

2024 Report Vermont Agricultural Water Quality Partnership

Vermont farms must meet high standards for environmental stewardship while balancing shifting markets, tough environmental conditions, and long days of hard work. The Vermont Agricultural Water Quality Partnership (VAWQP) was established in 2012 to support the evolving challenge of achieving Vermont's agricultural water quality goals. In particular, the Partnership focuses on improving water quality by reducing nutrient pollution from farms.

To achieve its vision of a Vermont populated by sustainable farms who steward their land to improve water quality for the benefit of all Vermonters, the VAWQP coordinates partner efforts to provide water quality education, technical and financial assistance to the farming community. The partnership also works toward building a strong collaboration among partner organizations by sharing research, trainings and updates across partners and aligning planning efforts to ensure the effectiveness of targeted watershed strategies.



Mission

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

Overarching Goals

1. To improve water quality and wildlife habitat on all farms;
2. Deliver technical and financial assistance in the most efficient and effective manner; and
3. Provide the best service experience possible for the farmer.

The Partners

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



FROG HOLLOW FARMSTEAD

by Sadie Brown, PMNRCD

Janis and Jason Reinke operate a small, diversified farm in Castleton, Vermont located along Sucker Brook, within the Castleton River Watershed. This parcel has historically been used for agricultural purposes and housed a small beef herd prior to the Reinke's purchased in 2020. Since moving to Vermont, the Reinke family has been working on expanding their farm and rebuilding the soils of the close to one hundred acres that make up the Frog Hollow Farmstead.

The Farmstead bases their operation on organic and permaculture principles with a focus on raising heritage breed animals, including cattle, sheep, pigs, and chickens, and growing heirloom, open pollinated produce. Following their passion for food and community, the Reinke's also operate a small café which features products from their own farm, a seasonal menu, and features products from other local farms and small businesses.

With Sucker Brook and a small tributary running through the farming operation, the Reinke's were mindful of the impacts their farm may pose to the waterway, especially as they grow their operation. "The pasture, where the buffer and planting were done, is where animals would over-winter. The brook is a downstream water source for many of our neighbors, and the animals have had unrestricted access to the brook in past years." says owner Janis Reinke.



Past water quality monitoring data through the DEC LaRosa Monitoring Program has shown this section of Sucker Brook as having elevated nutrient levels. In addition to the known water quality concerns in the watershed, the parcel, which is now the Frog Hollow Farmstead, was identified as a project location in the 2016 Storm Water Master Plan (SWMP) conducted by the Poultney Mettowee Natural Resources Conservation District (PMNRCD). This area of the watershed has long been a focus for the PMNRCD, so when staff with the Conservation Reserve Enhancement Program (CREP) from the Agency of Agriculture and United States Fish and Wildlife Service (USFWS) reached out about partnering on this project, the District was more than happy to collaborate.



The 2024 project included a 3.88-acre planted buffer, invasive plant removal, exclusion fencing along Sucker Brook and a small tributary, and three designated stream crossings for animals. In May 2024, District staff, through the Champlain Valley Native Plant Restoration Nursery, and local volunteers planted the area, converting former low-quality pasture into a diverse forested buffer. “We are really looking forward to recreating natural woodland areas throughout the farm that attract wildlife, birds, and are filled with native trees and shrubs,” Janis shared, “Many of our neighbors have also stopped to share their excitement for the project and are anxious to see the changing landscape.”

The new buffer, planted with 1,360 native tree and shrub species such as willows, dogwoods, viburnums, and evergreens, will have many positive impacts and help to address several issues the farm and this watershed are experiencing. The goals of this project include reducing nutrient runoff, managing the active erosion occurring on the stream banks, shading the water to promote fish habitat, and allowing the brook access to a functioning vegetated floodplain.

“The project at Frog Hollow Farmstead has allowed us to protect both Sucker Brook and its tributary from livestock impacts. Through CREP we were able to install fencing to exclude the livestock from the streams and establish a riparian forest buffer at no cost to the landowner. The exclusion fence improved water quality immediately and a mature riparian forest buffer will improve both water quality and aquatic and terrestrial wildlife habitat,” says Phil Wilson with CREP.

The success of projects like these requires coordination and collaboration between partners, while keeping the farmer and their goals for the land at the forefront of the work. “The Poultney Mettowee Natural Resources Conservation District was a valuable partner on the project. They sourced high quality plant material and, as always, took great care with handling and planting the trees and shrubs,” shared Ben Gabos with CREP, “The District staff also creatively worked around farm logistic issues that delayed planting in some project areas and communicated effectively with CREP staff and farm owners to complete the planting without compromising the health of the plant material and success of the project.”

Funding for the project was provided by Vermont’s Conservation Reserve Enhancement Program, United States Fish and Wildlife Service, and Pur Projet. If you would like to learn more about this project (and others!) check out the Summit to Shores video series through the Lake Champlain Basin Program.

**The figures on the last page are based on the total federal program investments and corresponding results during the Federal Fiscal Year 2024 (October 1, 2023 to September 30, 2024) and the total state program investments and results from the State Fiscal Year (July 1, 2023 to June 30, 2024). All other results included in this report are based on the State Fiscal Year 2024. Farmer contributions are estimated.*

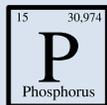
Investments and Impacts

State and Federal Commitment to Water Quality

AGRICULTURAL PROJECT INVESTMENTS AND PHOSPHORUS REDUCTION PROGRESS



\$53.9 million dollars invested for implementation of agricultural water quality and conservation projects on Vermont Farms. **\$9.4** million estimated farmer investment in water quality and environmental stewardship. **926** farmer grants and contracts.



50 metric tons estimated phosphorus load reduction from agricultural sector. Equivalent to **3.6** dump truck loads.



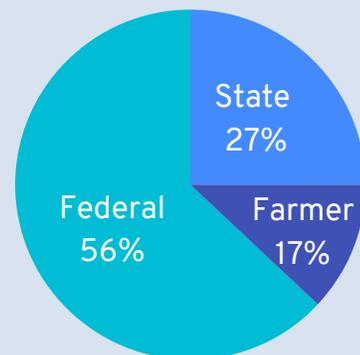
26% of Lake Champlain Basin and **17%** of Lake Memphremagog Basin Total Maximum Daily Load required phosphorus reductions met through clean water programs.

"CONSERVATION ON FARMS CAN BE A BIT LIKE COMPLETING A PUZZLE, TAKING ONE PIECE AT A TIME AND FINDING THE BEST FIT." SARAH DAMSELL, ORLEANS COUNTY NATURAL RESOURCES CONSERVATION DISTRICT



Clean water restoration plans, known as Total Maximum Daily Loads (TMDLs), identify pollutant reductions required for an impaired waterbody to meet the State of Vermont's water quality standards. Tactical Basin Plans identify and prioritize clean water projects across land use sectors (stormwater, agriculture, rivers, roads, and wastewater treatment) based on scientific monitoring data and assessment results.

\$53.9 million Invested*



On-Farm Implementation

96,743 ACRES OF ANNUAL CROPLAND



Soil health practices such as cover crop and conservation tillage reduce erosion and build soil resulting in a positive impact for water quality. In 2024 farmers planted **33,656** acres of cover crops such as rye, or other winter crop species and **6,124** acres of cropland was managed with conservation tillage to reduce erosion.



49 farm barnyards and **15** manure storage systems constructed to properly store agricultural waste and prevent runoff of nutrients.



15 farms were conserved including **8** miles of streams with 50-ft riparian buffers

Farm conservation easements ensure our cherished farmland will remain that way forever.



74 acres of riparian forest buffers installed

Vegetated areas adjacent to waters that filter runoff and nutrients; stabilize eroding banks, prevent flood damage; support ecosystems, and provide habitat.



135 acres of wetlands conserved

Wetlands are crucial habitat for wildlife and aquatic species, they control erosion and reduce flooding, and improve water quality.