potential discharges**, and certainly not point sources themselves.”

Revised CAFO Rule 2008

Included that CAFOs “propose to discharge” if they are “designed, constructed, operated, or maintained such that a discharge would occur.”

National Pork Producers decision

“we conclude that the EPA **cannot** impose a duty to apply for a permit on a CAFO that “**proposes to discharge**” or any CAFO before there is an **actual discharge**.”

Vermont Regulatory Framework

ANR CAFO (actual discharges)

MFO and LFO (prevent discharges)

RAPs (regulate all farms to prevent discharges)

Differences between Permitting Schemes



CAFO Permit (federal)	MFO and LFO Permits (state)
25 year-24 hour infrastructure	25 year-24 hour infrastructure
NMP	NMP
Allows Discharges	Prevents Discharges
No erosion requirements	Erosion standards
No nuisance requirements	Nuisance requirements
No construction requirements	Construction permitting
Citizen suits (anyone)	Aggrieved persons (impacted)
0 foot buffer (100' manure setback), or 35 foot buffer streams, or Alternative (equiv. to 100' setback)	25 foot buffers on streams, and 10 foot buffers on ditches
Winter Spreading	Ban on winter spreading
No soil phosphorus limits	Required phosphorus reductions
No soil condition requirements	Snow and saturated soil requirements
No min storage requirement	180 days of storage required
No groundwater regulations	Groundwater standards

Regional State Examples

Vermont

DEC manages CAFO permits, no permits issued to date. VAAFPM issues MFO (97) permits with minimum 3 year inspections, and LFO (36) permits with annual inspections.

Maine

EPA approved delegation including a MOU between the Agriculture and Environmental Departments. Agricultural Department inspects majority of farms and issues LOP permits. Environmental Department manages 6 CAFO permits in 2023. They had 33 farms that were greater than 200 mature cows in the 2022 census. Inspect at least once every 5 years.

New York

No CAFO permits in 2023. There were 633 farms with more than 200 mature cows in 2022 census. All alternative state “no discharge” permits issued by Environmental Department. Farms greater than 300 cows inspected once every 5 years. Farms between 200 and 300 cows are not inspected, complaint based.

New Hampshire

One permit managed by EPA in 2023. 14 farms greater than 200 cows in 2022 census. EPA inspects once every 5 years. No inspection or alternative permit on remaining farms, complaint driven.

Water Quality Regulatory Database

Operation / Facility Information - Main Farm

Details Toggle Facility Layer Pre-Visit Data Check Export All Farm Operation Data Upload Photos

Operation Edit Facility Edit Reassign Facility

Farm Name Contact Info Farm Mailing Address

Assets Visit Records Interactions People Involved **Enforcement Actions** Practices Permitting and Certification Map

Add Enforcement Action

Date	Docket	Enforcement Action Type	Status	Link
September 4, 2020	2020-08-03 LF	CAL	Closed	Link
May 20, 2022	2022-05-19 LF	CAL	Closed	Link
May 3, 2023	2023-04-13 LF	NOV	Closed	Link
May 3, 2023	2023-04-14 LF	CAL	Open	Link
June 12, 2024	2024-06-05 LF	4991	Open	Link
September 4, 2024	2024-08-12 LF	CAL	Open	Link
September 4, 2024	2024-07-03 LF	NOV	Open	Link

Operation / Facility Information - Main Farm

Details Toggle Facility Layer Pre-Visit Data Check Export All Farm Operation Data Upload Photos

Operation Edit Facility Edit Reassign Facility

Farm Name Contact Info Farm Location Address

Assets **Visit Records** Interactions People Involved Enforcement Actions Practices Permitting and Certification Map

Add Visit Record Hide Background Assets Fill Transparency:

Visit Record ID	Date	Visit Type	Inspector
3955	Nov 19, 2024	Inspection	Mianda Wood
3540	Mar 27, 2024	Enforcement	Brittany Cole
3509	Mar 8, 2024	Admin/Office Review	Brittany Cole
3486	Nov 2, 2023	Inspection	Connor Steckel
3487	Nov 2, 2023	Inspection (Field Check)	Connor Steckel
3316	Oct 3, 2023	Admin/Office Review	Brittany Cole
3164	Dec 10, 2022	Technical Assistance	Sylvia Jensen
2924	Dec 5, 2022	Investigation	Connor Steckel
2950	Nov 4, 2022	Inspection (Field Check)	Connor Steckel
2923	Nov 4, 2022	Inspection	Connor Steckel
1253	Nov 5, 2021	Inspection	Connor Steckel
1333	Nov 5, 2021	Inspection (Field Check)	Connor Steckel
1096	Jul 14, 2021	Enforcement	Connor Steckel
965	Dec 16, 2020	Inspection	Connor Steckel
945	Dec 16, 2020	Inspection (Field Check)	Connor Steckel
104	Nov 7, 2019	Inspection	Connor Steckel
494	Nov 1, 2019	Investigation	Connor Steckel
2152	Dec 12, 2018	Inspection	Connor Steckel

Partner Database

Map Controls
Export Map Tools

Map Theme:

Basemap:

Optional Layers:

- CLU Boundaries
- ANR Counties
- ANR Towns
- ANR Deer Wintering Areas
- ANR Rare and Endangered
- ANR Floodable Soils
- ANR Wetlands VSWI
- ANR Waterbody/Streams
- ANR Soils
- ANR Soil Hydrogroup
- ANR Tactical Basins
- ANR Watersheds HUC12
- ANR Watersheds HUC10
- ANR Watersheds HUC8
- ANR Roads

COUNTY: Washington

TACTICAL BASIN: Winooski

HUC12 WATERSHED: Nasmith Brook-Winooski River

NUTRIENT MANAGEMENT: NMP Implemented

MANURE MANAGEMENT: Solid

MANURE STORAGE: Stack

WATER SOURCE: Drilled Well

FARM WAIVER-FARM: Yes

FARM WAIVER-NRCS: No

Fields Practices Visits & Interactions People Involved

Add Practice Status: Program: Year:

Practice ID	Practice	Program	Status	Install Date
9858	Cover Crop	[Not Specified]	[Not Specified]	Sep 25, 2019
8437	Access Road	BMP	[Not Specified]	Aug 1, 2019
6222	Fence	Farmer	Installed	Apr 16, 2019
6670	Prescribed Grazing	[Not Specified]	[Not Specified]	
9724	Heavy Use Area Protection	BMP	Planned	Aug 5, 2019

Let's Take a Drive through PowerBI

Contact Us!

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