Vermont Clean Water Initiative
2024 Performance Report

To: Senate Committee on Natural Resources and Energy

From: Emily Bird & Claire Madden, VT Department of Environmental Conservation

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Vermont Clean Water Initiative 2024 Performance Report

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Clean Water Initiative Program Mission

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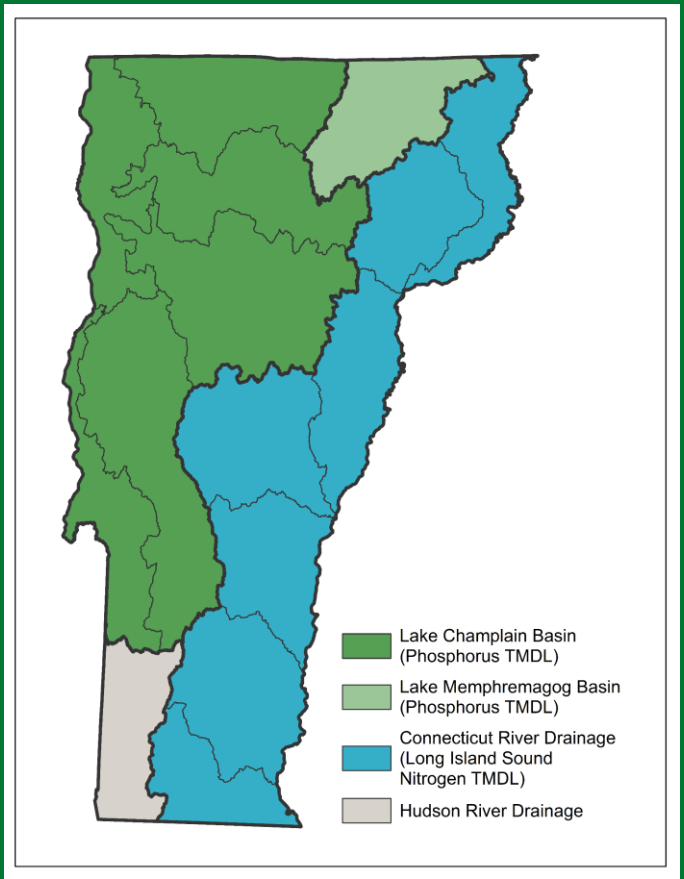
Water Quality in Vermont



- Vermont's waterways vary in quality
  - Many waters are of **exceptional quality** and require **protection**
  - Some waters suffer from **excess pollution** and require **restoration**
- Excess nutrient and sediment pollution can create imbalances that lead to water quality impacts, including cyanobacteria blooms.
- Clean water restoration plans — Total Maximum Daily Loads (TMDLs) — identify pollutant reductions required for an impaired waterbody to meet the State of Vermont's water quality standards.

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Vermont Clean Water Act (Act 64 of 2015)

“All-in for Clean Water”

Reasonable assurance to meet nonpoint source pollution reduction targets:

- Water quality regulations
- Clean Water Fund
- Tracking, accounting, and reporting requirements

Clean Water Service Delivery Act (Act 76 of 2019)

- Long-term clean water funding source, updated priorities
- Four new grant programs:
  - Water Quality Restoration Formula Grants
  - Water Quality Enhancement Grants
  - Developed Lands Implementation Grants
  - Municipal Stormwater Implementation Grants
- Additional reporting expectations — addressed in Appendix A




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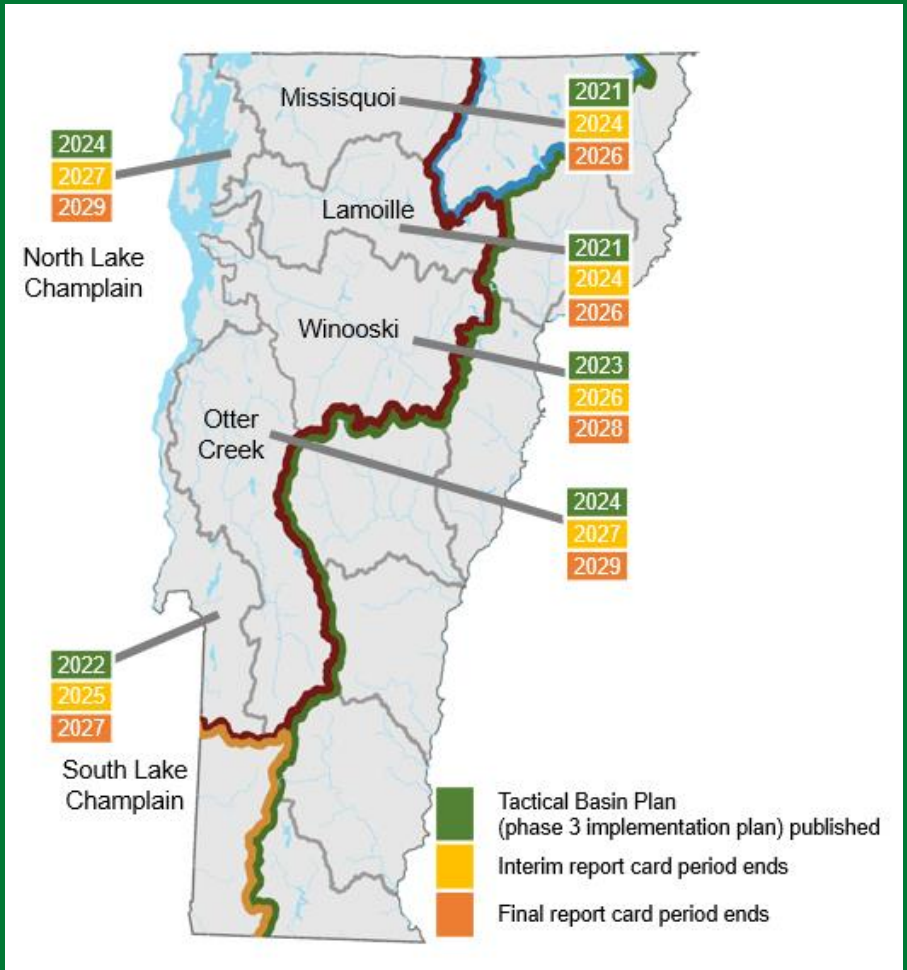
Tactical Basin Planning

- Collaboration with partners for each of Vermont's 15 basins every 5 years:
  - Surface water protection and restoration strategies addressing TMDL, Act 64
  - Geographically specific actions for partners and state to implement
  - Technical and financial resources to support best management practice adoption



Lake Champlain TMDL Accountability Framework

TMDL establishes phosphorus targets

Tactical Basin Plans (TBP) I.D. five-year interim planning targets

EPA issues report cards by planning basin on five-year rotation

TBP I.D. priority actions to meet five-year planning targets

DEC measures progress against TMDL base load and targets

DEC tracks actions implemented via regulatory/funding programs

DEC estimates annual average phosphorus load reductions

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LAND USE SECTOR	PROJECT OBJECTIVES	EXAMPLE PROJECTS	PROJECT BENEFITS	FEATURED FLOOD RESILIENCE BENEFITS
AGRICULTURE	Reduce pollution by slowing and controlling rain or snowmelt runoff and soil erosion from farm production areas and farm fields	 	• Cost-effective • Supports agricultural economy • Improves soil health	• Cover crops and no-till practices reduce soil erosion and runoff, improve soil health, and increase the water holding capacity of agricultural lands
STORMWATER	Reduce pollution by slowing and controlling rain or snowmelt runoff from developed lands, such as parking lots, sidewalks, and rooftops	 	• May enhance aesthetic appeal • Publicly visible educational opportunity • Adds green space in residential and commercial areas	• Projects lower the volume and speed of rain or snowmelt runoff from the landscape, which reduces flash flooding during heavy rainfall events
NATURAL RESOURCES	Reduce pollution by restoring functions of natural infrastructure — river channels, floodplains, lakeshores, wetlands, and forests	 	• Cost-effective • Improves habitat • Enhances recreation • May improve public access	• Floodplains and wetlands help to slow down and absorb flood waters, reducing flood hazards downstream • Natural lakeshores are more resilient to erosion during severe weather and flood events
TRANSPORTATION RELATED STORMWATER	Reduce pollution by slowing and controlling rain or snowmelt runoff and erosion from roads	 	• Reduces future road maintenance costs • Improves public safety	• Improved road drainage and erosion prevention makes our transportation networks more resilient to erosion during heavy rainfall events and flooding
WASTEWATER	Reduce pollution by improving wastewater infrastructure	 	• Protects public health and safety	• Relocating infrastructure out of flood-prone areas improves community flood resilience • Improving infrastructure reduces likelihood of sewer overflows during heavy rainfall events

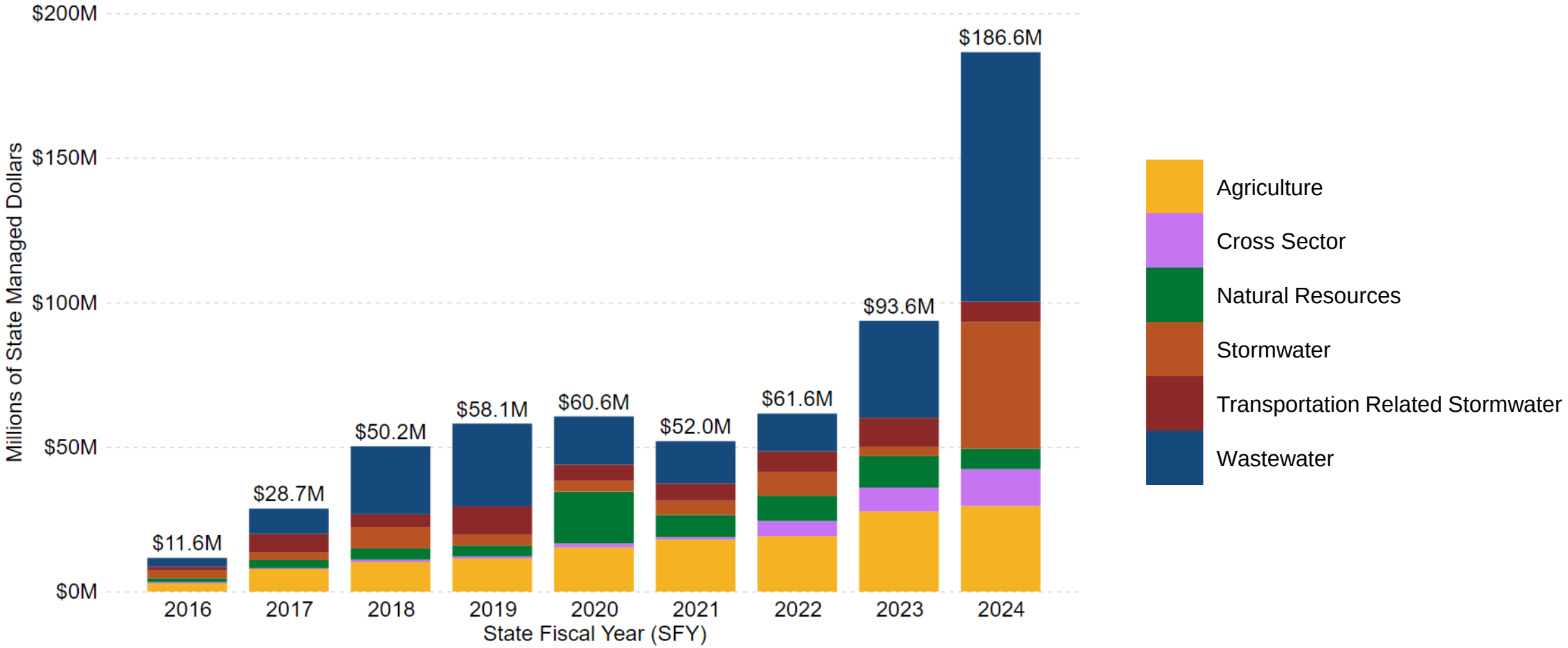
Investment measures show how Vermont invests in clean water projects from identification and planning through design, implementation, and maintenance.

Education measures summarize outreach and technical assistance to support, identify, develop, and maintain clean water projects.

Project output measures quantify the results of clean water projects.

Pollutant reduction measures are estimated nutrient load reductions achieved by clean water projects.

State Investments by Sector



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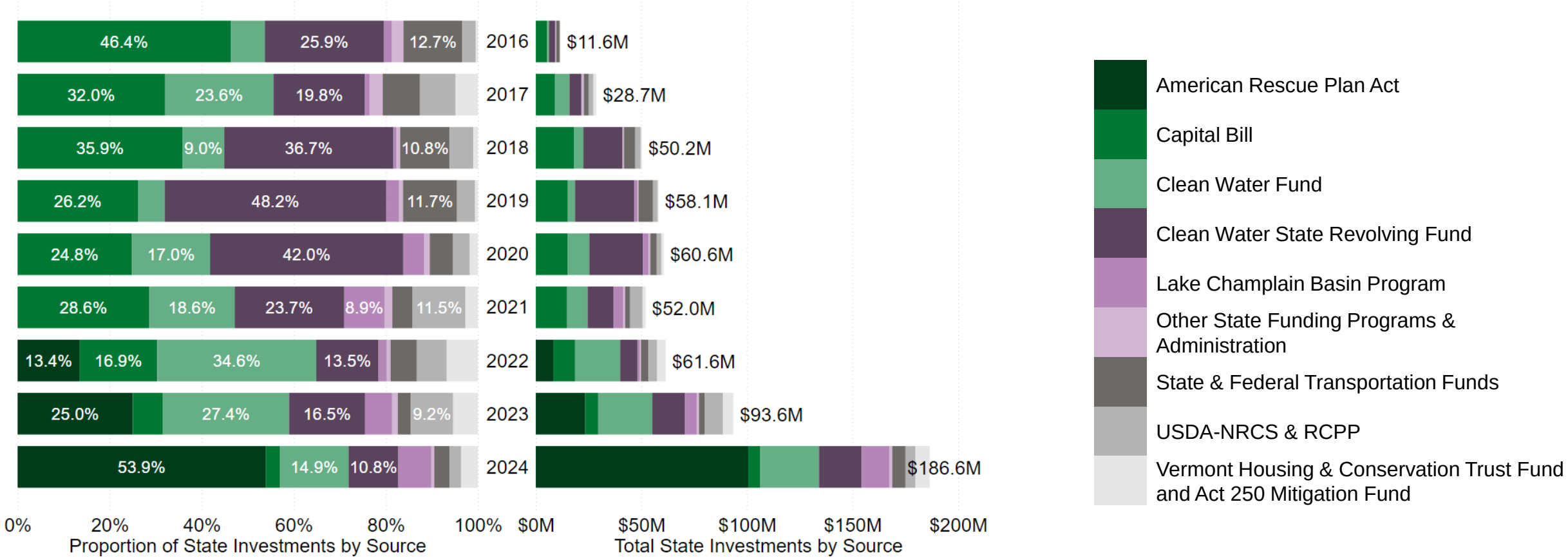
State Investments by Funding Source



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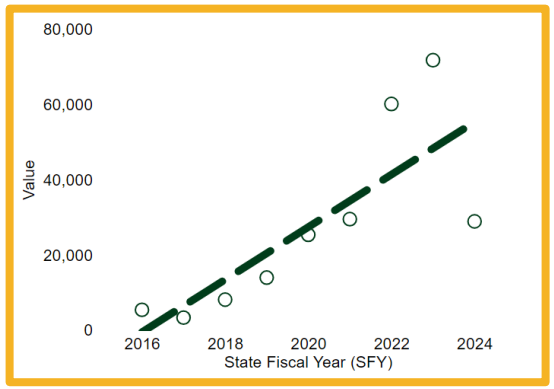
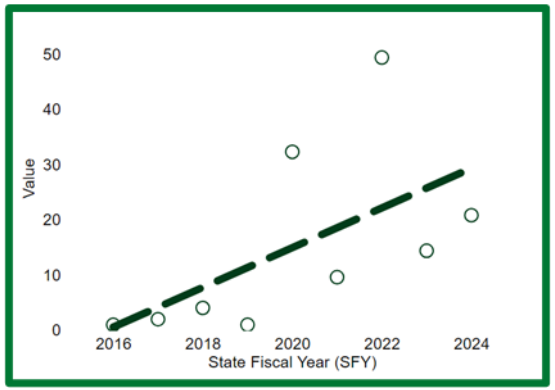
Project Outputs



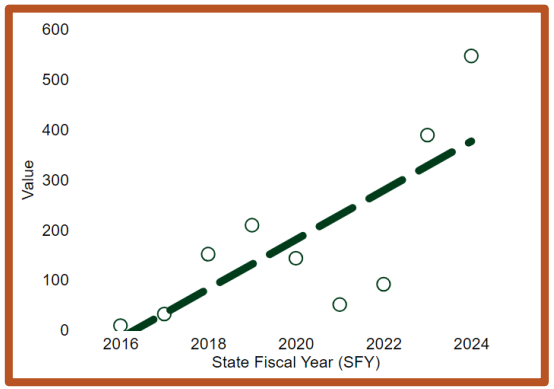
246,915

Acres of agricultural conservation practices implemented



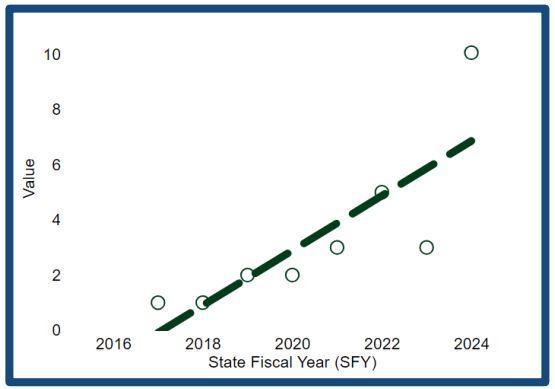
135

Acres of floodplain restored



1,627

Acres of existing impervious surface treated by stormwater treatment practices under stormwater permits



27

Number of wastewater collection systems refurbished

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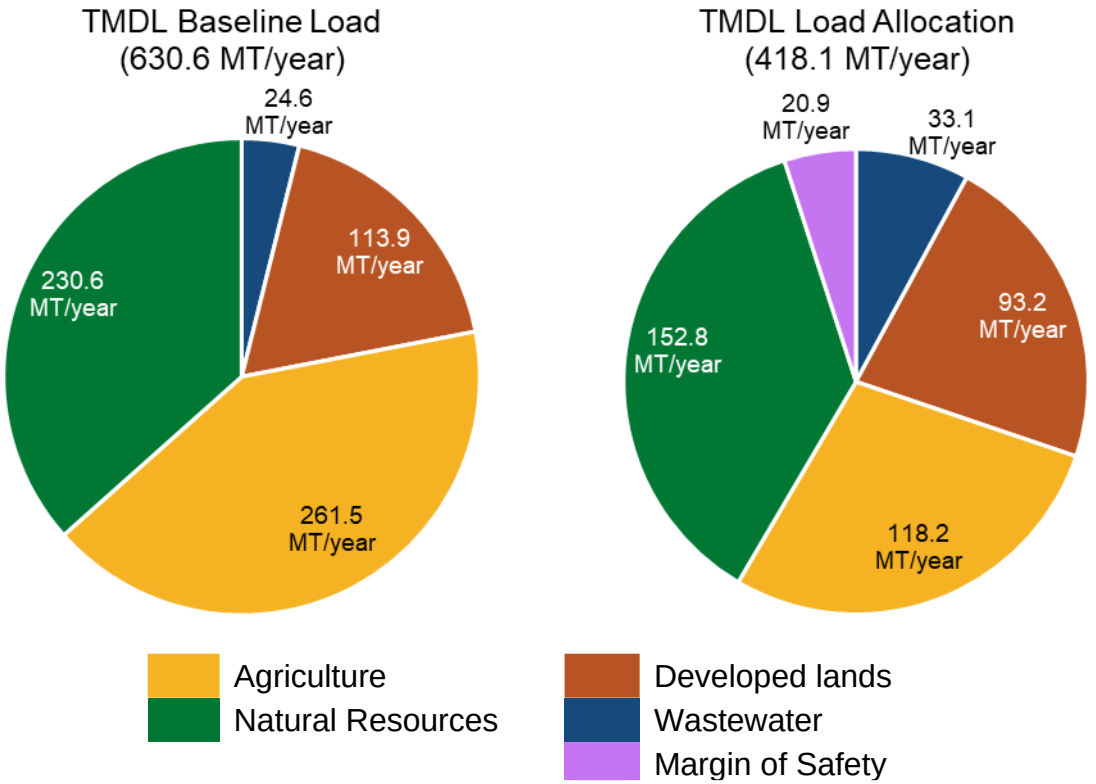
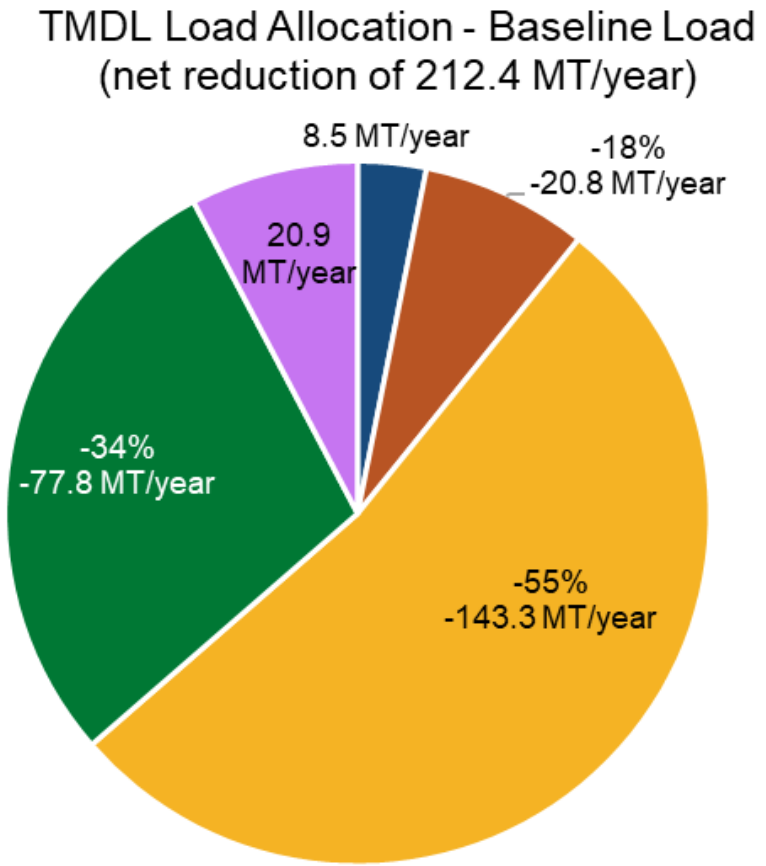
Lake Champlain TMDL





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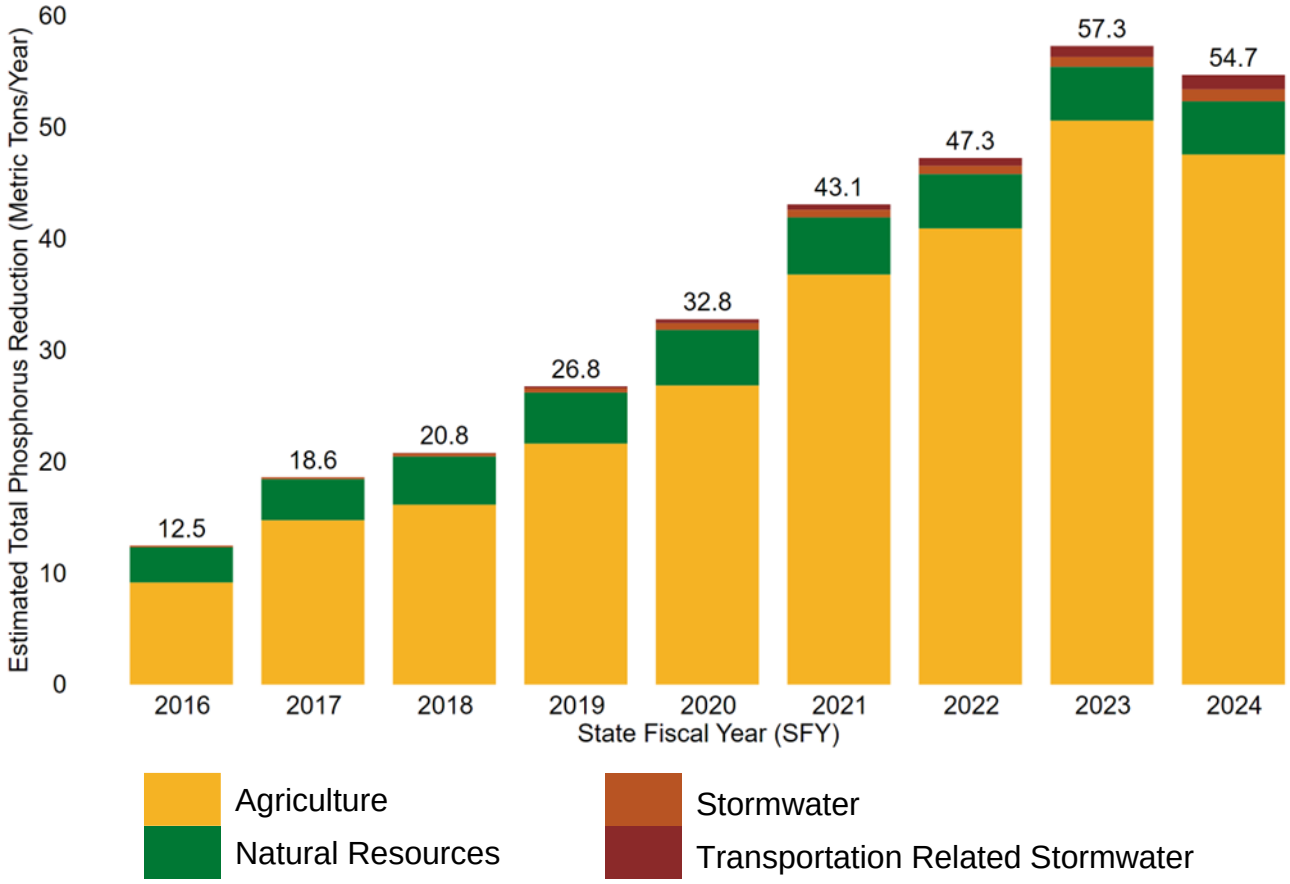
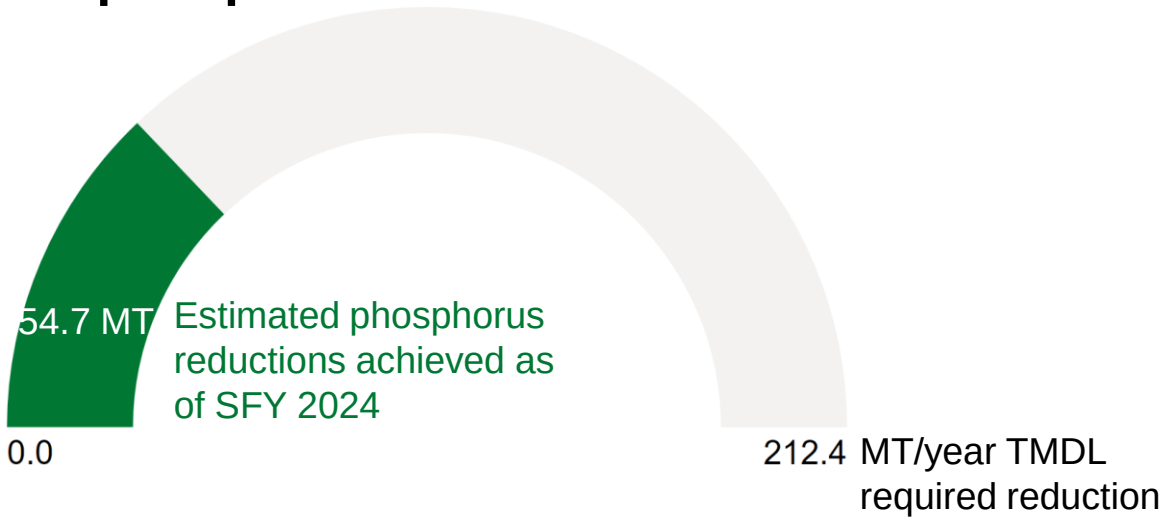
Phosphorus Reduction | Lake Champlain



25.8% of TMDL required reduction is reflected in reported estimated phosphorus reduction as of SFY 2024



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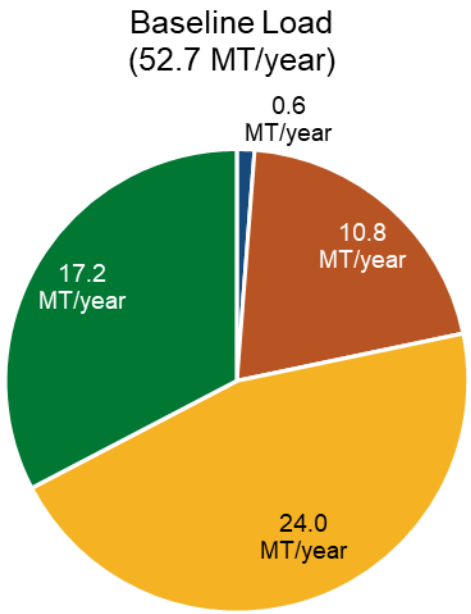
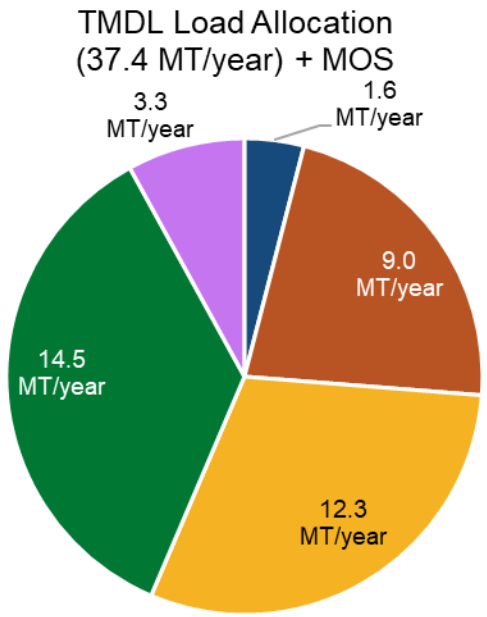
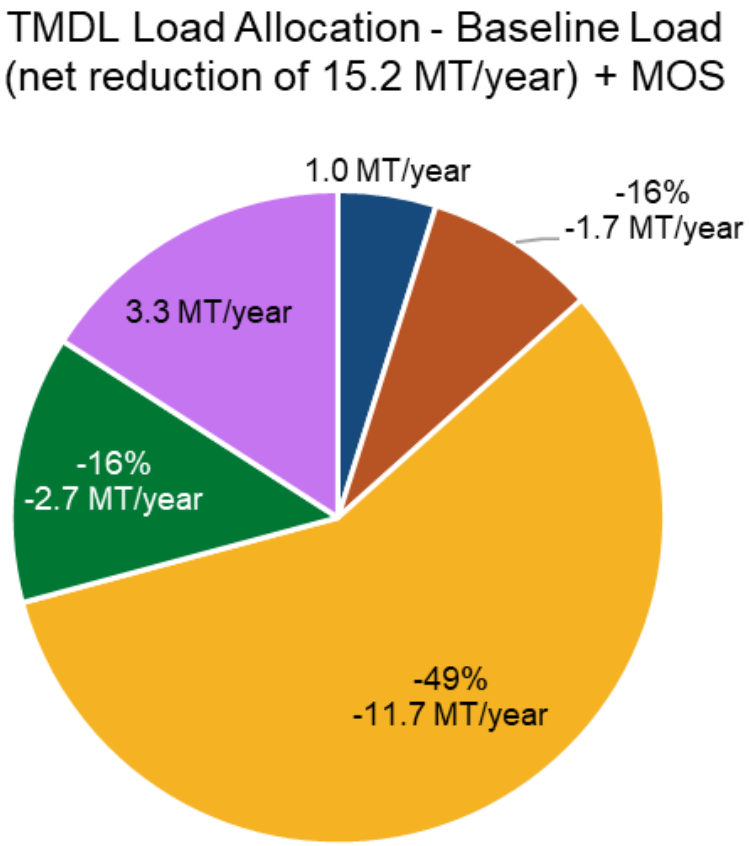
Lake Memphremagog TMDL







Agriculture
Natural Resources
Developed lands
Wastewater
Margin of Safety

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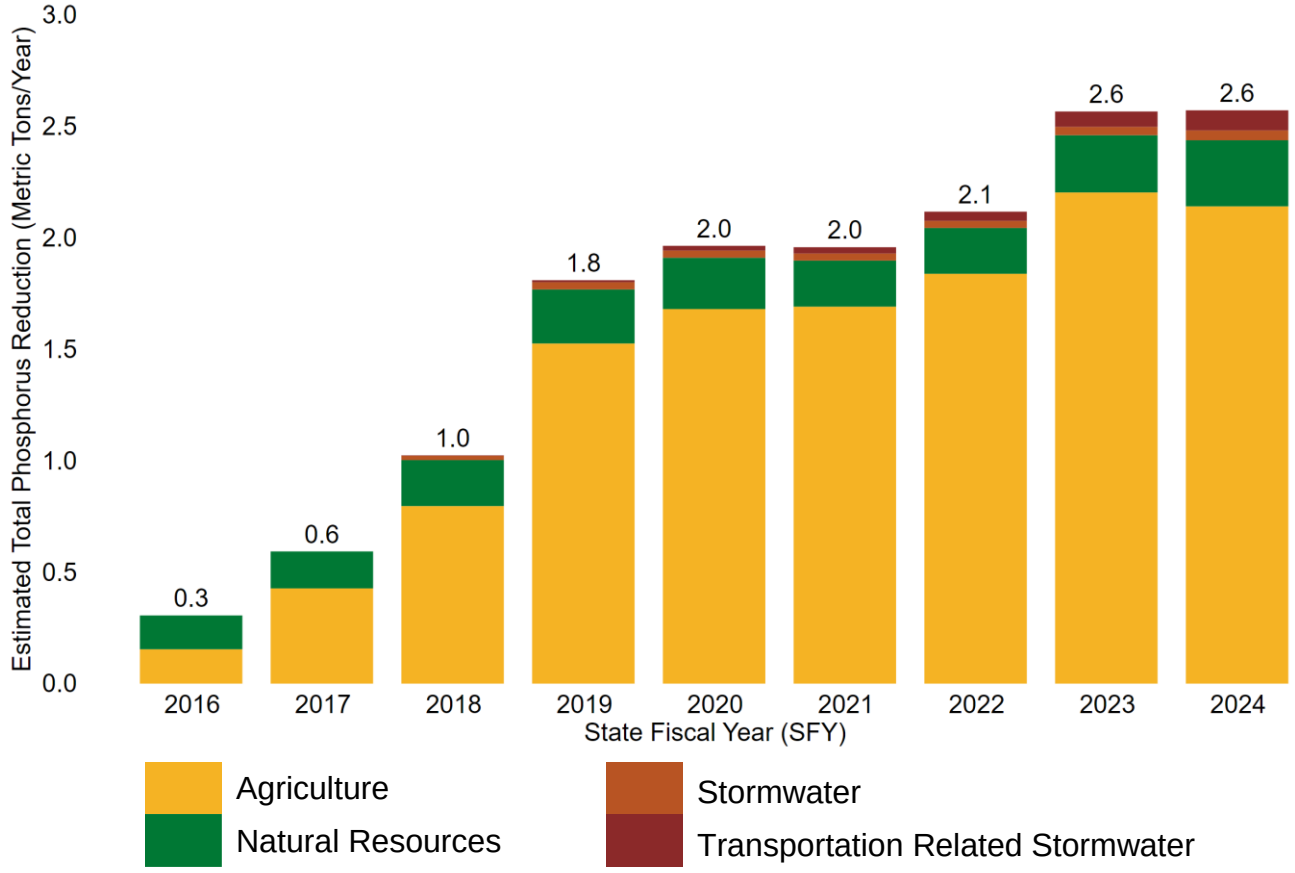
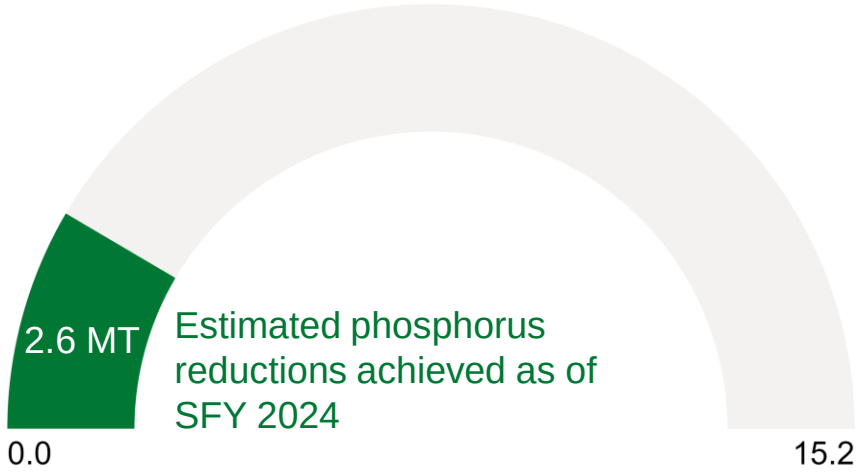
Phosphorus Reduction | Lake Memphremagog



17.1% of TMDL required reduction is reflected in reported estimated phosphorus reduction as of SFY 2024



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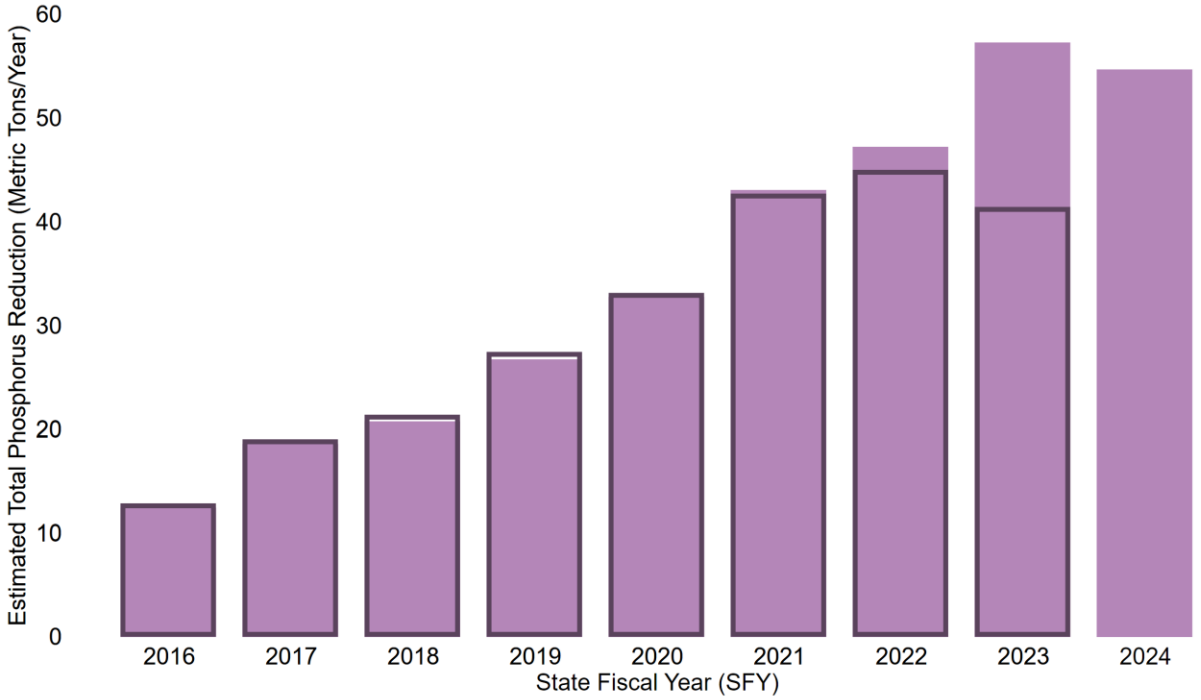
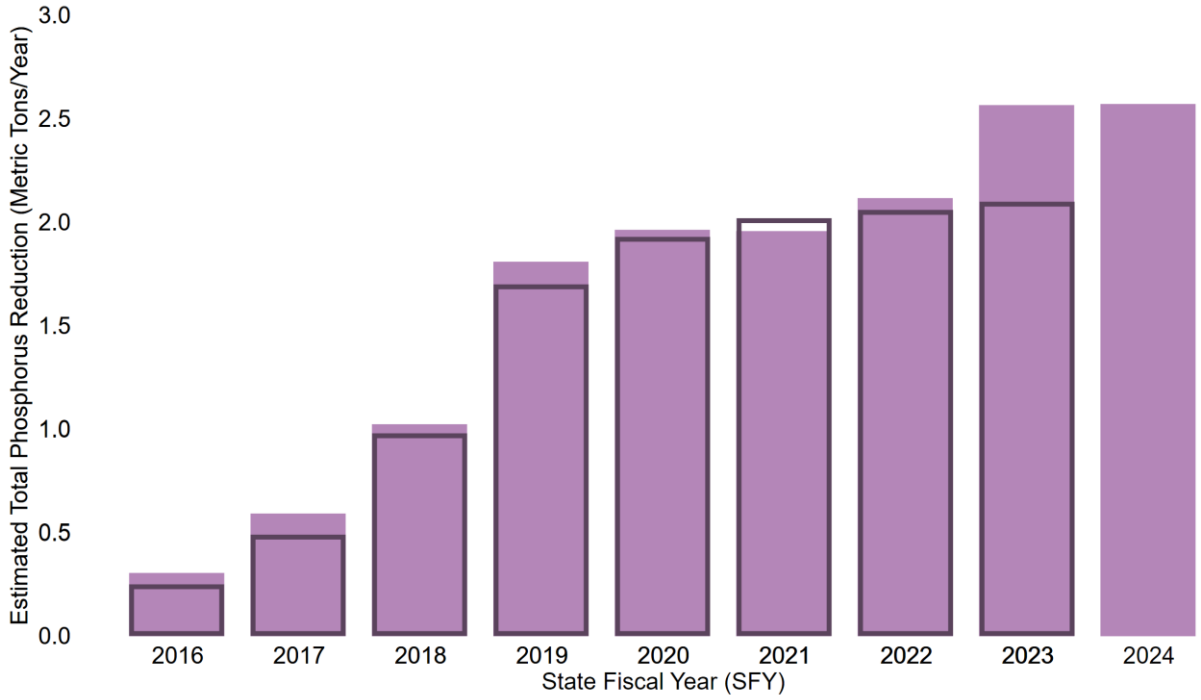
Phosphorus Reduction

Lake Champlain basin



Lake Memphremagog basin



Estimated phosphorus reductions reported in SFY 2023

Estimated phosphorus reductions reported in SFY 2024

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Clean Water Interactive Dashboard

Welcome to the Clean Water Interactive Dashboard!

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The Clean Water Interactive Dashboard is a data visualization tool that allows users to engage with data summarizing clean water investments, outputs, and outcomes across Vermont. The data presented in this tool is compiled annually for the *Vermont Clean Water Initiative Annual Performance Report,* which is submitted to the State Legislature and the Federal Environmental Protection Agency to communicate the state's progress in reaching our water quality goals.
Click here to access the *Vermont Clean Water Initiative Annual Performance Report.*

Vermont's lakes, rivers, wetlands, and reservoirs are important environmental and economic resources for residents and visitors. The State of Vermont has made it a priority to support partners' work to restore, enhance, and protect Vermont's water quality. In Vermont, a primary water quality challenge is pollution caused by excess sediment and nutrients, such as phosphorus and nitrogen, originating from the land and carried to waterways through runoff.
Click here to learn more about phosphorus and related water quality challenges.

Clean water projects address a variety of causes and sources of water quality issues across land uses. Clean water projects provide co-benefits for the environment and local communities, such as increasing flood resilience, improving habitat function and biodiversity, supporting carbon sequestration, improving soil health, supporting workforce development, and providing local economic stimulus.

Click here to learn more about clean water projects.

Data presented in this dashboard is organized by Tactical Basin Planning region. The State of Vermont uses the Tactical Basin Planning process to identify and prioritize clean water actions at a regional scale. Click here to learn more about Tactical Basin Planning.

Click on the map to find out how Tactical Basin Planning regions relate to other spatial boundaries.

Visit the help page for tips on how to navigate the dashboard: Click for Power BI Help




photo credit: Linda Carlsen-Sperry, Jim Dreshler, Blaine Hastings

Click on one of the measure icons below to view the data!

Investment measures show how Vermont invests in clean water projects from identification and planning through design, implementation, and maintenance. *State investments* are dollars obligated or awarded by State of Vermont agencies. *Federal investments* included in this report are dollars awarded to clean water projects through the Lake Champlain Basin Program.

Project output measures quantify the results of clean water projects. Output measures are standardized across programs based on project type to consistently summarize the results of funding and regulatory efforts.

Pollutant reduction measures are estimated nutrient (phosphorus) load reductions achieved by clean water projects modeled at the individual project level. Modeled pollution reduction estimates are based on the total pollutant load of the area treated and the expected pollutant reduction efficiency of the project.

Cost effectiveness measures return on investment, or dollars spent on project implementation per unit of pollution reduced. Cost effectiveness considers the total estimated pollutant reduction of the project for its anticipated functional life and total investment spent on implementation of the project.

Education measures summarize state efforts to support identification, development, and implementation of clean water projects. The State of Vermont and its partners deliver education through outreach events like workshops, trainings, and public meetings as well as targeted, one-on-one technical assistance.

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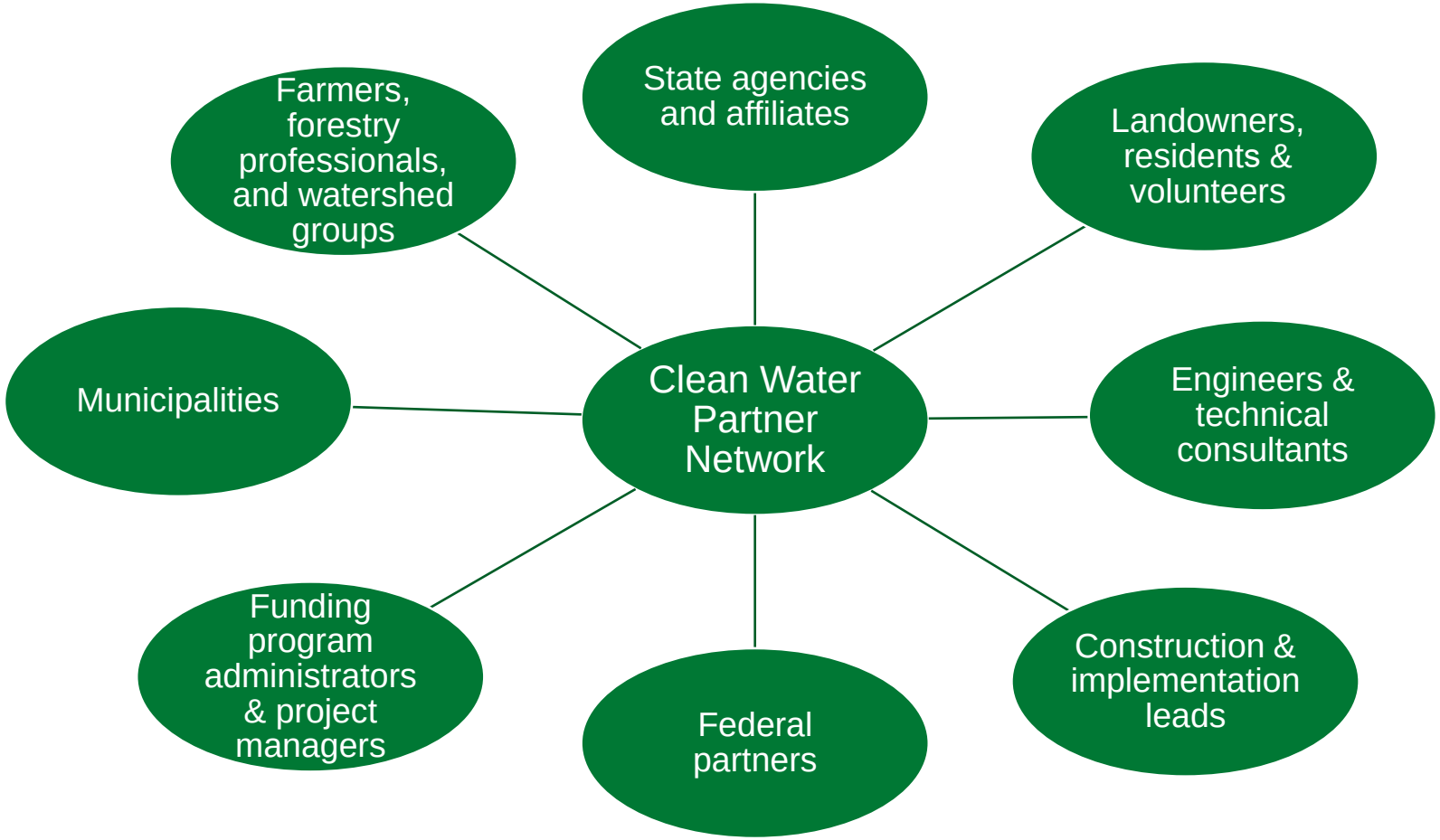
Clean Water Community



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Project Highlights – Agriculture

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Project Highlights – Natural Resources

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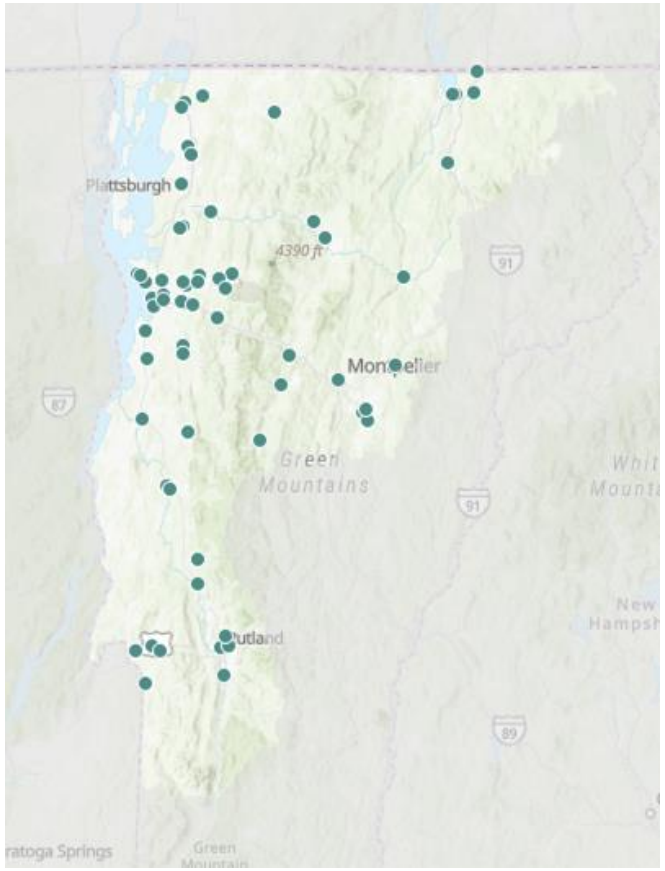
Project Highlights – Stormwater



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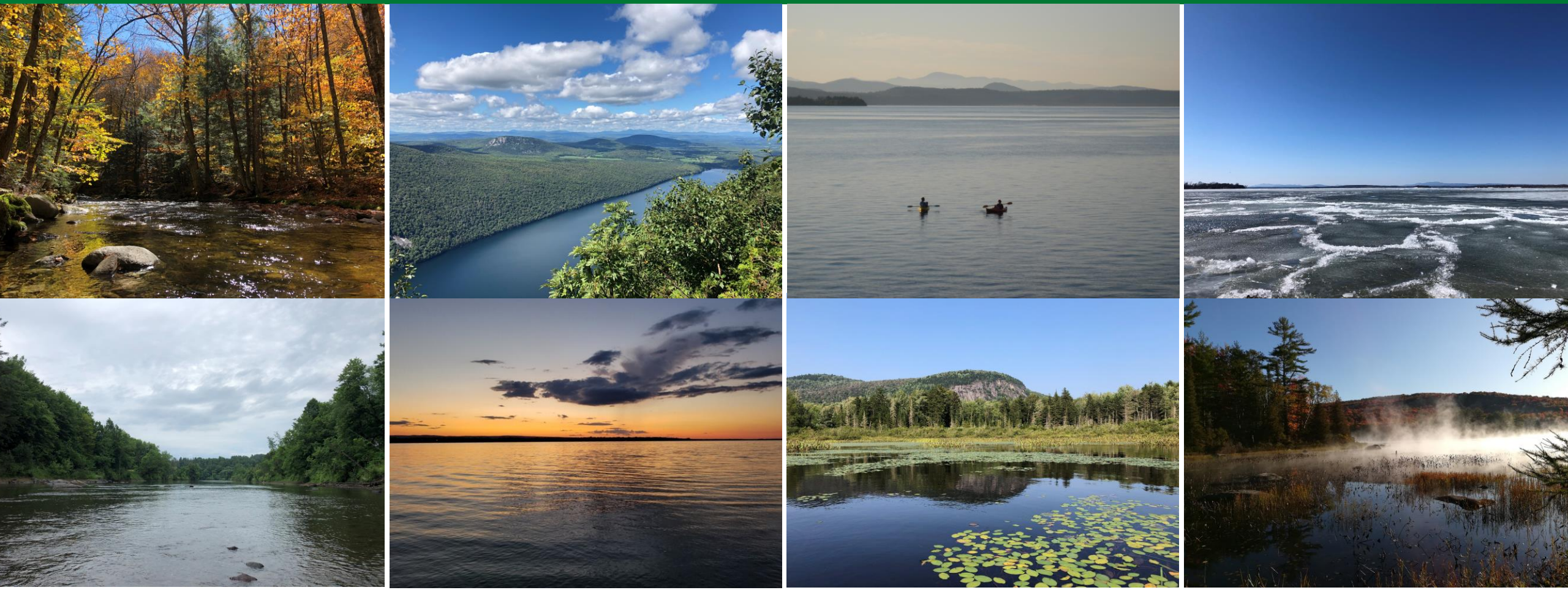
Key Takeaways



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Resources

Learn more:

- Read the Clean Water Initiative 2024 Performance Report
- View the data in the Clean Water Interactive Dashboard
- Tune in to the 2025 Clean Water Conversation Series

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