Vermont Clean Water Board Meeting Minutes

Date/Time: Wednesday, February 14, 2024, 2:30 – 4 PM

Virtual Option to Attend: Microsoft Teams Meeting

Physical Location to Attend In-Person: Agency of Natural Resources, One National Life Drive, Montpelier, VT 05602 in the Catamount Room (Davis Building, 2nd Floor, Room D215).

Meeting details, materials, and recordings available at: https://dec.vermont.gov/water-investment/cwi/board/meetings

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Clean Water Board Members/Designees:
Douglas Farnham, Agency of Administration (AoA) Chief Recovery Officer and Designated Clean Water Board Chair (Present)
Tayt Brooks, Agency of Commerce and Community Development (ACCD) Deputy Secretary (Present)
Alison Conant, public member (Absent)
Bob Flint, public member (Present)
Joe Flynn, Agency of Transportation (VTrans) Secretary (Present)
Julie Moore, Agency of Natural Resources (ANR) Secretary (Present)
Jim Giffin, public member (Present)
Anson Tebbetts, Agency of Agriculture, Food and Markets (AAFM) Secretary (Present)
Chad Tyler, public member (Present)

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1. Welcome **Recording Time Stamp 00:00[1]**

Douglas Farnham, Chief Recovery Officer and Clean Water Board Chair

- Welcome and review of agenda
- Review of meeting minutes from December 5 Board meeting. No comments from the Board.

2. Review Governor's State Fiscal Year (SFY) 2025 Clean Water Budget recommendation

Julie Moore, Agency of Natural Resources Secretary **Recording Time Stamp 1:35**

- Secretary Moore shared the SFY 2025 Clean Water Budget as proposed by the Governor. This included a review of how Capital and Clean Water Fund dollars are split across line-items. The Governor made no changes to the Board's recommendation.

3. Review Clean Water Fund Operating Statement **Recording Time Stamp 5:33**

Nick Kramer, Department of Finance and Management Budget Analyst

- Nick Kramer provided updates to Clean Water Fund revenue projections for State Fiscal Years 2024-2026. Successive revenue estimates for any given fiscal year are on a downward trend. Nick indicated these revenue trends reinforce the importance of the Board's conservative budgeting approach since budget targets are determined so far in advance of realizing the actual revenue.
  - Jim Giffin, public member of the Board, asked for and received clarification on the distinction between the contingency reserve line and the unallocated/unreserved lines.
  - Board had brief discussion on the trends and potential floor of expected revenue from the Property Transfer Tax Clean Water Surcharge.

[1] Please refer to the available meeting recording to learn more about discussion content under each agenda item. Recording Time Stamps are highlighted to direct focus on the recording. Recording can be directly accessed here: https://youtu.be/rugHQq1RdX4

4. **Review Clean Water Fund Contingency Reserve Plan** **Recording Time Stamp 23:00**
Emily Bird, Dept. of Environmental Conservation Clean Water Initiative Program Manager

- Emily Bird provided an overview of the Contingency Reserve Plan, a summary of proposed changes, and a visual diagram of revenue reconciliation timelines in alignment with fiscal year budget builds. She shared updates to the Contingency Plan including: 1. clarification of the plan's intent, 2. considerations for the Board to recommend changes to the Reserve balance, 3. clarification and refinement of the process for secondary Reserve purpose.
    - Jim Giffin suggested that the Plan be renamed as "Guidelines" and other Board members expressed no concern for this change.
    - Jim Giffin made the motion to approve the "Guidelines." Secretary Moore seconded the motion and the motion passed without further discussion.

5. **Presentation of the Recommendations on Water Quality Trading Report Recording Time Stamp 51:55**
Amy Polaczyk, Dept. of Environmental Conservation Wastewater Program Manager and Kevin Burke, Dept. of Environmental Conservation Stormwater Program Manager

- Amy Polaczyk and Kevin Burke shared a summary of the Water Quality Trading report which stems from a requirement of Act 76 of 2019 to consult with the Board before sharing with the legislature for further consideration. It is not recommended to pursue this methodology at this time given existing trading-like mechanisms, lack of demand, and the required development timeline.
    - Secretary Moore asked if there are any places that have already used water quality trading effectively. Amy said that the most valuable example of this is from Connecticut nitrogen trading in the 1990s. She reached out to the people involved in that process and it took many years and a lot of people to develop that process.
    - Jim Giffin asked how existing trading rules or opportunities interface with Act 250 permits. Amy noted that she will follow up with the ANR planning office before filing the report to make sure that this is addressed.

6. **Public comment** **Recording Time Stamp 1:09:21**
Led by Douglas Farnham
    1. Albert Perry advocated to increase the Reserve amount and shared that he is concerned to see the decrease in the budget from last year. He suggested that the Board create a budget for more than one year in advance, so the public knows what to expect in coming years.
    2. Peter Benevento asked for funds for an alum treatment in Lake Carmi.
    3. Andrea Englehardt supported Pete's comment to step in with an alum treatment for Lake Carmi.
        - Emily Bird shared that there is alum treatment implementation funding for SFY2025 pending results of feasibility study and permitting that is baked into the Board's recommended budget pending legislative authorization.
    4. The Board received some public comments via email listed here and attached to these minutes:
        - Lindsey Waterhouse (see page 4).
        - Luca Conte (see page 7).
        - Elizabeth Malko (see page 8).

7. **Other business, determine next steps, closing remarks** **Recording Time Stamp 1:22:28**
Led by Douglas Farnham
    a. Vermont Clean Water Initiative 2023 Performance Report is submitted to Legislature and U.S. Environmental Protection Agency
    b. Explore the data on the Clean Water Interactive Dashboard
    c. Watch the recent Clean Water Conversation on the Vermont Clean Water Initiative 2023 Performance Report

- Secretary Moore offered appreciation for the Clean Water Performance Report. She said challenges are ahead and it is a gift to have this kind of information that tracks progress over time. This information is being used as a model for how ANR will track the state's climate work for global climate solutions.

- Emily Bird shared that the CWIP team will reach out to the Board in early summer with a timeline on the SFY 2026 budget cycle and the Board will reconvene in October.

8. Meeting Adjourned at 4:01 pm **Recording Time Stamp 1:31:17**

From:	Lindsey Waterhouse
To:	ANR - Clean Water VT
Cc:	Miller, Colleen; john-widness; Lindsey Waterhouse
Subject:	Re: 2/14 CWB Meeting
Date:	Tuesday, February 13, 2024 5:50:22 AM
Attachments:	Comments For the Vermont Clean Water Board - 262024.docx LCW - Resume - Update 3.odt

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

I wish to thank the Vermont Clean Water Board and the Agency of Natural Resources, and the Governor for all that you are doing to help improve the State of Vermont's lakes and rivers health for all Vermonters.

I am a retired Bioenvironmental Engineer with over 45 years of experience helping to control and reduce anthropogenic environmental stressors. I currently support work being accomplished by the Federation of Vermont Lakes and Ponds, and the Lake Bomoseen Association.

I have attached a copy of my last professional Curriculum Vitae supporting that experience, along with an eight page summary expressing my concerns after thoroughly reviewing the 2022 Report and the currently proposed Clean Water Budget. I would ask the Board to please review my report and focus their valuable time on my concerns expressed in the Results section of the report under Observations and Recommendations.

Thank you so much for the critical work you do, and in considering my thoughts and recommendations.

Sincerely,

Lindsey C, Waterhouse

On Mon, Feb 12, 2024 at 10:55 AM ANR - Clean Water VT <ANR.CleanWaterVT@vermont.gov> wrote:

> Hi Lindsey,
>
> Thank you for reaching out. You are welcome to email over your written comments and we can make sure the Board has them as part of their consideration of public comment for the February meeting.
>
> Best

Gianna Petito (she/her) | Grants Supervisor

Vermont Agency of Natural Resources | Department of Environmental Conservation

Water Investment Division | Clean Water Initiative Program

One National Life Drive, Davis 3 | Montpelier, VT 05620-3510

802-636-7547 office/cell

gianna.petito@vermont.gov

http://dec.vermont.gov/water-investment/cwi

The Agency of Natural Resources supports telework, and there are times when I may be working from another office location. I am available to connect by phone and email. I am also available to connect in-person upon request.

From: Lindsey Waterhouse <waterhouselindsey@gmail.com>
Sent: Monday, February 12, 2024 9:25 AM
To: ANR - Clean Water VT <ANR.CleanWaterVT@vermont.gov>; Lindsey Waterhouse <waterhouselindsey@gmail.com>
Subject: 2/14 CWB Meeting

Greetings -

I am unable to attend the Clean Water Board in person due to my work schedule.

I have prepared a written report with my comments.

How can I ensure my information is included in this session for consideration?

Thank you in advance for your assistance.

Lindsey Waterhouse

From: Luca Conte
To: ANR - Clean Water VT
Subject: 2/14/24 CWB Meeting and Comments
Date: Wednesday, February 14, 2024 9:47:34 AM
Attachments: Comments For the Vermont Clean Water Board - 262024.docx

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All: I am the President of the Lake Bomoseen Preservation Trust (LBPT) and have reviewed the document prepared by Mr. Waterhouse entitled “Comments for the Clean Water Board.”
I have known Mr. Waterhouse for the past several years and have been impressed by both his deep knowledge of the Environmental Sciences and his commitment to the improvement of Vermont’s environmental health, especially as concerns lake, river, and ground waters.

As for his “Comments” and analysis attached below, I find this analysis thorough and his recommendations sound, especially concerning: 1) the need for at least one more method of water quality testing and monitoring that involves the collection of real data (rather than the SWAT model of estimation alone); and 2) the need to address the fundamental discrepancy between the already lagging estimated rate of TMDL reduction and the 20 year goals and methodologies established by the initial program plan.

Thank you in advance for your consideration, as well as your efforts on behalf of Vermont’s waters.

Sincerely,

Luca E. Conte, Ph.D.
Lake Bomoseen Preservation Trust

From: ELIZABETH BIRD
To: ANR - Clean Water VT
Subject: 2/14/24 CWB Meeting and Comments
Date: Wednesday, February 14, 2024 1:10:40 PM

[You don't often get email from ebird6@mac.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

All: I am the President of the Lake Bomoseen Association (LBA) and have reviewed the document prepared by Mr. Waterhouse entitled "Comments for the Clean Water Board."

For the past several years I have worked with Mr. Waterhouse on Lake Health issues and am impressed by his deep knowledge of the Environmental Sciences and his commitment to the improvement of Vermont's environmental health, especially as concerns lake, river, and ground waters.

His comments and analysis (attached) below, are thorough, his recommendations sound. We agree that there is a need for:

1) At least one more method of water quality testing and monitoring that involves the collection of real data (rather than the SWAT model of estimation alone)
2) A need to address the fundamental discrepancy between the estimated rate of TMDL reduction and the 20 year goals and methodologies established by the initial program plan.

Thank you in advance for your consideration, as well as your efforts on behalf of Vermont's waters.

Sincerely,

Elizabeth Bird
Lake Bomoseen Association (LBA)

COMMENTS FOR THE VERMONT CLEAN WATER BOARD

APPROACH, DEPLOYMENT, AND RESULTS; ONE VERMONTER'S OBSERVATIONS

LINDSEY WATERHOUSE | MAJOR, USAF RET, BIOENVIRONMENTAL ENGINEER |
FEBRUARY 14, 2024

APPROACH – VT TMDL DEVELOPMENT AND PHOSPHORUS REDUCTION

The same thing that makes the State of Vermont so spectacular is the same thing that has created the environmental state that we now find ourselves in. The majesty of our Green and Taconic mountains, our amazing elevations, and ridgelines, have plagued our homesteading and family farming traditions since the state's inception. I come from a long line of those green mountain hillside rock farmers. To be productive and profitable Vermont farmers realized early on that it was/is the valleys and lowlands along the Winooski, Otter Creek, Lamoille, Lake Champlain, Lake Memphremagog, and even the Poultney River where adequate acreage could be found to establish enough food stuffs to feed dairy cows as well as the States population. Water, unfortunately flows downhill, and penetrates the soils, which all combine and collect in our amazing rivers, lakes, and ponds.

- In 2016, the State, in coordination with the U.S. EPA established an agreement to address the excessive nutrification that was occurring in our States Lakes and Ponds. Specifically, Lakes Champlain and Memphremagog. Yet, the current program affects all major state drainages and watersheds. Smaller inland lakes have not been immune to these impacts either. Just visit the shores or talk to camp owners and persons utilizing the resource offered by Lake Carmi, and its recent designation of a lake in peril.

- To do that, a Total Maximum Daily Load* or TMDL was established for these two receiving waters and their associated watersheds. The TMDL focused specifically on the nutrient phosphorus to restore water quality. That agreement established a 20-year performance period in which the State of Vermont would establish funding, programs, procedures, and projects to reduce the phosphorus load by 227.6 metric tons/year. This is believed to be a more environmentally acceptable loading standard, reducing the impacts caused by phosphorus pollution in excess of Clean Water Standards.

- It should be noted that this was/is not voluntary. This is basically a compliance agreement between the State of Vermont and the federal government, to ensure compliance with the national Clean Water Act (CWA), as these two lakes and their associated systems are considered ***impaired***, requiring corrective actions to comply with the CWA. "The Environmental Protection Agency's (EPA) regulations for implementing CWA section 303(d) are codified in the Water Quality Planning and Management Regulations at 40 CFR Part 130. The law requires that states establish priority rankings and develop Total Maximum Daily Loads (TMDLs) for waters on the lists of impaired waters (40 CFR 130.7)." TMDL standards, developed by the U.S. EPA for both Lakes Champlain and Memphremagog were established in signed agreements with the State of Vermont. Reference - Phosphorus TMDLs for Vermont Segments of Lake Champlain, June 17, 2016 (epa.gov); and a summary of all actions to date @ Lake Champlain Phosphorus TMDL: A Commitment to Clean Water | US EPA; Lake Memphremagog Phosphorus Total Maximum Daily Load (vermont.gov).

- These agreements were made in coordination with the Vermont Agency of Natural Resources, the Vermont Department of Environmental Conservation and the Vermont Agency of Agriculture, Food, and Markets. All agreements, funding and support were encompassed under Act 64, the Vermont Clean Water Act, and established water quality standards to include phosphorous to be contained in the Vermont Water Quality Standards Environmental Protection Rule Chapter 29A, dated 15 November 2023. Ref - Vermont Water Quality Standards

- Funding to support Act 64 and the Vermont CWA is overseen by the Vermont Clean Water Board which in-turn establishes the Clean Water Budget. Ref - Clean Water Board | Department of Environmental Conservation (vermont.gov). The most current report regarding the States Performance can be found at Vermont Clean Water Initiative 2022 Performance Report.pdf. Vermont is required by agreement to review their performance every two and five years through written reports to the U.S. EPA.

1. The current report (Vermont Clean Water Initiative 2022 Performance Report.pdf.) contains a summary of actions accomplished to date as of year 7 of its 20-year journey (35% of the performance period) to comply with the proposed TMDLs.

   - **$336.9 millio**n dollars has been spent in clean water projects through grants, contracts, and loans from SFY 2016 to 2022.

   - The established goal for the two lakes is a total reduction of **227.6** metric tons/year to meet the proposed TMDLs for each of the targeted basins, or approximately **11.38 metric tons per year** over the 20-year performance period.

   - The current report indicates a total **"estimated"** phosphorus reduction of **41.8 metric tons** has been accomplished to date for the projects currently completed or **18.4%** of the total required for compliance/to meet the proposed (TMDL) reduction goal.

   - The current estimated rate of reduction is estimated to be **5.97 metric tons/year.**

   - The estimated cost to date is **$8.1 million dollars per metric ton reduced**.

   - Approximately **185.5 metric tons/year or 82%** of the reduction goal remains to be accomplished with 13 years **(65%)** of the performance period remaining or **14.3 metric tons/year** to meet the TMDL by 2037.

All of this information and the associated numbers were obtained or generated from the Vermont Clean Water Initiative 2022 Performance Report.pdf.

DEPLOYMENT – VT METHODS AND ACTIONS RESULTING IN THE CURRENT STATE OF REPORTED CWI OUTCOMES

The scope and complexity of this "project" is mind boggling to say the least and now appears fully engaged and being put into play throughout the State. As an outside observer and a retired Bioenvironmental Engineer, I find it amazing, incredible, and marvelous, among other superlatives, that Vermont is taking lake and river health improvement in this capacity to try to right what hopefully was, a sinking ship. My words and concerns expressed in this document are not at all intended to not acknowledge the amazing work accomplished to date, but to rather ask, how effective is the work to date in accomplishing the actual goal, and are we as a state moving accurately and effectively in the right direction? Are we in fact, righting the ship?

My concern focuses solely on two issues regarding the State's deployment of the Clean Water Initiative Program or CWIP:

1. The use and application of the SWAT model as the singular method and focus to predict and estimate the effectiveness of Vermont's efforts to control Agricultural run-off and the resulting phosphorus load reductions associated with non-point source projects.
2. Inadequate funding and support to obtain actual water quality analytical data (the gold standard for establishing baseline environmental impact and corrective action plan performance) in support of CWIP projects to validate both model accuracy and long term confirmable, not estimated, TMDL target load reduction and compliance.

Note here – These are also concerns expressed by the EPA in response to Vermont's performance reports. The following excerpts are contained from EPA reviews of provided TMDL implementation report cards:

- "The 2022 Performance Report indicates that actions tracked by the state so far have resulted in an estimated reduction of 39.9 metric tons of phosphorus per year, or about 19 percent of the total reduction target. This represents a relatively small increase in reductions from the previous year. We recognize that methods for tracking effectiveness of some measures continue to be further developed and that most of the results of new permit programs and related measures may not be measurable for several years, however, we note that the pace of reductions identified in the Performance Report in Figure 38 is lower than the necessary annual reductions, which calls into question whether TBP milestones and current efforts and funding are sufficient to reach the 20-year TMDL goals. Current average annual reductions have been 5.2 metric tons while DEC projects' needing 11.5 metric tons to reach the TMDL goal.
- 2019 Performance Report - In future basin plans, EPA recommends the inclusion of quantitative five-year milestones for all ongoing actions. EPA believes this would provide a more clear and objective way to evaluate progress on the actions with no end point and would further serve to ensure that significant progress continues to be made on these actions during each planning cycle.
- The basis for TMDL development, associated water quality standards, and the need for water quality monitoring is contained in the EPA document - Phosphorus TMDLs for Vermont Segments of Lake Champlain, June 17, 2016

Deployment of this project, initiated in the 2016/2017 timeframe, is currently organized and controlled within the Vermont Clean Water Initiative Program or CWIP. To quote - "The Clean Water Initiative Program (CWIP) funds, tracks, and reports on priority projects to restore Vermont's waters, and communicates progress toward meeting water quality restoration targets outlined in the Total Maximum Daily Loads (or TMDLs). CWIP also coordinates funding, tracking, and reporting of clean water efforts for federal and state partners, including Clean Water Initiative partner state agencies – the Agencies of Agriculture, Food and Markets; Commerce and Community Development; Natural Resources; and Transportation – and the Lake Champlain Regional Conservation Partnership Program of the Natural Resources Conservation Service. Reference webpage @ Clean Water Initiative | Department of Environmental Conservation (vermont.gov).

The current basis and accounting for Vermont CWIP actions are contained in the 2022 annual report and at the Clean Water Project Tracking & Accounting | Department of Environmental Conservation (vermont.gov) webpage.

Ultimate project compliance and overall performance is predicated on what Vermont has defined as it's "Standard Operating Procedures, or SOPs. There are three:

- Standard Operating Procedures for Tracking & Accounting of Agricultural Conservation Practices (June 28, 2022)
- Standard Operating Procedures for Tracking & Accounting of Developed Lands Regulatory Projects & Non-Regulatory Clean Water Projects (June 28, 2022)
- Standard Operating Procedures for Tracking & Accounting of Natural Resources Restoration Projects (June 28, 2022

My comments and concerns will only focus on the first SOP, yet it is likely that similar concerns may apply to the other two. I focus on the first, as it clearly addresses the dominant contribution source impacting actual TMDL acquisition and compliance, and it represents the largest non-point source impacting Vermont Lake Health. It should be noted that the DEC received **no** written or public comments for the Agricultural Conservation Practices SOPs during the spring 2022 public comment period. Based upon my review of this SOP, I believe the level of complexity and knowledge to provide meaningful comment by the general public was the reason the State did not receive any concerns; and technical review of this document, due to its critical role in defining and estimating CWIP funding priorities should have been considered for outsourcing to an independent third party with appropriate knowledge and background in environmental computer modeling and non-point source remediation experience to validate its strengths, weaknesses, and accuracy.

To quote from the SOP: "Phosphorus Accounting - Clean water projects target nutrient and sediment pollution to waterbodies and improve water quality over the long term. While measured water quality parameters are the ultimate indicator of progress, it will take time for Vermont's waters to realize the benefits of clean water projects. To provide incremental measures of accountability, DEC **estimates** the pollutant reductions associated with clean water projects installed across state and federal funding programs and regulatory programs in Vermont. Total phosphorus load reduction is estimated based on the clean water project type, as measuring phosphorus load reductions at the project level through water quality monitoring would be cost-prohibitive and very challenging to conduct in a scientifically robust manner at most sites."

The basis of this statement does not appear sound, not supporting current best scientific and management practices. The impact/lack of timely water quality analysis and the resulting critical data gaps are contained in the February 2000, GAO report, WATER QUALITY, Identification and Remediation of Polluted Waters Impeded by Data Gaps, Statement of Peter F. Guerrero, Director, Environmental Protection Issues, Resources, Community, and Economic Development Division (t-rced-00-88.pdf (gao.gov):

"States reported that they have much more of the data they need to develop TMDLs for pollution problems caused by **point sources** than by **nonpoint sources**. States can more readily identify and measure point sources of pollution because these sources generally discharge pollutants through distinct points, such as pipes. Conversely, nonpoint sources are difficult to identify and measure because of their diffuse nature. As a result, developing TMDLs for pollution problems caused by nonpoint sources often requires additional data collection and analysis. Only three states reported having a majority of the data they need to develop TMDLs for these types of problems."

And; "Monitoring water quality is a key activity for implementing the Clean Water Act. The act requires states to set standards for the levels of quality that are needed for bodies of water so that they support their intended uses. States compare monitoring data, or other information, with water quality standards to determine if their waters are of acceptable quality."

The State of Vermont is instead using a very sophisticated model called SWAT (Soil and Water Assessment Tool) in the absence of a recurring water quality monitoring program to validate project outcomes. Ideally, the process would incorporate both components to support outcomes or make adjustments to the model and the funded remediation projects. The currently reported reduction levels and those projected efficiencies contained in the current report, solely depend on these computers modeled projections, and are not validated through a supporting water quality analysis process or program. Again, per the SOP:

1. Estimated baseline total phosphorus load from land treated, prior to treatment by a practice. This is based on the area of land draining to the practice, or the practice area, and the average phosphorus loading rate from the land use. Baseline phosphorus loading rates for each land use, soil type, and slope combination are obtained from the TMDL Soil Water Assessment Tool (SWAT) model results (Tetra Tech 2015a)
2. Estimated annual phosphorus reduction performance – referred to as an "efficiency" – of the practice type. This is often expressed as a percentage of total phosphorus load reduced and is based on research of practice performance relevant to conditions in Vermont.

I wish to acknowledge that the application of sophisticated computer modeling is routinely used to assist in helping to define the impact of environmental pollutants whether chemical, physical, or biological (Ref - Assessment of Surface Water Model Maintenance and Support Status (epa.gov)). I have personally used complex gaussian air quality programs to estimate toxic chemical vapor and gas releases to public human receptors; however, those models were used in conjunction with real-time analysis to support actual emergency impact and response decision making.

I offer the following information in concern that we should not put all our eggs in the one basket that SWAT and its current updates and modifications has offered us:

1. Critical concerns from the GAO report (t-rced-00-88.pdf (gao.gov)).

a. "Monitoring water quality is a key activity for implementing the Clean Water Act. The act requires states to set standards for the levels of quality that are needed for bodies of water so that they support their intended uses. States compare monitoring data, or other information, with water quality standards to determine if their waters are of acceptable quality."
b. Current EPA guidance and proposed TMDL regulations discuss the need for monitoring after pollutant controls or other activities are implemented to determine if the TMDL is working and the body of water is attaining water quality standards. This means that significant new monitoring efforts will be needed, particularly for TMDLs addressing nonpoint sources of pollution, because the effectiveness of controls to reduce such pollution can be affected by site-specific conditions.
c. Forty-five states reported that the lack of resources was a key limitation to making more progress on improving water quality. In addition, several states pointed out that they are operating under state-imposed staffing level ceilings, and other states said they are limited in how many samples they can analyze because of shortages in lab funding. EPA officials told us that overall, less resources are being devoted to monitoring and assessment at the state level than ever before.

2. Use of the SWAT model for TMDL development and SOP application was dependent and based upon the limited total phosphorus analyses collected from the impacted watersheds by the State of Vermont.
    a. It was not comprehensive and only looked at the one contaminant, phosphorus, and only considered total phosphorus in this application. It did not consider the impacts of dissolved phosphorus, particulate phosphorus, and biologically available forms of phosphorus.
    b. The SWAT model focuses on surface water run-off, assuming sorption of dissolved phosphorus within the subsurface soils, not considering permeable coarse and waterlogged soils with low ability to retain phosphorus.
    c. SWAT primarily focuses on the impact of rainfall/storm-event phosphorus run-off and does not consider soluble phosphorus contributions during routine baseflow watershed conditions.
    d. It did not consider other critical water-quality indices to include Dissolved Oxygen (DO), Biological Oxygen Demand (BOD), pH, Turbidity, and Nitrate, among others.
    e. Computer model effectiveness is only as good as the actual analytical data obtained over time to ensure data quality and accuracy:
        i. Ref – MDPI; Predictive Modeling of Urban Lake Water Quality Using Machine Learning:
            1. A 20-Year Study Dependence on Quality of Data:
                a. Machine learning models are as good as the data they are trained on. In our study, the data spanning two decades was subjected to various preprocessing steps to handle inconsistencies, errors, or gaps. However, even the minutest oversight in this process could affect the model's performance. While we were meticulous in handling missing values and outliers, potential anomalies, or measurement errors inherent in the data could still influence the model results. Future work could involve more sophisticated data-cleaning techniques and the possible incorporation of error-correction methods to further improve model performance.
                b. Need for Constant Updating: The water quality patterns can change over time due to a plethora of factors such as climate change, urbanization, changes in land use, and technological advancements in pollution control. Consequently, the model should be updated regularly with new data to maintain its predictive accuracy. This poses an ongoing challenge and highlights the need for continuous data collection and monitoring efforts.
    f. The EPA conducted two separate assessments looking at the modifications made by the State of Vermont to the SWAT model customizing it for Vermont specific environmental conditions. In neither case could an uncertainty/accuracy level be determined, impairing the margin of safety (MOS) typically applied to TMDL modeling tools to help buffer potential errors and data gaps. Potential impacts

attributable to model uncertainty are discussed in the article - EVALUATION OF MODELING TOOLS FOR TMDL DEVELOPMENT AND IMPLEMENTATION, R. Muñoz−Carpena, G. Vellidis, A. Shirmohammadi, W. W. Wallender; 2006 American Society of Agricultural and Biological Engineers ISSN 0001−2351

i. The issue of model uncertainty has important policy, regulatory, and management implications, but the source and magnitude of uncertainty and its impact on TMDL assessment have not been studied in depth.
ii. Results indicate that uncertainty in TMDL models is a real issue and should be taken into consideration not only during the TMDL development phase, but also in the design of BMPs during the TMDL implementation phase.
iii. This collective study concludes that the best method to account for uncertainty would be to develop uncertainty probability distribution functions and incorporate such uncertainties into TMDL load allocation through the margin of safety (MOS), the magnitude of which is generally selected arbitrarily at the present time. It is proposed that explicit quantification of uncertainty be made an integral part of the TMDL process. This will benefit private industry, the scientific community, regulatory agencies, and action agencies involved with TMDL development and implementation.
iv. The outcome of this review indicates that the status of tools for assessment and implementation of TMDLs for four of the most common stream impairments is inconsistent.

g. Additional potential deficiencies identified in the use and application of the SWAT model are contained in the literature, Fields of Application of SWAT Hydrological Model—A Review; Josip Janjić and Lidija Tadić – March 2023 - Earth | Free Full-Text | Fields of Application of SWAT Hydrological Model—A Review (mdpi.com)

i. A significant disadvantage of SWAT is the large quantity of data required to generate accurate results, which may not be accessible in some regions. Another limitation is that the model does not simulate the transport of chemicals through subsurface tile drains and groundwater, which is particularly significant in lowland regions and when simulating stable chemicals that can leach to and accumulate in groundwater. Despite these limitations, the modified SWAT code with added transport capabilities through tile and groundwater flow can be advantageous for catchment-scale environmental exposure studies and developing best management practices or mitigation strategies.

3. Inadequate funding and support of water quality testing within the current Vermont Clean Water Budget

a. As contained in the current 2022 report and the SFY 2023/24 Clean Water Budget, there is less than 0.4% allocated for any forms of monitoring to measure CWIP funded projects' water quality benefit.

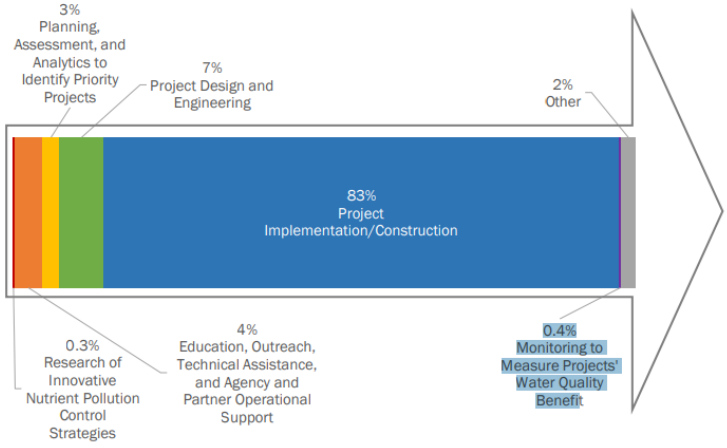

Figure 11. Percentage of dollars awarded by State of Vermont agencies to various steps of the clean water project development process, SFY 2016–2022.

b. The only current statewide water quality monitoring programs available to Vermont Lake Associations, municipalities, and the public are:

i. 1. the State Lay Monitoring Program (Lay Monitoring Program | Department of Environmental Conservation (vermont.gov)).The Vermont Lay Monitoring Program (LMP) trains and equips volunteers (or Lay Monitors) to conduct periodic lake water quality sampling from their boat using quality-assured methods. This program only focuses on a single event/location summertime sampling period. The program was implemented in 1979 and the principal goals remain the same today; and

ii. 2. The LaRosa Partnership Program or LPP. Established in 2003, this program is limited to organizations applying for and meeting a site selection process. According to the Vermont website, the LPP is funded through CWIP funding, and is assumed to be included in the 0.4% identified in figure 11 above.

c. Experience associated with obtaining CWIP funding in support of projects contributing to phosphorus TMDL load reduction.

i. In 2023, the Lake Bomoseen Association developed a proposal and obtained project funding from the South Lake Champlain Clean Water Service Provider in support of a Lake Bomoseen Lake Watershed Action Plan. Although the project proposal contained a line item to support a water quality monitoring and QAPP program to establish baseline levels for all tributaries potentially contributing to phosphorus loading and hyper-eutrophication and help quantify the results and impacts of future remediation projects to control those environmental stressors, it was removed from the final project funding. The response offered by SLCCWIP for the removal from the proposal and the resulting grant, was that water quality testing was not fundable using CWIP dollars.

1. If should be noted that the entire multi-component sampling plan and the required Quality Assurance Project Plan (QAPP) for the Lake Bomoseen LWAP would only have cost an additional $5000.00 to accomplish, supporting the BMP recommended by the EPA.

ii. This seems to be in direct contrast to best management practices and guidelines established by the U.S EPA regarding the ability to measure and quantify the corrective actions taken in support of the phosphorus TMDL load reduction and VT CWA goals.

iii. These same concerns regarding funding and water monitoring requirements to support the impact of remediation projects to reduce phosphorus and the proposed TMDL were provided as comments to the South Lake Champlain Tactical Basin Plan provided by the VT DEC in the Town of Wells in 2022. No responses regarding those concerns were received or answered.

RESULTS – CONCLUSIONS - CONSIDERATIONS FOR THE CLEAN WATER BOARD

I hope this exercise was not in vain. I do not have a Ph.D., but I do have quite a bit of experience working with projects focused on Environmental remediation over the past 45 years. Although many of the numbers provided in the 2022 report are estimates, they are the best scientific estimates currently available. The Board faces a huge task in looking at the allocation of funds and how the precious environmental dollars our little state must spend are allocated. That makes this even all the more important and critical that the work being produced is the best scientifically achievable and evidence-based going into the remaining 13 years of the TMDL performance period.

1. **Observations:**

a. At the current estimated rate of phosphorous reduction, the State of Vermont will not be able to achieve the established water quality TMDLs. The current Report summary clearly shows a need for either time extension or increased funding. Based upon my understanding, neither are either achievable or would be allowed without significant non-compliance penalty. Simple examples are contained in the 2022 Report and the numbers previously provided in this document under Approach.

i. Simple Examples:
    1. The current estimated rate of reduction is 5.97 (6) Metric Tons/Year, versus the remaining required reduction rate to meet the 2037 performance period goal. That would require a reduction rate of 14.3 (14) Metric Tons/Year.
    2. The current cost per metric ton reduced to date is $8.1 Million dollars per metric ton, giving the total estimated project cost to achieve TMDL compliance in the time remaining time to be $1.5 Billion dollars. A number not likely achievable based upon the current funding experience and budget limitations.
ii. I recognize these are gross estimates, but they are estimates based upon those estimates projected by the State as contained in the 2022 Report. What this means to me is there is a need for change and modification to our current approach, rather than continuing with business as usual.

b. The application of the SWAT model currently being used to help establish required corrective actions, define project locations, project prioritization and assist in funds allocation should continue, but only recognizing that it is a model. That these are estimates, and margins of errors for this tool are not clearly defined for Vermont conditions, and its accuracy remains un-proven. Although, this will make a novel future research paper to enhance future models and improve TMDL development methodologies, we are using this as the basis for real time project development and corrective action, under a limited duration of time and a federal compliance order. We are excluding requirements that would establish actual **evidence-based practice** to support our remediation activities by not ensuring actual, real-time, seasonal, and storm versus base flow conditions to augment and support our modeling. We need to validate its strengths and it's weaknesses/errors, allowing adjustment in how we are focusing our projects and the associated funds allocations in support of the CWIP process.
c. There is an immediate need to increase the emphasis on, and in-turn, funds allocation under the current Clean Water budget to better support water quality testing and data acquisition to validate the impacts and effectiveness of all CWIP funded studies and corrective action projects. The current allocation of 0.4% of the Clean Water budget is unacceptable and does not support best management practice for environmental pollution project control and creates significant data gaps needed to help support better evidence-based practice, project risk assessment, and project prioritization.

2. Recommendations:

a. A comprehensive review of the current Clean Water Project plan supporting TMDL compliance is necessary to ensure the State of Vermont is able to meet its commitments as defined in our signed compliance agreements and as required under the federal Clean Water Act. We should do this proactively before the EPA directs us to do so.
    i. The importance of this cannot be emphasized enough. One immediate example exists being the inability to initiate in-situ remediation of the St Albans Bay phosphorus and corresponding algal bloom problems until the associated tributary TMDL limits are met.
b. We need to change the current practice/approach of using modeling estimates as the sole guide and basis for project remediation activities. I would ask the Board to please consider having the ANR/DEC consider adding a fourth Standard Operating that would make Water Quality monitoring and testing as a "fourth rail" if you will, to improve and support the need for actual, rather than estimated program effectiveness. This needs to be done sooner, rather than later, as I would assume the EPA will ultimately want actual water quality data to validate actual/final TMDL acquisition and compliance. Guidance to achieve this is already contained in the Vermont Water Quality Monitoring Program Strategy 2011-2020; Ref. - https://dec.vermont.gov/sites/dec/files/documents/WSMD_MonitoringStrategy2015.pdf
c. CWIP funding programs should acknowledge and support the need to also include chemical pollutant analysis as a critical part of its funding focus and corrective actions rather than the current practice focusing studies and corrective actions primarily based upon the physical/anthropogenic watershed stressors.

d. Additional funding to support water quality testing and monitoring in support of Vermont lake health by private lake associations, public groups, and municipalities needs to be significantly improved. The limited scope of the Lay Monitoring and LLP programs are inadequate to meet current needs and best practice for those organizations and their ability to help define and contribute to the control and remediation of the chemical risks posed to each individual Vermont lake. A strategy such as developed and applied by the U.S. EPA's National Lakes Assessment (National Lakes Assessment | US EPA) should be used as a basis for improving this process.

I would like to greatly acknowledge the incredibly difficult and exhaustive work completed to date by the State of Vermont, and only hope that my observations and recommendations will be considered by the Board moving forward in its quest to improve Vermont lake, river, and stream health.

The information contained in this report is strictly the opinions of the author. Use of this information or changes to the format should only be taken with the author's approval. Lindsey C. Waterhouse, 12/3/2024

Lindsey C. Waterhouse

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Industrial Hygienist, Safety Officer, Environmental Engineer, and Project Manager

Thirty seven years of experience leading comprehensive industrial hygiene, occupational health, safety, environmental protection and radiation safety programs.

- Currently employed as the Safety and Ergonomics Specialist, Environmental Health and Safety Department, University of Vermont Medical Center, Burlington, Vermont. Responsible for leadership and management of the Environment of Care (EC) and institution-wide safety and ergonomic programs. Chairman of the Employee Injury and Illness, and Hazard Surveillance Committees.
- Retired from Dartmouth-Hitchcock Medical Center, Lebanon, New Hampshire in 2014 where I served for 13 years as Manager, Safety and Environmental Programs. Responsible for management and coordination of Environment of Care activities, corporate industrial hygiene and safety programs, and environmental compliance activities. Established an Occupational Health and Safety Management System to include integration with occupational medicine and institutional wellness programs.
- Four years' experience as a Senior Project Manager for an international engineering consulting firm. Developed, implemented and executed occupational health, safety, and environmental engineering service lines for the company nationally and internationally.
- Retired U. S. Air Force Officer. Assigned to major medical facilities as the manager of Bioenvironmental Engineering Services. Selected for assignment to the U. S. Air Force Medical Inspection Directorate to assess occupational health programs and medical facility compliance with U.S. Air Force medical and Joint Commission standards worldwide.
- Considerable experience in occupational safety and health and environmental program development, auditing, standards interpretation, environmental permitting and related business development matters.
- Extensive experience defining and communicating the risk associated with occupational health and safety hazards and environmental compliance needs to staff, corporate leadership and regulatory and public organizations.
- Routinely called upon to facilitate meetings and provide formal presentations to employees, executive management, labor union officials, and state and federal regulatory agencies. Trained in the application of quality management concepts, and Greenbelt, DMAIC, lean six certified.
- Strengths include leadership and management experience in the private, federal, and state sectors.
- Excellent technical writing, report development, communication and presentation skills.
- Extensive experience in the development, implementation, and delivery of safety education programs.
- Competent in the use and application of Microsoft Office softwares, project planning software, statistical methods and control charts (SigmaZone) and use and application of industrial hygiene analytical equipment.
- Extensive experience working with information systems staff and consultants to develop corporate occupational health and safety management software systems.

Education:

- Norwich University, Northfield, VT: B.S., Engineering Technology/Environmental, 1973-1977.
- USAF School of Aerospace Medicine, Brooks AFB, TX**:** Bioenvironmental Engineering Course, 1978.
- University of Arizona, Tucson, AZ**:** Graduate studies in industrial hygiene, industrial ventilation and independent studies in advanced air monitoring techniques.
- Air Force Institute of Technology**:** Air Force Education with Industry Fellowship with the Occupational Safety and Health Response Team, Salt Lake City, UT.
- Certificate Program in Occupational Health and Safety Management, AIHA, 2012.
- Harvard School of Public Health, Ergonomics and Human factors, October 2013.
- Greenbelt, Lean Six Sigma certified, Dartmouth-Hitchcock Value Institute, September 2014.

Professional Profile

September 2014 to Present, Safety Specialist, University of Vermont Medical Center, Burlington, Vermont. Responsible for management of Environment of Care programs, safety programs and associated regulatory requirements. Chairperson for the Employee Injury and Illness Prevention and Hazard Surveillance Subcommittees. Participates and supports the management of all EC Subcommittees. Works collaboratively with Human Resources, Employee Health, Nursing Education, Patient Safety, Facilities Management, Risk Management, Accreditation and Regulatory Affairs, and operational unit managers in support of Safety Management and Environment of Care programs and operations.

- Worked to support EC corrective actions following 2014 Joint Commission accreditation survey.
- CY 2015 - Supported EC assessments in 350 departments to ensure the safety of staff, visitors, and patients while improving the quality of patient care.
- Established a dashboard to better define institutional injury and illness trends to help target "At Risk" locations for injury, illness, and loss prevention activities.
- Established safety education programs in support of new employee and new leader orientation, nursing orientation, facilities management, and fire and life safety operations.
- Developed and lead projects to address workplace musculoskeletal injury prevention, development of an EC Tracer system, and improvement in employee injury reporting.

April 2003 to September 2014, Manager, Safety and Environmental Programs, Dartmouth-Hitchcock Medical Center (DHMC), Lebanon, NH. Responsible for management and compliance with the Joint Commission Environment of Care standards affecting DHMC operations; Corporate Environmental Safety Officer, overseeing all occupational health and safety programs; management of environmental compliance operations to include hazardous material control and waste disposal, industrial discharge permit compliance, EPA Tier II reporting, and environmental program compliance auditing. Managed an annual budget of $1.2 million dollars and the activities of four professional support staff.

- Developed comprehensive plans and policies to support and guide Environment of Care activities.
- Initiated occupational health and safety programs which have established DHMC as the bellwether for injury reduction in acute care hospitals insured by the Liberty Mutual Insurance Company.
- Received no identified Environment of Care deficiencies impacting Joint Commission Accreditation for the 2005, 2008, 2011 and 2014 Joint Commission Accreditation Surveys.
- Initiated hospital hazardous waste and hazardous waste medication management programs resulting in no deficient findings during a March 2006 EPA, and July 2011 NH DES hazardous waste compliance assessments.
- Established a clinical respiratory protection program used by OSHA and NIOSH as an example of a model clinical respiratory protection program.
- Developed and supports recurring air sampling and occupational exposure strategies to assess possible employee exposure to toxic substances and occupational stressors.
- Implemented a Safe Patient Handling Program to reduce nursing musculoskeletal injuries. Project outcomes have realized a 1.5 million dollar savings in worker's compensation costs.
- Developed and implemented proposals to support development of a corporate e-learning system to help support corporate compliance programs.
- Chairperson for the DHMC Environment of Care and D-H PHEWS (Partners in Health, Environment, Wellness and Safety Committees.
- Routinely called upon to represent DHMC in matters of occupational health and safety, and environmental management compliance actions.

April 2001 to April 2003, Manager of Safety, Fletcher Allen Health Care, Burlington, VT. Responsible for compliance activities for all elements of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) Environment of Care (EC) as well as the development, implementation and monitoring of the Safety Management Program. Provided support and oversight for the Environment of Care Committee/Subcommittee activities and the coordination of all EC performance improvement and data collection activities. Some accomplishments include:

- Established a model Hospital Construction Safety Program encompassing Contractor Safety Orientation, Health and Safety Plan Development, Interim Life Safety Measures, and Infection Control Risk Assessments.
- Developed and implemented a standardized Hazard Surveillance Audit Process for all direct patient and non-patient care areas. Actions contributed to no EC type 1 deficiencies during the May 2003 Joint Commission Survey.
- Developed programs and processes to assess accident and injury incident rates to better focus loss prevention activities. Actions produced significant reductions in staff lost workdays, reduced OSHA incident rates, reduced worker compensation costs and an improved safety culture.
- Developed and implemented a Safe Patient Handling Program for all health care organizations conducting patient transfer and handling activities.
- Developed multiple safety education programs to include - New Employee Orientation, Manager Safety, Employee Mandatory Annual Training, Safe Patient Handling, Office and Industrial Ergonomics, Contractor Safety Orientation, and multiple presentations for EC and Safety Programs.
- Managed and coordinated the development of the EC Management Process, JCAHO EC Survey Preparation, EC Intranet Web Site, EC Safety Manual, and Quarterly and Annual EC reports.

August 1998 to April 2001, Environmental, Safety and Occupational Health Coordinator, Department of Buildings and General Services, Montpelier, VT. Responsible for the development and implementation of environmental and occupational health and safety programs, policies, and procedures for the State of Vermont, Department of Buildings and General Services (BGS). Duties involve coordination of occupational health and safety and environmental engineering programs with all BGS Division Directors and their respective section supervisors. Conducts special projects in direct support to the Commissioner, Buildings and General Services. Provides consulting services in support of Loss Prevention activities to state agencies and departments. Chairman of the department's Health and Safety, and Environmental Management Committees. Accomplishments include:

- Developed and managed comprehensive health and safety programs for BGS.
- Established comprehensive health and safety training programs targeted at employee needs.
- Conducted environmental and safety compliance audits of all major BGS facilities.
- Established an occupational physical monitoring program for BGS employees.
- Developed and implemented an Environmental Management System, meeting the requirements of ISO 14001 in support of the Governor's Executive Order 04-99.
- Established metrics to evaluate and validate ESOH program effectiveness.
- Established procedures to evaluate work-related musculoskeletal disorders for application in all state agencies**.**
- Chaired the task force responsible for developing the State of Vermont's Workplace Violence Policy.
- Developed contracts to support occupational health and environmental program operations

October 1994 to August 1998, Senior Project Manager and Industrial hygiene, safety and environmental engineering consultant, EA Engineering, Science and Technology, Newburgh, NY. Responsible for the marketing, development, planning, budgeting, implementation, and management of occupational safety and health, and environmental protection projects for an international consulting firm. Developed projects in support of client requirements to include:

- Phase I environmental site assessment following ASTM E-1527/28 protocols.
- Exposure assessment projects for employees exposed to lead, chrome, arsenic, mercury, and cadmium.
- Lead based paint exposure and risk assessment projects for eighteen Air Force bases throughout the United States and Europe.
- An environmental oversight study of a chemical manufacturing company to assess compliance with the OSHA Process Safety Management Standard and EPA Risk Management Program requirements.
- Developed and implemented programs to conduct confined space hazard assessments of 4100 confined spaces at 23 Air Force bases throughout the United States and Europe.
- Team Chief and project manager for conducting environmental, occupational safety and health, and fire safety compliance audits at 1423 Federal Aviation Administration facilities within the FAA's Eastern and Central Regions.

- Developed and implemented confined space, hazardous materials, and lock-out/tag-out training programs.
- Assessments of military installations to identify, sample and inventory PCB containing articles and items

Additional duties included occupational health and safety manager for EA Northeast area operations, and proposal team leader responsible for proposal development and project negotiations

June 1993 to September 1994, Senior Bioenvironmental Engineer, United States Air Force Inspection Agency, Medical Directorate, Kirtland AFB, NM. Evaluated Air Force Medical, Occupational and Community Health, Environmental Surveillance, and Radiation Safety Programs worldwide ensuring compliance with Air Force, Federal, State, JCAHO and Host Nation regulations. Helped develop and implement the Malcolm Baldrige based audit system currently used by the AF Medical Inspection Directorate.

August 1987 to June1993, Chief, Bioenvironmental Engineering Services, and Alaskan Air Command Bioenvironmental Engineer, **United States Air Force, 3rd Medical Center, Elmendorf AFB, Anchorage, AK.** Responsible for leading a team of 22 people conducting environmental pollution, industrial hygiene, potable water, and radiation safety programs for 400 industrial facilities, and 17,000 personnel. Developed comprehensive programs to support occupational exposure assessments, hazard communication, respiratory protection, confined space, hearing protection, radiation safety (ionizing and non-ionizing), fetal protection, blood-borne pathogens, ergonomics and industrial ventilation programs. Developed and implemented pollution prevention programs to control and re-use installation hazardous materials using a hazardous materials "pharmacy" concept. Implemented a program to sample, characterize and control industrial and medical infectious/hazardous waste in support of the base TSD facility and RCRA, Part B permit. As Alaskan Air Command Bioenvironmental Engineer developed policy and directed all Air Force Bioenvironmental Engineering resources and operations for the Air Force within the State of Alaska. Director of a state certified laboratory in support of microbiological examination of potable water systems. Nuclear Regulatory Commission (NRC) license manager and Command Radiation Safety Officer.

July 1986 to May 1977:

Compliance Safety and Health Officer, Air Force Institute of Technology.
Conducted a one-year, Air Force Education with Industry Fellowship with the Occupational Safety and Health Administration, OSHA Health Response Team, Salt Lake City, Utah. Conducted operations in support of the development of health standards for wood dust, formaldehyde, glycol ethers, and hazardous waste emergency response operations. Conducted compliance operations to support OSHA Regions X, V, II and I.

Chief, Bioenvironmental Engineering Services, **USAF Hospital Dover, Dover AFB, DE.** Managed the industrial hygiene, radiation safety and environmental engineering support for a multi-mission large Air Force Base with an industrial population of 7000 personnel. Designed a RCRA closure plan for an industrial wastewater lagoon responsible for solvent contamination of the shallow potable water aquifer. Director of a state certified laboratory in support of the microbiological examination of potable water systems. Base Radiation Safety Officer.

Chief, Bioenvironmental Engineering Services, USAF Clinic McChord, McChord AFB, WA. Directed the industrial hygiene, radiation safety and environmental engineering support for a multi-mission large Air Force Base. Director of a state certified laboratory in support of the microbiological examination of potable water systems. Helped develop and implement the U.S. Air Force Installation Restoration Program during its infancy. Base Radiation Safety Officer.

Associate Chief, Bioenvironmental Engineering, USAF Regional Hospital Davis Monthan, Davis Monthan AFB, AZ. Managed the industrial hygiene and radiation safety program support for a multi-mission large Air Force Base. Helped develop and evaluate a field expedient method for the detection and analysis of hydrazine and unsymmetrical, dimethyl hydrazine in support of Titan II missile operations.

Professional Affiliations:

Member of the American Industrial Hygiene Association, American Conference of Governmental Industrial Hygienists, National Fire Prevention Association, and the American Society for Health Care Engineering.

Registered Professional Industrial Hygienist, Association of Professional Industrial Hygienists, APIH Registry No. 09970110

Awards and Recognition:

- Received the Air Force Meritorious Service, Commendation, and Achievement Medals for Outstanding Achievement in support of Air Force Bioenvironmental Engineering Operations.
- Numerous letters of endorsement and recognition by flag officers and other senior U.S. Air Force officials.
- Acknowledged for outstanding achievement by the Assistant Secretary for the US Department of Labor for support of OSHA health standards development.
- Recognized by Governor Howard Dean for the development of an Environmental Management System in support of Vermont, Department of Buildings and General Services operations.
- The U.S. EPA, Office of Solid Waste and Emergency Response – Recognized for assistance in the development of the document - Managing Pharmaceutical Waste, A 10-Step Blueprint for Healthcare Facilities In the United States (August 2008).
- Harvard School of Public Health Center for Work, Health and Well-being, September 2012. Recognized for contributing to the SafeWell Practice Guidelines: An Integrated Approach to Worker Health, Version 2.0

References:

Professional:

- Mr. Victor Hillman, CIH, CSP, MS, Liberty Mutual Insurance, Risk Control Services, telephone phone number: (781) 891-8900, Option 1, ext. 37261
- Robert K. McLellan, MD, MPH, FACOEM; Chief, Section of Occupational and Environmental Medicine, Medical Director, Live Well/Work Well; Dartmouth-Hitchcock (Robert.K.McLellan@hitchcock.org

Other personal and work related references provided upon request.

State Fiscal Year (SFY) 2026 Clean Water Budget Process (July 2024 – July 2025)

Updated August 27, 2024

Visit the Clean Water Board webpage for more information. Subscribe to the Clean Water Stakeholder Listserv or visit the DEC Calendar to be notified of upcoming Clean Water Board meetings.

State Fiscal Year (SFY) 2026 Clean Water Budget Process (July 2024 – July 2025)

Updated August 27, 2024

Emergency Board meeting: adopt SFY26 consensus revenue forecast

July 30, 2024

→

Agency of Administration updates Clean Water Fund Operating Statement; revenue forecast informs SFY26 budget targets

Early August 2024

→

Budget development work and interagency coordination in preparation for October Board meeting

July-September 2024

→

Clean Water Board meeting: review and approve SFY26 budget for public comment

October 11, 2024

→

Public comment period on draft SFY26 budget via public hearing and online questionnaire

October 18 – November 17, 2024

Public Hearing November 8, 2024

Zoom in on internal and interagency steps:

Provide notice of draft budget process to Interagency Workgroup; schedule Interagency Workgroup meeting

August 2024

→

Draft SFY26 budget recommendation (including policy/technical recommendations) for ANR Secretary review

Late August 2024

→

Solicit Interagency Workgroup input on draft SFY26 budget materials

Hold Interagency Workgroup meeting

September 5, 2024

Legislative review of SFY26 budget recommendation

January - April 2025

→

Emergency Board meeting: update SFY26 consensus revenue forecast

Late January 2025

→

Agency of Administration updates Clean Water Fund Operating Statement

Early February 2025

→

review SFY26 Governor's recommended budget and updated Clean Water Fund Operating Statement

February 2025

→

Legislative authorization of SFY26 budget

May 2025

Modify SFY26 budget materials, as needed, based on Interagency Workgroup input; prepare October Board meeting agenda and materials

Mid September 2024

→

Solicit Interagency Workgroup input on draft SFY26 budget communications plan/materials, including communications for public comment period and public hearing

Late September 2024

→

Submit draft October Board meeting agenda and materials, including draft SFY26 budget materials, to Board Chair for review and approval

Late September 2024

Visit the Clean Water Board webpage for more information. Subscribe to the Clean Water Stakeholder Listserv or visit the DEC Calendar to be notified of upcoming Clean Water Board meetings.

Clean Water Fund Operating Statement - Appropriation Basis - October 2024

		Jan 2024 Rev. Update	Actual	Jan 2023 Rev. Update	July 2023 Rev. Update / Draft Budget	Jan 2024 Rev. Update / Gov Rec Budget	Jul 2024 Rev. Update / As Passed	July 2023 Rev. Update	Jan 2024 Rev. Update	Jul 2024 Rev. Update / Draft CWB	Jul 2024 Rev. Update
	Revenue	**FY 2024**	**FY2024**	**FY 2025**	**FY 2025**	**FY 2025**	**FY 2025**	**FY 2026**	**FY 2026**	**FY 2026**	**FY 2027**
(a)	Clean Water Surcharge (PTT)	7,690,000	8,145,774	8,800,000	7,340,000	7,240,000	8,510,000	7,500,000	7,350,000	8,680,000	8,950,000
(b)	Interest Income		2,583,435	-							
(c)	Reversions	100,000	100,000	-							
(d)	Donations		-	-							
(e)	Escheats	3,420,761	3,384,163	2,985,808	3,507,887	3,507,887	3,495,688	3,492,328	3,492,328	3,476,062	3,451,971
(f)	Meals and Rooms Tax	14,364,000	14,769,082	14,556,000	14,928,000	14,748,000	15,762,000	15,396,000	15,258,000	16,326,000	16,818,000
(g)	Subtotal Sources	25,574,761	28,982,454	26,341,808	25,775,887	25,495,887	27,767,688	26,388,328	26,100,328	28,482,062	29,219,971
	Appropriations										
	Base Appropriations										
(h)	DEC	14,813,750	14,813,750		13,890,000	13,890,000	13,890,000			14,860,000	
(j)	ACCD	-	-		-	-	-			-	
(m)	VTRANS	4,000,000	4,000,000		4,000,000	4,000,000	4,000,000			4,000,000	
(o)	FPR	143,613	143,613		144,000	144,000	144,000			477,062	
(p)	AOA	-	-		25,000	25,000	25,000			25,000	
(pp)	VHCB				2,800,000	2,800,000	2,800,000			-	
(q)	Subtotal Base Appropriations	18,957,363	18,957,363		20,859,000	20,859,000	20,859,000			19,362,062	
(r)	One-Time Appropriations										
(s)	DEC	1,751,250	1,751,250		2,600,000	2,600,000	2,600,000			3,055,112	
(t)	AOA	100,000	100,000		-	-	-			-	
(u)	VTRANS	1,000,000	1,000,000		1,000,000	1,000,000	1,000,000			750,000	
(v)	FPR	-	-		-	-	-			222,938	
(w)	Subtotal One-Time Appropriations	2,851,250	2,851,250	5,986,910	3,600,000	3,600,000	3,600,000	-	-	4,028,050	
(x)	**Subtotal All Appropriations**	21,808,613	21,808,613	5,986,910	24,459,000	24,459,000	24,459,000	-	-	23,390,112	
(y)	**Revenue Surplus/Deficit**	3,766,148	7,173,841	20,354,898	1,316,887	1,036,887	3,308,688	26,388,328	26,100,328	5,091,950	29,219,971
	Transfers (To)/From										
(z)	Transfer (to) Agriculture CWF	(6,684,880)	(6,684,880)		(9,010,000)	(9,010,000)	(9,010,000)			(11,000,000)	
(ab)	Transfer (to) Lakes in Crisis Fund	(120,000)	(120,000)		(120,000)	(120,000)	(120,000)			(120,000)	
(ac)	Transfer (to)/From Contingency Reserve	(2,000,000)	(2,000,000)		-	-	-			-	
(ad)	Subtotal Transfers	(8,804,880)	(8,804,880)	-	(9,130,000)	(9,130,000)	(9,130,000)			(11,120,000)	-
(ae)	**Current Year Unallocated/Unreserved**	(5,038,732)	(1,631,039)	20,354,898	(7,813,113)	(8,093,113)	(5,821,312)	26,388,328	26,100,328	(6,028,050)	29,219,971
	Reserve										
(af)	Contingency Reserve	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
	Available Funds										
(ag)	Prior Year Balance Unreserved/Unallocated	13,480,401	13,480,401	7,809,134	8,801,669	8,441,669	11,849,362	988,556	348,556	6,028,050	-
(ah)	Current Year Unallocated/Unreserved	(5,038,732)	(1,631,039)	20,354,898	(7,813,113)	(8,093,113)	(5,821,312)	26,388,328	26,100,328	(6,028,050)	29,219,971
(ai)	**Summary of Unallocated/Unreserved**	**8,441,669**	**11,849,362**	**28,164,032**	**988,556**	**348,556**	**6,028,050**	**27,376,884**	**26,448,884**	**-**	**29,219,971**

DRAFT STATE FISCAL YEAR 2026 (SFY26) CLEAN WATER BUDGET RECOMMENDATION

For Clean Water Board Review (10/11/2024)

			SFY26 BASE FUNDS				SFY26 ONE-TIME FUNDS				
No.	Agency	Activity	Clean Water Fund	Capital Bill	Subtotal Base Funds	SFY26 Compared to SFY25 Base Funds	Clean Water Fund Unallocated/ Unreserved	Subtotal One-Time Funds	SFY26 Compared to SFY25 One-Time Funds	Total SFY26 (Base + One-Time)	SFY26 Total Compared to SFY25 Total
Clean Water Budget Statutory Priority Tier 1 (Items of Equal Priority)											
1.1	ANR-DEC (CWIP)	Water Quality Restoration Formula Grants to Clean Water Service Providers & O&M	7,210,000		**7,210,000**	-		-	(1,150,000)	**7,210,000**	(1,150,000)
1.2	ANR-DEC (CWIP)	Basin Planning, Basin Water Quality Council Participation, Education, and Outreach	750,000		**750,000**	-		-	-	**750,000**	-
1.3	*Water Quality Enhancement Grants*				-			-			
1.31	ANR-DEC (CWIP)	Statewide Non-regulatory Clean Water Projects	5,000,000		**5,000,000**	-		-	-	**5,000,000**	-
1.32	VHCB	Land Conservation and Water Quality Projects		2,000,000	**2,000,000**	-		-	-	**2,000,000**	-
1.4	AAFM	Water Quality Grants to Partners and Farmers	8,000,000	3,000,000	**11,000,000**	2,553,113	2,000,000	**2,000,000**	1,786,887	**13,000,000**	4,340,000
1.5	*Agency and Partner Operating Support*				-			-			
1.51	AAFM	Program Support	1,000,000		**1,000,000**	100,000		-	-	**1,000,000**	100,000
1.52	ANR-DEC (CWIP)	Program and Partner Support	1,500,000		**1,500,000**	570,000	555,112	**555,112**	(144,888)	**2,055,112**	425,112
Tier 1 SUBTOTAL			**23,460,000**	**5,000,000**	**28,460,000**	**3,223,113**	**2,555,112**	**2,555,112**	**491,999**	**31,015,112**	**3,715,112**
Tier 1 % of Total			**82%**	**50%**	**74%**		**42%**	**42%**		**70%**	
Clean Water Budget Statutory Priority Tier 2 (Items of Equal Priority)											
2.1	*Outreach and Implementation of Forestry Acceptable Management Practices for Maintaining Water Quality*										
2.11	ANR-FPR	Forestry Water Quality Practices and Portable Skidder Bridges	150,000		**150,000**	6,000		-	-	**150,000**	6,000
2.12	ANR-FPR	Implement BMPs at State Forests, Parks, and Recreational Access Roads	327,062	200,000	**527,062**	(22,938)	222,938	**222,938**	222,938	**750,000**	200,000
2.2	*Municipal Stormwater Implementation*				-			-			
2.21	VTrans	Municipal Roads Grants-in-Aid (MRGP)	3,000,000		**3,000,000**	-		-	-	**3,000,000**	-
2.22	VTrans	Municipal Better Roads (MRGP)	1,000,000		**1,000,000**	-	750,000	**750,000**	(250,000)	**1,750,000**	(250,000)
2.24	ANR-DEC (CWIP)	Municipal Three-Acre General Permit and MS4[1]			-	-		-	-	-	-
2.3	VHCB	Water Quality Farm Improvement and Retirement Projects		800,000	**800,000**	-		-	-	**800,000**	-
2.4	ANR-DEC (CWIP)	Innovative or Alternative Technologies or Practices to Improve Water Quality	200,000		**200,000**	200,000	1,200,000	**1,200,000**	450,000	**1,400,000**	650,000
Tier 2 SUBTOTAL			**4,677,062**	**1,000,000**	**5,677,062**	**183,062**	**2,172,938**	**2,172,938**	**422,938**	**7,850,000**	**606,000**
Tier 2 % of Total			**16%**	**10%**	**15%**		**36%**	**36%**		**18%**	
Clean Water Budget Statutory Priority Tier 3											
3.1	ANR-DEC (WID)	Developed Lands Implementation Grants[2]	200,000		**200,000**	200,000	1,300,000	**1,300,000**	1,300,000	**1,500,000**	1,500,000
Tier 3 SUBTOTAL			**200,000**	-	**200,000**	**200,000**	**1,300,000**	**1,300,000**	**1,300,000**	**1,500,000**	**1,500,000**
Tier 3 % of Total			**1%**	**0%**	**1%**		**22%**	**22%**		**3%**	
Clean Water Budget Other Priorities											
4.1	ANR-DEC (Lakes)	Lakes in Crisis Fund	120,000		**120,000**	-		-	-	**120,000**	-
4.2	AoA	Stormwater Utility Payments ($25K each)	25,000		**25,000**	-		-	-	**25,000**	-
4.3	ACCD	Better Connections and Downtown Transportation Fund	-		-	-	-	-	-	-	-
	Capital Bill Priorities				-			-	-		
4.4	ANR-DEC (WIFP)	State Match to Clean Water State Revolving Fund (CWSRF) Federal Grant[3]		-	-	(1,600,000)		-	-	-	(1,600,000)
4.5	ANR-DEC (WIFP)	Municipal Pollution Control Grants[4]		4,000,000	**4,000,000**	700,000	-	-	-	**4,000,000**	700,000
Other SUBTOTAL			**145,000**	**4,000,000**	**4,145,000**	**(900,000)**	-	-	-	**4,145,000**	**(900,000)**
Other % of Total			**1%**	**40%**	**11%**		**0%**	**0%**		**9%**	
		Total Proposed for Appropriation[5]	**28,482,062**	**10,000,000**	**38,482,062**	**2,706,175**	**6,028,050**	**6,028,050**	**2,214,937**	**44,510,112**	**4,921,112**
		Anticipated SFY26 Revenue/Sources	28,482,062	10,000,000	**38,482,062**			-		**38,482,062**	
		Estimated Unallocated/Unreserved Clean Water Fund Revenue			-		6,028,050	**6,028,050**		**6,028,050**	
		Anticipated Total Available	28,482,062	10,000,000	**38,482,062**		6,028,050	**6,028,050**		**44,510,112**	
		Balance=Total Available-Total Requested	-	-	-		-	-		-	

SFY 2026 Clean Water Budget Recommendation by Agency	SFY26 BASE FUNDS				SFY26 ONE-TIME FUNDS				
Agency	**Clean Water Fund**	**Capital Bill**	**Subtotal Base Funds**	**SFY26 Compared to SFY25 Base Funds**	**Clean Water Fund Unallocated/ Unreserved**	**Subtotal One-Time Funds**	**SFY26 Compared to SFY25 One-Time Funds**	**Total SFY26 (Base + One-Time)**	**SFY26 Total Compared to SFY25 Total**
AAFM	9,000,000	3,000,000	**12,000,000**	2,653,113	2,000,000	**2,000,000**	**1,786,887**	**14,000,000**	4,440,000
ACCD	-	-	-	-	-	-	-	-	-
ANR (DEC)	14,980,000	4,000,000	**18,980,000**	70,000	3,055,112	**3,055,112**	**455,112**	**22,035,112**	525,112
ANR (FPR)	477,062	200,000	**677,062**	(16,938)	222,938	**222,938**	**222,938**	**900,000**	206,000
AoA	25,000	-	**25,000**	-	-	-	-	**25,000**	-
VHCB	-	2,800,000	**2,800,000**	-	-	-	-	**2,800,000**	-
VTrans	4,000,000	-	**4,000,000**	-	750,000	**750,000**	**(250,000)**	**4,750,000**	(250,000)
Total Proposed for Appropriation[6]	**28,482,062**	**10,000,000**	**38,482,062**	**2,706,175**	**6,028,050**	**6,028,050**	**2,214,937**	**44,510,112**	**4,921,112**

Footnotes:

[1] - The "Municipal Three-Acre General Permit and MS4" line item was primarily funded with American Rescue Plan Act (ARPA) dollars, no longer available to budget in SFY25-26, but will be expended through December 2026/SFY27. In SFY25-26, activities previously supported by this line item will transition to a combination of Lake Champlain Basin Program federal funding ($3 million available) and CWSRF financing.

[2] - Three-Acre General Permit projects, which are the focus of the "Developed Lands Implementation Grants" line item, were primarily funded with American Rescue Plan Act (ARPA) dollars. ARPA dollars are no longer available to budget in SFY25-26, but will be expended through December 2026/SFY27. Three-Acre General Permit projects will eventually transition to a financing structure.

[3] - The required state match to the CWSRF federal grant is fully covered by prior year funds in SFY26. This is a one-time pause in this line item and state match will be required again in SFY27 to continue to leverage substantial federal investment. In prior years, up to $2.2 million has been needed.

[4] - The SFY26 Clean Water Budget only covers $4 million of the estimated $20 million Municipal Pollution Control Grant need in SFY26. Need is estimated based on CWSRF financed projects in the pipeline eligible for that portion of the project to be covered by grant funds.

[5] - Projected SFY26 Clean Water Fund revenue are based on the consensus revenue forecast adopted by the Vermont Emergency Board at its July 2024 meeting, summarized in the September 30, 2024 Clean Water Fund Operating Statement. Unallocated/unreserved Clean Water Fund revenue are determined based on the difference between total (actual and projected) revenue and total appropriations, also summarized in the September 30, 2024 Clean Water Fund Operating Statement.

Clean Water Board State Fiscal Year 2026 Clean Water Budget Policy Document

Proposed October 11, 2024

Contents

Introduction

The State Fiscal Year (SFY) 2026 Clean Water Budget Policy provides narrative on the budget drafting approach and purpose/scope of funds under each program/line item in the budget. This document provides transparency on the intent of the Clean Water Board's budget recommendation. It also supports agencies in implementing programs in a manner consistent with the intent of the Board and how the Budget was presented to the public.

This SFY 2026 Clean Water Budget Policy contains the following information:

- SFY 2026 Clean Water Budget at a Glance;
- The proposed SFY 2026 Clean Water Budget recommendation sheet;
- Summary of budget drafting approach for SFY 2026; and
- Proposed SFY 2026 Clean Water Budget line-item descriptions of each budget program/activity.

This Policy Document is technical in nature. Additional educational materials on the Clean Water Budget are posted Clean Water Board webpage and the Clean Water Budget Story Map.

State Fiscal Year 2026 Clean Water Budget at a Glance

State Fiscal Year 2026 Clean Water Budget by Funding Source

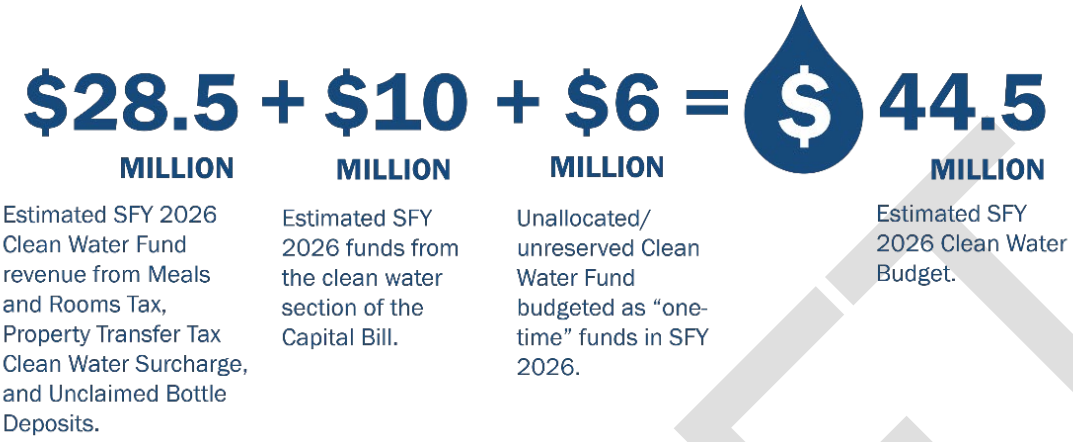


Figure 1: State Fiscal Year 2026 Clean Water Budget totals by funding source. The SFY 2026 Clean Water Budget totals approximately $44.5 million, and is made up of:

- $28.5 million in forecasted SFY 2026 Clean Water Fund revenue,
- $6 million in unallocated/unreserved Clean Water Fund revenue recommended to be programmed as "one-time" funds, and
- $10 million from the Clean Water section of the Capital Bill.

See page 5 of the SFY 2026 Policy Document for the proposed SFY 2026 Clean Water Budget recommendation sheet.

State Fiscal Year 2026 Clean Water Budget by Priority Tier

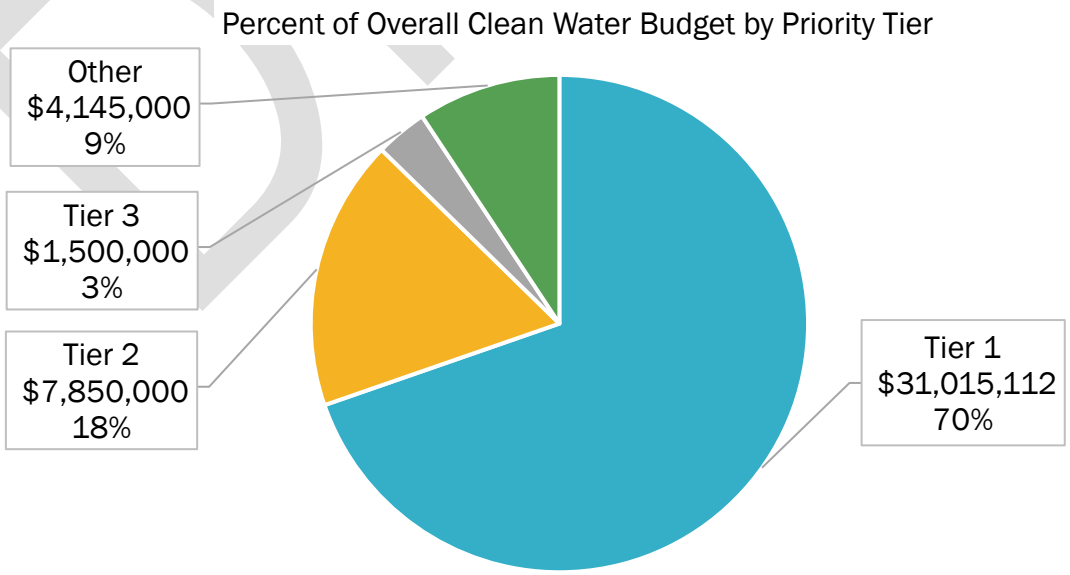


Figure 2: Percent of Overall Clean Water Budget by Priority Tier. The Clean Water Board separates funding programs into Tiers 1-3 and Other, where the highest priority programs are considered Tier 1 and the lowest priority programs are considered Tier 3 or Other. Statute determines for the Board which types of programs are first, second, and third priority. This pie chart summarizes how the total Clean Water Budget, including both Clean Water Fund and Capital Bill dollars, is allocated across priority tiers: 70% is allocated to Tier 1 initiatives, 18% to Tier 2 initiatives, 3% to Tier 3 initiatives, and 9% to "other" initiatives. The Board allocates more funding towards higher priority tiers. These tiering percentages will differ when looking at the Clean Water Budget by Clean Water Fund and Capital Bill funding source.

See page 8 of the SFY 2026 Policy Document for more details.

Clean Water Budget by Funding Source and State Fiscal Year

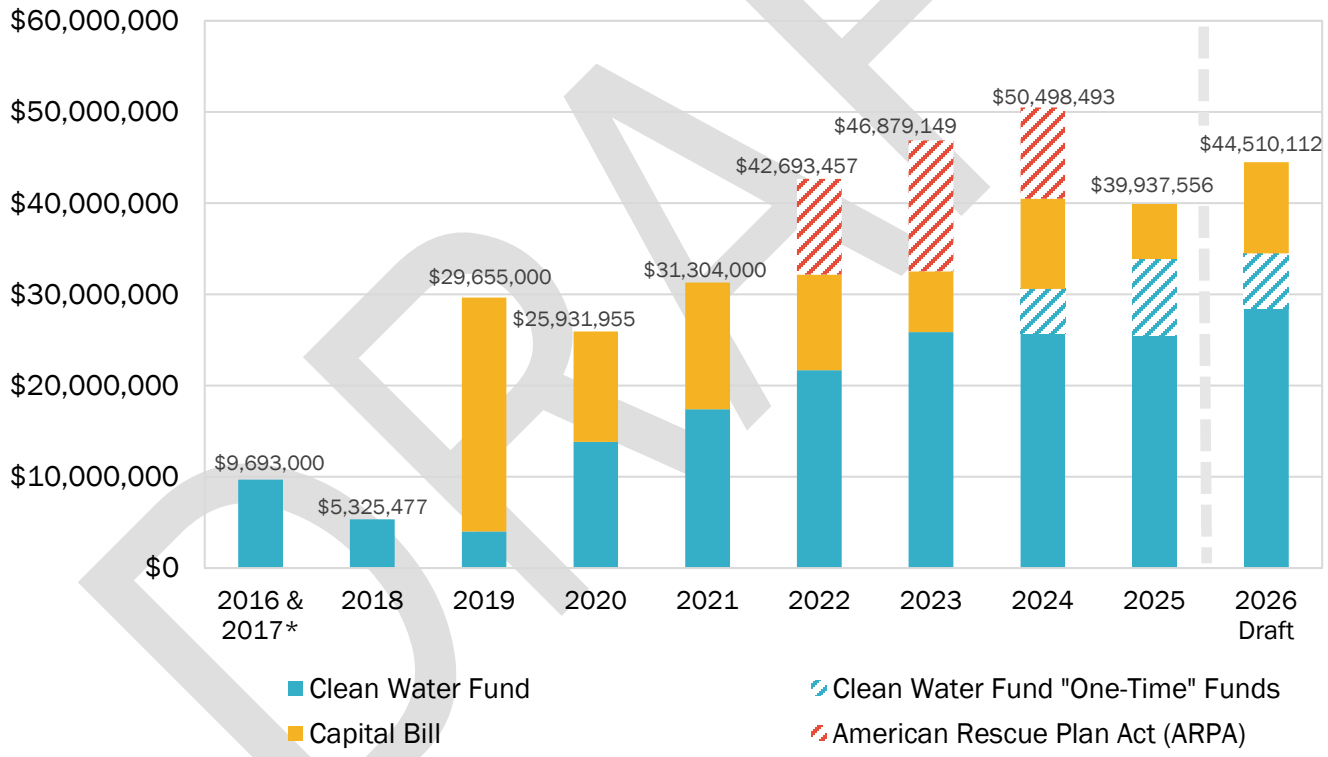


Figure 3: Clean Water Budget by Funding Source and State Fiscal Year (SFY). This bar chart shows the full SFY 2026 Clean Water Budget draft (far right vertical bar) compared to prior fiscal year approved budgets (SFY 2016-2025). The SFY 2026 Budget represents a $4.5 million increase compared to SFY 2025. This positive change is because of recent economic trends and the effect of interest income on fund balance.

Clean Water Board's Proposed SFY 2026 Clean Water Budget Recommendation

			SFY26 BASE FUNDS				SFY26 ONE-TIME FUNDS				
No.	Agency	Activity	Clean Water Fund	Capital Bill	Subtotal Base Funds	SFY26 Compared to SFY25 Base Funds	Clean Water Fund Unallocated/ Unreserved	Subtotal One-Time Funds	SFY26 Compared to SFY25 One-Time Funds	Total SFY26 (Base + One-Time)	SFY26 Total Compared to SFY25 Total
Clean Water Budget Statutory Priority Tier 1 (Items of Equal Priority)											
1.1	ANR-DEC (CWIP)	Water Quality Restoration Formula Grants to Clean Water Service Providers & O&M	7,210,000		7,210,000	-	-	-	(1,150,000)	7,210,000	(1,150,000)
1.2	ANR-DEC (CWIP)	Basin Planning, Basin Water Quality Council Participation, Education, and Outreach	750,000		750,000	-	-	-	-	750,000	-
1.3	*Water Quality Enhancement Grants*				-						
1.31	ANR-DEC (CWIP)	Statewide Non-regulatory Clean Water Projects	5,000,000		5,000,000	-	-	-	-	5,000,000	-
1.32	VHCB	Land Conservation and Water Quality Projects		2,000,000	2,000,000	-	-	-	-	2,000,000	-
1.4	AAFM	Water Quality Grants to Partners and Farmers	8,000,000	3,000,000	11,000,000	2,653,113	2,000,000	2,000,000	1,786,887	13,000,000	4,440,000
1.5	*Agency and Partner Operating Support*				-						
1.51	AAFM	Program Support	1,000,000		1,000,000	100,000	-	-	-	1,000,000	100,000
1.52	ANR-DEC (CWIP)	Program and Partner Support	1,500,000		1,500,000	570,000	555,112	555,112	(144,888)	2,055,112	425,112
Tier 1 SUBTOTAL			23,460,000	5,000,000	28,460,000	3,223,113	2,555,112	2,555,112	491,999	31,015,112	3,715,112
Tier 1 % of Total			82%	50%	74%		42%	42%		70%	
Clean Water Budget Statutory Priority Tier 2 (Items of Equal Priority)											
2.1	*Outreach and Implementation of Forestry Acceptable Management Practices for Maintaining Water Quality*										
2.11	ANR-FPR	Forestry Water Quality Practices and Portable Skidder Bridges	150,000		150,000	6,000			-	150,000	6,000
2.12	ANR-FPR	Implement BMPs at State Forests, Parks, and Recreational Access Roads	327,062	200,000	527,062	(22,938)	222,938	222,938	222,938	750,000	200,000
2.2	*Municipal Stormwater Implementation*				-						
2.21	VTrans	Municipal Roads Grants-in-Aid (MRGP)	3,000,000		3,000,000	-		-	-	3,000,000	-
2.22	VTrans	Municipal Better Roads (MRGP)	1,000,000		1,000,000	-	750,000	750,000	(250,000)	1,750,000	(250,000)
2.24	ANR-DEC (CWIP)	Municipal Three-Acre General Permit and MS4[1]			-			-	-	-	-
2.3	VHCB	Water Quality Farm Improvement and Retirement Projects		800,000	800,000	-		-	-	800,000	-
2.4	ANR-DEC (CWIP)	Innovative or Alternative Technologies or Practices to Improve Water Quality	200,000		200,000	200,000	1,200,000	1,200,000	450,000	1,400,000	650,000
Tier 2 SUBTOTAL			4,677,062	1,000,000	5,677,062	183,062	2,172,938	2,172,938	422,938	7,850,000	606,000
Tier 2 % of Total			16%	10%	15%		36%	36%		18%	
Clean Water Budget Statutory Priority Tier 3											
3.1	ANR-DEC (WID)	Developed Lands Implementation Grants[2]	200,000		200,000	200,000	1,300,000	1,300,000	1,300,000	1,500,000	1,500,000
Tier 3 SUBTOTAL			200,000	-	200,000	200,000	1,300,000	1,300,000	1,300,000	1,500,000	1,500,000
Tier 3 % of Total			1%	0%	1%		22%	22%		3%	
Clean Water Budget Other Priorities											
4.1	ANR-DEC (Lakes)	Lakes in Crisis Fund	120,000		120,000	-	-	-	-	120,000	-
4.2	AoA	Stormwater Utility Payments ($25K each)	25,000		25,000	-	-	-	-	25,000	-
4.3	ACCD	Better Connections and Downtown Transportation Fund	-		-	-	-	-	-	-	-
	Capital Bill Priorities							-	-		
4.4	ANR-DEC (WIFP)	State Match to Clean Water State Revolving Fund (CWSRF) Federal Grant[3]		-	-	(1,800,000)		-	-	-	(1,800,000)
4.5	ANR-DEC (WIFP)	Municipal Pollution Control Grants[4]		4,000,000	4,000,000	700,000	-	-	-	4,000,000	700,000
Other SUBTOTAL			145,000	4,000,000	4,145,000	(900,000)	-	-	-	4,145,000	(900,000)
Other % of Total			1%	40%	11%		0%	0%		3%	
		Total Proposed for Appropriation[5]	28,482,062	10,000,000	38,482,062	2,706,175	6,028,050	6,028,050	2,214,937	44,510,112	4,821,112
		Anticipated SFY26 Revenue/Sources	28,482,062	10,000,000	38,482,062			-		38,482,062	
		Estimated Unallocated/Unreserved Clean Water Fund Revenue			-		6,028,050	6,028,050		6,028,050	
		Anticipated Total Available	28,482,062	10,000,000	38,482,062		6,028,050	6,028,050		44,510,112	
		Balance=Total Available-Total Requested	-	-	-		-	-		-	

SFY 2026 Clean Water Budget Recommendation by Agency

	SFY26 BASE FUNDS				SFY26 ONE-TIME FUNDS				
Agency	Clean Water Fund	Capital Bill	Subtotal Base Funds	SFY26 Compared to SFY25 Base Funds	Clean Water Fund Unallocated/ Unreserved	Subtotal One-Time Funds	SFY26 Compared to SFY25 One-Time Funds	Total SFY26 (Base + One-Time)	SFY26 Total Compared to SFY25 Total
AAFM	9,000,000	3,000,000	12,000,000	2,653,113	2,000,000	2,000,000	1,786,887	14,000,000	4,440,000
ACCD	-	-	-	-	-	-	-	-	-
ANR (DEC)	14,960,000	4,000,000	18,960,000	70,000	3,055,112	3,055,112	455,112	22,035,112	525,112
ANR (FPR)	477,062	200,000	677,062	(16,938)	222,938	222,938	222,938	900,000	206,000
AoA	25,000	-	25,000	-	-	-	-	25,000	-
VHCB	-	2,800,000	2,800,000	-	-	-	-	2,800,000	-
VTrans	4,000,000	-	4,000,000	-	750,000	750,000	(250,000)	4,750,000	(250,000)
Total Proposed for Appropriation[5]	28,482,062	10,000,000	38,482,062	2,706,175	6,028,050	6,028,050	2,214,937	44,510,112	4,821,112

Footnotes:

[1] - The "Municipal Three-Acre General Permit and MS4" line item was primarily funded with American Rescue Plan Act (ARPA) dollars, no longer available to budget in SFY25-26, but will be expended through December 2026/SFY27. In SFY25-26, activities previously supported by this line item will transition to a combination of Lake Champlain Basin Program federal funding ($3 million available) and CWSRF financing.

[2] - Three-Acre General Permit projects, which are the focus of the "Developed Lands Implementation Grants" line item, were primarily funded with American Rescue Plan Act (ARPA) dollars. ARPA dollars are no longer available to budget in SFY25-26, but will be expended through December 2026/SFY27. Three-Acre General Permit projects will eventually transition to a financing structure.

[3] - The required state match to the CWSRF federal grant is fully covered by prior year funds in SFY26. This is a one-time pause in this line item and state match will be required again in SFY27 to continue to leverage substantial federal investment. In prior years, up to $2.2 million has been needed.

[4] - The SFY26 Clean Water Budget only covers $4 million of the estimated $20 million Municipal Pollution Control Grant need in SFY26. Need is estimated based on CWSRF financed projects in the pipeline eligible for that portion of the project to be covered by grant funds.

[5] - Projected SFY26 Clean Water Fund revenue are based on the consensus revenue forecast adopted by the Vermont Emergency Board at its July 2024 meeting, summarized in the September 30, 2024 Clean Water Fund Operating Statement. Unallocated/Unreserved Clean Water Fund revenue are determined based on the difference between total (actual and projected) revenue and total appropriations, also summarized in the September 30, 2024 Clean Water Fund Operating Statement.

Note this SFY 2026 Clean Water Budget Recommendation may be easier to review at the direct link: XXX

Summary of SFY 2026 Clean Water Budget Drafting Approach

The SFY 2026 Clean Water Budget was developed with the following considerations.

1. Anticipated budget targets (i.e., total amounts by funding source) were pulled from the following sources.
    a. Projected total SFY 2026 Clean Water Fund revenue was pulled from the September 2024 Clean Water Fund Operating Statement, which projects approximately $28.5 million in revenue.
    b. The Agency of Administration recommends applying a $10 million budget target for the Clean Water section of the Capital Bill in SFY 2026 for recommendation by the Clean Water Board. The Capital Bill operates on a biennial basis, with the 2025 Capital Bill covering SFY 2026-2027.
    c. The September 2024 Clean Water Fund Operating Statement projects a total balance of roughly $6 million in unallocated/unreserved revenue (defined as follows) available for allocation in SFY 2026, *if SFY 2025 revenue performs as currently projected*. The final SFY 2026 Clean Water Budget recommendation fully allocates $6 million in unallocated/unreserved revenue to maximize the availability/use of funds on the ground.
        i. Unallocated/unreserved Clean Water Fund revenue definition: Unallocated/unreserved funds materialize when a fiscal year closes under budget because actual revenue exceeded projections, or when projections for the current year revenue run higher than what was anticipated when the current year's budget was developed. Since the prior and current fiscal years already have approved budgets, any increases in revenue whether actual or projected for these fiscal years roll forward to serve as one-time funds available to budget in the next fiscal year's budget process.
        ii. Unallocated/unreserved revenue available for allocation in SFY 2026 are a combination of actual balances at the close of SFY 2024 and projected balances based on SFY 2025 revenue projections. The increase is due to two main factors. The first is the effect of recent economic trends which lifted SFY 2024 actual revenues and SFY 2025 projected revenues. The continuation of unallocated/unreserved revenue surpluses are likely the result of macroeconomic trends coming out of COVID-19 pandemic and the impact of federal stimulus funding on Vermont's economy. Availability of unallocated/unreserved revenue is not expected to continue in future years. The second is the effect of the interest income on the Clean Water Fund balance. At the close of SFY 2024, the Fund accrued an unanticipated $2.5 million in interest revenue that similarly has rolled forward to be budgeted as one-time funds this budget year.

2. "Base" SFY 2026 funding allocations were recommended per line item based on SFY 2026 Clean Water Fund revenue projections and anticipated Capital Bill allocations. Funding levels are informed by agency staff knowledge of the line item's demand and capacity.
    a. Base funding levels were allocated with the goal of maintaining funding program stability, in-pace with long-term program growth/demands, where feasible, without relying on short-term influxes of revenue or federal dollars.
    b. Base funding levels are also critical to maintain the non-federal match necessary to leverage ongoing/core federal dollars. This includes the Department of Environmental Conservation's (DEC) match to the Lake Champlain Basin Program and the Clean Water State Revolving Loan Fund (CWSRF) federal grants and significant contribution to the U.S. Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS) Regional Conservation Partnership Program (RCPP). This also includes Agency of Agriculture, Food and Market's (AAFM) funds necessary to leverage USDA-NRCS federal funds and to provide significant contribution to the U.S. Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS) Regional Conservation Partnership Program (RCPP).
3. Base SFY 2026 funding needs were then proposed to be met with Clean Water Fund and/or Capital Bill sources, applying the following approaches.
    a. Maximize use of Capital Bill dollars for capital-eligible activities (generally, design/engineering and construction for projects with minimum 10-year lifespan) and reserve Clean Water Fund dollars to support non-capital eligible activities (such as project identification and development efforts);
    b. Limit Capital Bill dollars to as few line items as possible for administrative purposes focused on traditionally Capital-funded programs for consistency; and
    c. Reserve Clean Water Fund dollars for Clean Water Fund statutory priorities (10 V.S.A. § 1389).
4. Short-term influxes of revenue were then allocated as "one-time" funds. One-time funds available for allocation in SFY 2026 are based on unallocated/unreserved revenue projected for close of SFY 2025 (a combination of prior year actual and current year projected unallocated/unreserved Clean Water Fund revenue). Allocating short-term influxes in revenue as one-time funds is intended to avoid scaling-up ongoing/long-term programs at an unsustainable rate that would later need to be contracted.
    a. One-time funds were allocated in separate columns from base funds in the final SFY 2026 Clean Water Budget recommendation, with the targeted goals to fill discrete/short-term gaps, such as
        i. Funds to maximize leveraging of Inflation Reduction Act federal funds for agricultural projects,
        ii. Funds to mitigate impacts of flood events on clean water partner organizational capacity and clean water project performance,

iii. Seed funds to initiate and leverage financing structures for stormwater and forestry regulatory compliance, and

iv. Funds for updated Municipal Road General Permit Road Erosion Inventory reassessments.

5. The Clean Water Fund statutory priorities (10 V.S.A. § 1389) establish Tier 1, 2, and 3 priorities for the Clean Water Budget. The prioritization approach generally aims to allocate 60% of the budget to Tier 1 initiatives, 30% to Tier 2 initiatives, and 10% to Tier 3 and "other" initiatives, with flexibility to modify each year factoring availability of other funds. The SFY 2026 prioritization approach maintained the intent of the Clean Water Fund statutory priorities (10 V.S.A. § 1389) by investing heavily in Tier 1 initiatives, while also scaling Tier 2 and Tier 3 initiatives appropriately to factor availability of other state/federal funding/financing sources contributing to Clean Water Budget line items/activities. As a result, the SFY 2026 Clean Water Budget allocates funds across priority tiers as follows.

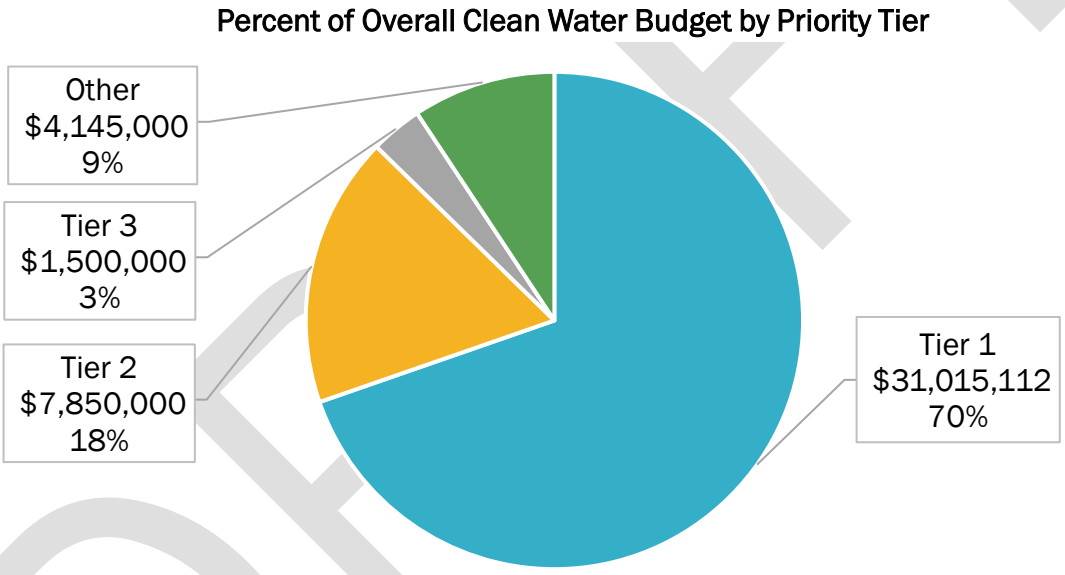


Figure 4: Overall Clean Water Budget Prioritization. Pie chart summarizes how the total Clean Water Budget, including both Clean Water Fund and Capital Bill dollars, is allocated across priority tiers: 70% is allocated to Tier 1 initiatives, 18% to Tier 2 initiatives, 3% to Tier 3 initiatives, and 9% to "other" initiatives.

The 18% allocation of overall funds to Tier 2 programs factors availability of Lake Champlain Basin Program federal dollars, Clean Water State Revolving Fund financing, and ongoing ARPA funds to support municipal stormwater implementation. See descriptions of line item 2.24 for more information.

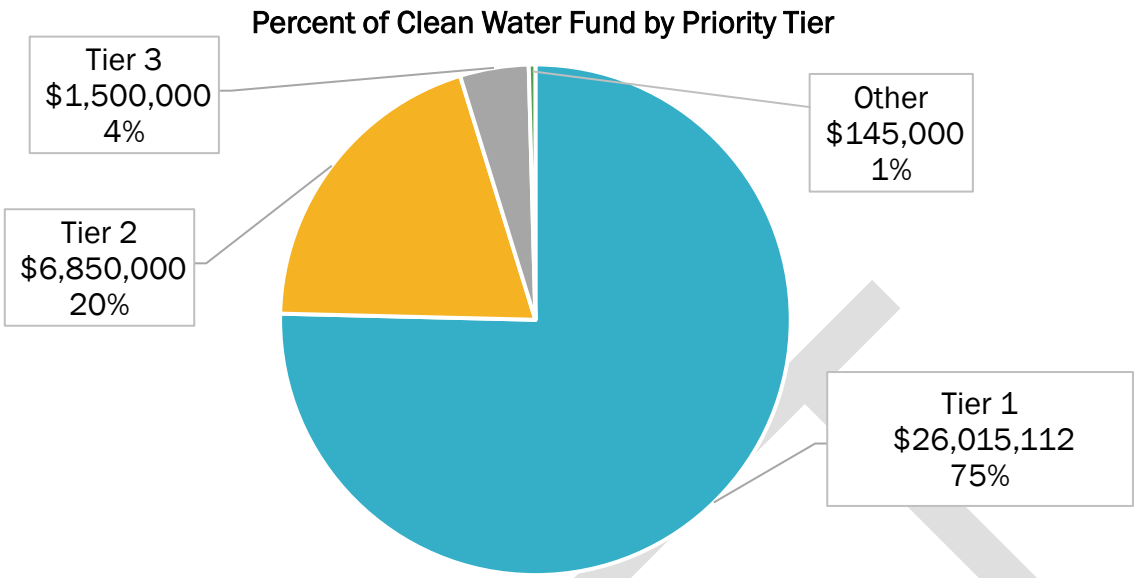


Figure 5: Clean Water Fund Prioritization. Pie chart summarizes how the Clean Water Fund dollars, including base and one-time funds, within the Clean Water Budget are allocated across priority tiers: 75% of Clean Water Fund dollars is allocated to Tier 1 initiatives, 20% to Tier 2 initiatives, 4% to Tier 3 initiatives, and 1% to "other" initiatives. Clean Water Fund dollars are allocated in closest alignment with the Clean Water Fund's statutory priorities.

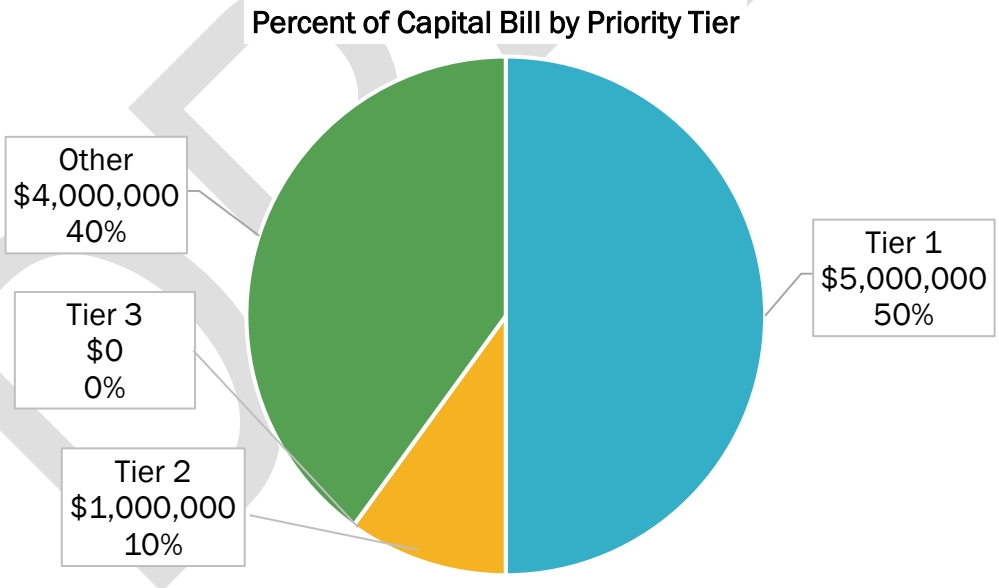


Figure 6: Capital Bill Prioritization. Pie chart summarizes how the Capital Bill dollars within the Clean Water Budget are allocated across priority tiers: 50% of Capital Bill dollars is allocated to Tier 1 initiatives, 10% to Tier 2 initiatives, 0% to Tier 3 initiatives, and 40% to "other" initiatives under the "Capital Bill Priorities" sub header.

6. Finally, the Clean Water Fund Contingency Reserve remains whole at the $2.5 million level established in the SFY 2024 Clean Water Budget. The Clean Water Board manages the Reserve following the Clean Water Fund Contingency Reserve Guidelines. The Reserve serves two purposes—primarily, to mitigate risk against revenue underperformance, and secondarily, to mitigate risk against Clean Water Project loss.
    a. Activation of the Contingency Reserve for revenue underperformance is not needed at the time of developing the SFY 2026 Clean Water Budget, as revenue are performing within/above the projected range and unallocated/unreserved revenue balances are likely sufficient to fill any gaps between projected/appropriated and actual revenue for the current year (SFY 2025).
    b. Activation of the Contingency Reserve for Clean Water Project loss is also not needed at the time of developing the SFY 2026 Clean Water Budget, as there have been no reported project losses for projects implemented/adopted under Water Quality Restoration Formula Grants.
        i. Currently, Contingency Reserve funds for Clean Water Project loss are only eligible for projects implemented/adopted under Water Quality Restoration Formula Grants. As stated in the Contingency Reserve Guidelines, "The State of Vermont relies on Water Quality Restoration Formula Grants awarded to Clean Water Service Providers to meet the non-regulatory portion of pollution load reductions required to achieve the Lake Champlain and Lake Memphremagog phosphorus total maximum daily loads (TMDLs).[1] Clean Water Projects implemented under the Formula Grant program are not compelled by regulation but are necessary in most cases to successfully meet water quality standards. The State of Vermont provides financial and technical assistance to Clean Water Service Providers and a network of project implementers to support non-regulatory Clean Water Project implementation and long-term operation and maintenance. As such, the state has formalized its reliance and stake in the long-term performance of Clean Water Projects."
        ii. Non-regulatory projects funded outside of Formula Grants impacted by floods/extreme weather may be able to access funds under the Program and Partner Support line 1.52. See "Program and Partner Support" under Agency of Natural Resources' SFY 2026 Clean Water Budget Line-Item Descriptions for more information.
    c. A change in the Contingency Reserve funding level is not currently advised. The $2.5 million value is expected to be sufficient to guard against risk of revenue underperformance and there are currently no reported project losses that would trigger activation of the Reserve.

[1] *Phosphorus Total Maximum Daily Loads for Vermont Segments of Lake Champlain* (i.e., Lake Champlain phosphorus TMDLs) and *Lake Memphremagog Phosphorus Total Maximum Daily Load* (i.e., Lake Memphremagog phosphorus TMDL)

SFY 2026 Clean Water Budget Line-Item Descriptions

Organized alphabetically by agency.

Agency of Administration (AoA)

Line 4.2: Stormwater Utility Payments

- This line item is no longer a statutory obligation and is not reflected as a tiered priority for Clean Water Fund spending pursuant to 10 V.S.A. § 1389 (e).

The Clean Water Board has awarded monies to support the establishment and maintenance of stormwater utilities (up to $25,000 per year per municipality for five years). At the time of developing this SFY 2026 Clean Water Budget, six municipalities have established stormwater utilities: Williston, Colchester, South Burlington, St. Albans City, St. Albans Town, and Burlington. Five years of incentive payments have been budgeted for all stormwater utilities except St. Albans Town, as of SFY 2025. Therefore, the SFY 2026 budget proposes to provide funds to St. Albans Town for the fifth and final year of the five-year commitment. Municipalities are only eligible to receive stormwater utility payments if the utility is established/operational with a dedicated revenue/funding source. These funds are appropriated through the Agency of Administration.

Agency of Agriculture, Food and Markets (AAFM)

Line 1.4: Water Quality Grants to Partners and Farmers

- This line item and all associated funding initiatives reflects a Tier 1 priority for Clean Water Fund spending pursuant to 10 V.S.A. § 1389 (e)(1)(C). This line item is funded with Clean Water Fund, and Capital Bill dollars.

Capital Bill dollars: AAFM provides grants and contracts for capital expenditures that include the installation of best management practices (BMPs) on farms in Vermont. BMPs are site-specific on-farm conservation practices implemented to address the potential for agricultural pollutants to enter the waters of the state. Below is a summary of the programs connected with the Capital Bill for this line item. These programs are primarily funded from the Capital Bill.

  - Best Management Practices (BMP) Program, 6 V.S.A. §§ 4820 – 4826. Eligible practices may include manure and agricultural waste storage facilities, composting stack pads, silage leachate collection, laneway development & stream crossings, and clean water diversions. BMP funds are awarded directly to farms by AAFM and are primarily used to support farms in offsetting part of the federal cost share requirements to access/leverage federal funding through U.S. Department of Agriculture Natural Resources Conservation Service (NRCS). BMP funds provide additional cost-share to farms on a project (roughly 10-60%). This support for farm cost share reduces barriers to farms being able to access federal funds. However, these funds can also be used to implement state-only projects that don't have access to federal funding or need to be accomplished on a more expedient timeline for pollution control.

- Conservation Reserve Enhancement Program (CREP), 6 V.S.A. § 4829. The program funds 15-year water quality agreements to install perennial grass or woody vegetation within buffers. This program receives a 4:1 federal to state program match.

- Grassed Waterway and Filter Strip (GWFS) Program, 6 V.S.A. § 44831. The GWFS Program can provide technical and financial assistance to Vermont farmers for in-field agronomic best practices to address critical source areas, erosion, and surface runoff. Eligible practices include establishment of grassed waterways, filter strips, and critical source field area seedings that will remain established for 10 years.

- Capital Equipment Assistance Program, 6 V.S.A. § 4828. Financial assistance is available for new or innovative equipment that will aid in the reduction of surface runoff of agricultural wastes to state waters, improve water quality of state waters, reduce odors from manure application, separate phosphorus from manure, decrease greenhouse gas emissions, and reduce costs to farmers.

- Agricultural Environmental Management (AEM) Program, 6 V.S.A. 4830. The AEM Program is established to provide farms of Vermont with state financial assistance to alternatively manage their farmstead, cropland, and pasture in a manner that will address identified water quality concerns that, traditionally, would have been wholly or partially addressed through federal, state, and landowner investments in BMP infrastructure, in agronomic practices, or both.

Clean Water Funds: AAFM administers grants and contracts that are supported with non-capital Clean Water Funds under the following programs:

- Farm Agronomic Practices (FAP) Program, 6 V.S.A. § 4832. The FAP Program utilizes state funding to help Vermont farms implement soil-based agronomic practices that improve soil quality and health, increase crop production, and reduce erosion and agricultural waste discharges. The FAP Program also provides education and instructional activity grants to support outreach regarding current state agricultural water quality regulations and the impacts of agricultural practices on water quality. Eligible practices include cover cropping, crop to hay rotation, crop to hay rotation with nurse crop, conservation tillage, no till pasture and hayland renovation, rotational grazing, manure injection, and educational or instructional activities.

- The Agricultural Clean Water Initiative Program (Ag-CWIP) is AAFM's grant funding program made possible by the Clean Water Fund, created by Act 64 of 2015 (i.e., the Vermont Clean Water Act). Funding is awarded to a wide variety of partner organizations through various grant opportunities such as Education and Outreach, Technical Assistance, Organizational Development, Farm Conservation Practice Surveys, Innovative Nutrient Reduction activities and more. This funding develops and supports the continual improvement of water quality across the State of Vermont by supporting local and regional organizations to provide farmers with education and outreach, technical assistance, identifying and implementing BMPs, conservation planning, and more. This program supports agronomic technical support previously supported under the Agronomy and Conservation Assistance Program (ACAP).

Line 1.51: Program Support

- This line item supports program work that directly supports statutory obligations and Tier 1 priorities for Clean Water Fund spending pursuant to 10 V.S.A. § 1389 (e).

This line item supports a portion of the Water Quality Program staff and operating costs from the Clean Water Fund. The necessary increase in staffing occurred as part of the Vermont Clean Water Act development process and allows the AAFM to meet the *Phosphorus Total Maximum Daily Loads for Vermont Segments of Lake Champlain* (i.e., Lake Champlain phosphorus TMDLs) and statewide on farm inspection and technical assistance goals for achieving water quality improvements.

Agency of Commerce and Community Development (ACCD)

Line 4.3: Better Connections (Stormwater Planning) and Downtown Transportation Fund

- This line item is not a statutory obligation and is not reflected as a tiered priority for Clean Water Fund spending pursuant to 10 V.S.A. § 1389 (e).

Better Connections is an award-winning interagency grant program (VTrans, ACCD, ANR, Vermont Department of Health) that supports the implementation of local projects to increase local transportation options, build resilience, and revitalize communities. Funding helps municipalities incorporate stormwater management strategies into downtown and village center transportation and community revitalization plans. In partnership with VTrans, the Downtown Transportation Fund helps municipalities incorporate stormwater BMPs into infrastructure improvement projects that make Vermont's downtown areas more pedestrian, bike, and transit friendly.

Due to availability of prior year leftover funds, the SFY 2026 Clean Water Budget continues a temporary pause on funding for this line item, which will be re-evaluated in SFY 2027.

Agency of Natural Resources (ANR)

Line 1.1: Water Quality Restoration Formula Grants to Clean Water Service Providers & Operation and Maintenance (O&M)

- This line item reflects a Tier 1 priority for Clean Water Fund spending pursuant to 10 V.S.A. § 1389 (e)(1)(A) and (B).

The Secretary shall administer a Water Quality Restoration Formula Grant Program to award grants to Clean Water Service Providers (CWSPs) to meet the pollutant reduction requirements under 10 V.S.A. § 921-923. The grant amount shall be based on the annual pollutant reduction goal established for the CWSP multiplied by the standard cost for pollutant reduction including the costs of administration and reporting. The standard cost shall include the costs of project identification, project design, and project construction. Additionally, in making recommendations regarding the appropriate allocation of funds from the Clean Water Fund, the Board is directed to prioritize grants to CWSPs to fund the reasonable costs associated with the inspection,

verification, operation, and maintenance of clean water projects in a basin, to ensure installed practices continue to realize their phosphorus reduction potential for expected design life. This includes projects across a range of sectors including floodplain and stream restoration, buffer plantings, stormwater management improvements, wetlands restoration, and lake shoreline restoration. CWSPs and their Basin Water Quality Councils will be responsible for determining how Formula Grant allocations are awarded at the project-level, within their respective basins, using state-derived Guidance. Formula Grants will be administered by the ANR-DEC CWIP with technical project management from the ANR-DEC Watershed Planning Program. For more information, visit the DEC's Clean Water Service Delivery Act webpage.

Water Quality Restoration Formula Grants are allocated based on the Water Quality Restoration Formula Grant Targets and Fund Allocation Methodology, available here, with phosphorus reduction targets and budgets scaled down to available funds and partner capacity. The Methodology will be refined periodically by ANR-DEC as new/improved data/information become available. Total Formula Grant estimated need based on targets will be further refined in future budget cycles, pending results from additional planning and analytical tools. ANR-DEC will continue to work with O&M partners to improve O&M cost predictions and establish quantitative budget targets in future years. O&M funding needs are expected to increase over time as more projects reach installation.

Line 1.2: Basin Planning, Basin Water Quality Council Participation, Education, and Outreach

- This line item reflects a Tier 1 priority for Clean Water Fund spending pursuant to 10 V.S.A. § 1389 (e)(1)(E).

This line item supports partners' participation and outreach throughout the Tactical Basin Planning process and Basin Water Quality Council participation, pursuant to 10 V.S.A. § 1253(d)(3). Funding shall be at least $500,000 pursuant to 10 V.S.A. § 1389. Eligible tactical basin planning activities are prescribed in 10 V.S.A. § 1253(d)(3). Funds are provided in the form of annual grants to eligible basin planning partner entities defined in statute. Eligible tasks include assisting the tactical basin planning process through regional coordination, technical support and outreach, participation in Water Quality Restoration Formula Grants' Basin Water Quality Councils, water quality monitoring, and municipal bylaw updates identified as priorities in tactical basin plans. Basin planning agreements will be administered by the ANR-DEC CWIP with technical project management from the ANR-DEC Watershed Planning Program.

Line 1.31: Water Quality Enhancement Grants—Statewide Non-regulatory Clean Water Projects

- This line item reflects a Tier 1 priority for Clean Water Fund spending pursuant to 10 V.S.A. § 1389 (e)(1)(D) and is designed to meet the statutory intent of 10 V.S.A. § 926.

ANR-DEC CWIP's "Water Quality Enhancement Grants—Statewide Non-regulatory Clean Water Projects" line item, funded with Clean Water Funds, will fulfill the Water Quality Enhancement Grant Program established in statute to protect high quality waters, maintain or improve water quality, restore degraded or stressed waters, create resilient watersheds and communities, and support the public's use and enjoyment of the State's waters. These agreements will be

administered by the ANR-DEC CWIP with technical project management from staff in the Clean Water Initiative Program and Watershed Management Division.

The ANR-DEC CWIP achieves the statutory intent of the Water Quality Enhancement Grant Program through a series of sub-initiatives as outlined in the annual CWIP Spending Plan. For SFY 2026 these sub-initiatives will likely include dam removal design and implementation; clean water project development, design, and implementation; riparian buffer plantings; river corridor easements; wetlands easement incentive payments; and assessments for clean water project identification. Enhancement funding offered under this line item may vary in structure between grants or contracts depending on the scope of work. Some funds may be administered through a block grant or bulk contract structure. The intent is to support the full life cycle of projects from identification to development through implementation.

The Water Quality Enhancement Grants must be at a funding level of at least 20 percent of the annual balance of the Clean Water Fund, provided that the maximum amount recommended shall not exceed $5,000,000. The Clean Water Board's final SFY 2026 Clean Water Budget recommendation funds this grant category at the full $5,000,000 maximum from the Clean Water Fund.

Line 1.52: Program and Partner Support

- This line item supports program and partner work that directly supports statutory obligations and Tier 1 priorities for Clean Water Fund spending pursuant to 10 V.S.A. § 1389 (e).

Line item includes all initiatives under the ANR-DEC CWIP that are foundational to supporting the structure and function of the Clean Water Fund and program obligations under Act 76 of 2019 and Act 64 of 2015. Base Clean Water Fund budget levels reflect ongoing needs. The SFY 2026 one-time Clean Water Funds are earmarked to boost additional short-term investments in clean water partner capacity and flood/extreme weather-related needs for clean water projects and organizational capacity.

- Supports capacity investments such as:
  - Organizational capacity and training needs for partners to ensure a strong partnership network to deliver high quality and high priority clean water projects. Also, may support flood recovery including community assistance and project repair.
  - Professional service contracts and MOUs that provide centralized expertise necessary for the success of certain clean water projects such as River Corridor Easements.
  - Funds to an entity to develop and implement a plan to provide education, outreach, and technical assistance to Wastewater Treatment Facility (WWTF) operators subject to major nutrient Total Maximum Daily Loads (TMDLs) (e.g., Long Island Sound Nitrogen TMDL and Lake Champlain Phosphorus TMDLs).

- Supports DEC and partners in developing and addressing gaps in tracking, accounting, and target-setting methodologies, tools, trainings, and processes to meet requirements of Act 76 of 2019 and Act 64 of 2015.

- Supports lab analytical and testing expenses to process water quality samples collected by partners as well as other collaborative, targeted water quality monitoring efforts.

- Supports personnel including:

    - ANR-DEC's program staff capacity to (1) administer grants and contracts and (2) to provide program coordination/management for Vermont's $10-12 million Regional Conservation Partnership Program federal grant award.

    - ANR-DEC match requirement to federal AmeriCorps grant by directly funding the time of Eco AmeriCorps members who are assigned to organizations that implement clean water projects. Host organizations must still meet their local match obligations.

    - Co-leveraged staff capacity with partner organizations to assist ANR-DEC in providing technical assistance to project proponents on advancing and maintaining clean water projects.

Line 2.11: Forestry Water Quality Practices and Portable Skidder Bridges

- This line item reflects a Tier 2 priority for Clean Water Fund spending pursuant to 10 V.S.A. § 1389 (e)(2)(B).

This line item supports the Department of Forests, Parks and Recreation (FPR) in providing financial, technical, and educational assistance to support water quality best management practices (BMPs) on forestlands. This includes approximately $100,000 to support FPR's personnel capacity to enhance implementation of Acceptable Management Practices (AMPs) for Maintaining Water Quality on Logging Jobs on private and public lands through direct assistance to service providers, foresters, and loggers. A portion of the funds (approximately $50,000) are offered in direct grants to loggers to reimburse a portion of the cost of skidder bridges (per 2017 Act 75, 10 V.S.A. § 2622a). Portable skidder bridges prevent erosion and runoff at stream crossings on logging jobs.

Line 2.12: Implement Best Management Practices (BMPs) at State Forests, Parks, and Recreational Access Roads

- Funded from the Capital Bill, this line item reflects a Tier 2 priority for Clean Water Fund spending pursuant to 10 V.S.A. § 1389 (e)(2)(B).

This line item funds planning/design and implementation of road and trail BMPs to reduce erosion and nutrient and sediment pollution on ANR's road and trail networks, including State Forests, Wildlife Management Areas, State Parks, and recreational access points. Road and trail segments are identified and prioritized for BMP implementation using a modified Municipal

Roads General Permit (MRGP) inventory methodology, a field application for data collection, and a companion database to gather and store data (inventory work is funded with prior year Clean Water Fund dollars). BMPs implemented under this line item bring whole road segments up to standards for water quality improvement, defined in the inventory methodology. In addition to benefiting water quality, these projects offer multiple benefits for improving public access and flood resilience on state lands. This line item contains funding (approximately $200,000) for State Lands Foresters and a supervising engineer working directly on project planning/design and implementation.

Line 2.24: Municipal Three-Acre General Permit and MS4

- This line item reflects a Tier 2 priority for Clean Water Fund spending pursuant to 10 V.S.A. § 1389 (e)(2)(C).

This is one of three programs that supports the Municipal Stormwater Implementation Grant initiative as outlined in 10 V.S.A. § 928 to assist municipal entities in addressing regulatory obligations. This line item funded two spending initiatives managed by the ANR-DEC CWIP in the SFY 2023 and SFY 2024 Clean Water Budgets, described as follows. Funding largely came from ARPA dollars. The SFY 2026 Clean Water Budgets proposes $0 for this line item, acknowledging availability of Lake Champlain Basin Program federal dollars, Clean Water State Revolving Fund (CWSRF) loan financing/subsidy, and ongoing availability of ARPA funds (available to be encumbered/expended through December 2026) to support these activities.

- Municipal Separate Storm Sewer System (MS4) Community Formula Grant program: This Formula Grant program, designed and managed by the ANR-DEC CWIP, will assist MS4 communities with developing and implementing clean water projects to comply with MS4 permit obligations to implement Flow Restoration Plans and Phosphorus Control Plans. The program has $7.48M in funding from ARPA and Clean Water Fund spanning SFY23 and SFY24. Eligible project types include but are not limited to those identified within MS4s' approved Flow Restoration Plans or Phosphorus Control Plans that meet the other eligibility requirements of the CWIP Funding Policy. ANR-DEC has also secured at least $3 million in Lake Champlain Basin Program federal funds to support these activities, to be co-administered with CWSRF loan financing.

- Green Schools Initiative: This initiative includes passthrough funds to entities to assist public schools in Lake Champlain and Memphremagog basins in obtaining and complying with the Three-Acre General Permit (design, permitting, construction). This initiative has approximately $32 million in funding from Lake Champlain Basin Program federal funds and prior year Clean Water Budget Clean Water Fund and ARPA dollars.

Line 2.4: Innovative or Alternative technologies or practices to improve water quality

- This line item reflects a Tier 2 priority for Clean Water Fund spending pursuant to 10 V.S.A. § 1389 (e)(2)(D).

This line item provides "funding for innovative or alternative technologies or practices designed to improve water quality or reduce sources of pollution to surface waters." Line item is replenished

on an as-needed basis to serve as available match/leverage for applied innovative or alternative research in clean water work. This line item may also fund innovative/experimental special projects that are not yet standardized to be eligible under other programs in the Clean Water Budget. In the SFY 2026 Clean Water Budget, this includes the following.

- The SFY 2026 Clean Water Budget allocates initial seed funds (one-time funds) to establish an innovative financing mechanism for Tier 2 regulatory requirements, specifically municipal Three-Acre General Permit sites and logging equipment to support implementation of Acceptable Management Practices (AMPs) for Maintaining Water Quality on Logging Jobs. These seed funds may be used for a linked deposit program to be co-administered with the proposed financing program under Tier 3 Developed Lands Implementation Grants. While this requires an upfront investment from the Clean Water Budget, a standalone financing mechanism is intended to minimize cost pressures on the Clean Water Budget long term.

- In SFY 2026, ANR-DEC also expects that a portion of the funds (approximately $200k in one-time funds, in addition to the $750k from the SFY 2025 Clean Water Budget) may be used to partially cover costs of the Lake Carmi alum treatment after other local funding/financing sources (e.g., CWSRF loan) are leveraged for treatment. Implementation of an alum treatment is eligible for financing under the CWSRF Bipartisan Infrastructure Law Emerging Contaminants Program, pursuant to EPA guidance. In SFYs 2024-2025, funds from this line item may support an Alum Treatment Feasibility Study for Lake Carmi and an in-lake phosphorus inactivation project, pending the results of the Alum Treatment Feasibility Study and permitting for Lake Carmi. Alum treatments are an option to mitigate internal and legacy phosphorus loading that is released within a lake or pond, and these treatments also have the potential to mitigate cyanobacteria and algae blooms. Alum treatments, which are typically a significant investment, should only be applied in cases where phosphorus sources from the surrounding landscape/watershed have been sufficiently mitigated so that this investment in alum is cost effective and endures over the long term.

While this line item makes an explicit investment in research related to innovative or alternative technologies or practices, innovation also is integrated throughout many of the Clean Water Budget-supported programs/activities. Please see the Summary of Ongoing/Existing Innovative or Alternative Technologies or Practices to Improve Water Quality document (presented at the October 18, 2022 Clean Water Board meeting) for a summary of examples of ongoing/existing innovative or alternative work supported by the Clean Water Budget.

Line 3.1: Developed Lands Implementation Grant

- This line item reflects a Tier 3 priority for Clean Water Fund spending pursuant to 10 V.S.A. § 1389 (e)(3).

The Secretary shall administer a Developed Lands Implementation Grant Program to provide grants or financing to persons who are required to obtain a permit to implement regulatory requirements that are necessary to achieve water quality standards. The program will support Three-Acre General Permit obtainment and compliance through design and implementation. Three-Acre General Permit financial assistance is critical to ensure the overall success of this

regulatory program, required under the implementation plans for the Lake Champlain and Lake Memphremagog phosphorus total maximum daily loads (TMDLs).[2]

Roughly $27 million in ARPA dollars were directly appropriated to ANR-DEC from SFY 2022 through 2024 to support compliance with the Three-Acre General Permit and will be encumbered/expended through December 2026. Even with this significant ARPA investment to offset the costs of the Three-Acre General Permit, additional financial assistance is needed to support individuals and entities in complying with the permit.

A financing structure will replace ARPA programs to serve as the Developed Lands Implementation Grant Program. The SFY 2026 Clean Water Budget allocates funds to assist in the transition from grants to financing, supporting initial seed funds (one-time funds) and programmatic capacity (base funds) to establish a financing mechanism that may offer some loan subsidy to Three-Acre sites based on affordability criteria. These seed funds may be used for a linked deposit program to be co-administered with the proposed linked deposit program under the Tier 2 "Innovative or Alternative technologies or practices to improve water quality" line item. While this requires an upfront investment from the Clean Water Budget, a standalone financing mechanism is intended to minimize cost pressures on the Clean Water Budget long term.

Line 4.1: Lake in Crisis Fund

- This line item is a statutory obligation but not reflected as a tiered priority for Clean Water Fund spending pursuant to 10 V.S.A. § 1389 (e).

Line item reflects the ANR-DEC's recommended annual budget for the fund pursuant to 10 V.S.A. § 1314 (b). Currently only one lake, Lake Carmi, is designated as a Lake in Crisis. In addition to the Lake in Crisis Fund, ANR and AAFM use other grant programs to support phosphorus mitigation in the Lake Carmi watershed. The *Lake Carmi Crisis Response Plan* and other resources are available at the Restoring Lake Carmi webpage. Funds are managed by the DEC's Lakes and Ponds Program within the Watershed Management Division. Eligible practices and projects are determined by the Lakes and Ponds Program, in consultation with statute and with annual budget review by the Legislature. Lake in Crisis Funds may be used to implement the Crisis Response Plan and/or a Lake in Crisis Order. Currently, Lake in Crisis Funds are only used to implement the Crisis Response Plan, with local match incentivized but not required. In the event the Funds are used to support implementation of a Lake in Crisis Order, pursuant to 10 V.S.A. § 1313, the entity subject to the Order shall pay at least 35 percent of the total eligible project cost or shall pay the specific cost share authorized by statute for the program from which the grant is awarded. Funds awarded externally are provided as a mix of grants and contracts depending on the scope of work. Lake in Crisis funds support implementation of the Lake Carmi Crisis Response Plan, including ongoing water quality monitoring activities.

[2] *Phosphorus Total Maximum Daily Loads for Vermont Segments of Lake Champlain* (i.e., Lake Champlain phosphorus TMDLs) and *Lake Memphremagog Phosphorus Total Maximum Daily Load* (i.e., Lake Memphremagog phosphorus TMDL)

Line 4.4: State Match to Clean Water State Revolving Fund Federal Grant

- This line item is not reflected as a tiered priority for Clean Water Fund spending pursuant to 10 V.S.A. § 1389 (e) but is critical towards leveraging federal funding into the CWSRF.

The Clean Water State Revolving Fund (CWSRF) provides low-interest loans for municipal and private entity stormwater, wastewater, and natural resources projects. Vermont provides a 20% match to draw down federal funds. All the 20% state match funds, federal funds, and repayment funds, minus administrative expenses are used to provide loans for a wide range of water-quality projects that includes combined sewer overflow abatement (CSO), plant refurbishment, plant upgrades, sludge and septage improvements, sewer line replacement and extension, pump station upgrades, plant enlargements, stormwater improvements, and municipally sponsored private wastewater disposal systems. The interest rate/administrative fee on loans to private entities will be slightly higher than rates to municipalities, and these revenues will be used to offset reduced rates on loans to municipalities that promote natural resources projects. By statute, municipal projects always have priority over loans to private entities. Program is administered by the Water Infrastructure Finance Program.

State match required for the CWSRF federal grant depends on the final federal grant award amount, which is dependent on national-scale federal earmark appropriations across the 50 states. The required state match to the CWSRF federal grant is projected to be fully covered by prior year funds in SFY 2026, as described in the annual Federal Funds Report to the General Assembly.[3] State match will be required again in SFY 2027 to continue to leverage substantial federal investment. In prior years, up to $2.2 million has been needed. Should any state match to the CWSRF federal grant be needed in SFY 2026, up to $700k could be reallocated from the Municipal Pollution Control Grant line item 4.5, while maintaining customary levels of Municipal Pollution Control Grant support.

Line 4.5: Municipal Pollution Control Grants

- This line item is not reflected as a tiered priority for Clean Water Fund spending pursuant to 10 V.S.A. § 1389 (e) but the Legislature has adopted a priority system for Municipal Pollution Control Grants, found in 10 V.S.A. § 1626b(c) and § 1628, and the Department of Environmental Conservation Chapter 2 – Municipal Pollution Control Priority System Rule, adopted December 2017.

In addition to low-interest loans through the Clean Water State Revolving Loan Fund (CWSRF), some municipal clean water projects are eligible for Municipal Pollution Control Grants in SFY 2026 for up to 35% of the project cost. The source of funding for Municipal Pollution Control Grants is the Capital Bill. These grants are for municipalities only. This grant program is administered by the Water Infrastructure Finance Program. Eligible project types focus on management of stormwater, sewage, or wastewater, including improvements to a wastewater treatment facility, combined sewer separation facilities, an indirect discharge system, a

[3] *2024 Report on Federal Funding Related to Water Quality Improvement Efforts in Vermont*

wastewater system, flood resiliency work related to a structural facility, or a groundwater protection project.

The SFY 2026 Clean Water Budget only covers $4 million of the estimated $20 million Municipal Pollution Control Grant need in SFY 2026. Need is estimated based on CWSRF financed projects in the pipeline eligible for that portion of the project to be covered by grant funds.

Agency of Transportation (VTrans)

Line 2.21: Municipal Roads Grants-in-Aid

- This line item reflects a Tier 2 priority for Clean Water Fund spending pursuant to 10 V.S.A. § 1389 (e)(2)(C). This is one of two VTrans initiatives recommended to support the Municipal Stormwater Implementation Grant initiative as outlined in 10 V.S.A. § 928.

Provides financial assistance to municipalities to bring hydrologically connected municipal road segments into full compliance with the Municipal Roads General Permit. Funds are dispersed by formula to all participating municipalities based on hydrologically connected road miles. Practices eligible for funding under this program include drainage ditch installation and upgrades, turnouts, removal of high road shoulders, and stabilization of drainage culverts and catch basin outlets, and on Class 4 roads, stabilization of gully erosion.

- SFY 2023 was the final year of funding for the Municipal Roads Grants-in-Aid complementary equipment purchase program, administered by ANR-DEC CWIP. In the future, VTrans may continue this equipment program as a sub-initiative of the Municipal Roads Grants-in-Aid line item, pending continued demand and capacity.

Line 2.22: Municipal Better Roads Program

- This line item reflects a Tier 2 priority for Clean Water Fund spending pursuant to 10 V.S.A. § 1389 (e)(2)(C). This is one of two VTrans initiatives recommended to support the Municipal Stormwater Implementation Grant initiative as outlined in 10 V.S.A. § 928.

Construction projects funded by grants to municipalities in the Better Roads Program are meant to be quick, low-cost projects that are easy to advance without all the requirements of federal funding that enhance the resilience of municipal roads while protecting water quality in Vermont. Example construction projects include ditching, check dams, slope stabilization, and structure/culvert upgrades. All Clean Water Funds awarded through the Better Roads Program will be used to bring hydrologically connected municipal road segments into full compliance with the Municipal Roads General Permit. Other funding sources may be used to support other types of construction projects through the Better Roads Program. In addition to the construction projects, which are funded in part by the Clean Water Fund and in part with funds appropriated through the Transportation Bill, VTrans also funds road erosion inventories through the Better Roads Program, as required by the Municipal Roads General Permit. Grant award lists going back to FY 2014 can be found here.

Clean Water Budgets in SFY 2025 (passed) and SFY 2026 (proposed) include one-time funds to support road erosion inventory reassessments required under the updated Municipal Roads General Permit. VTrans estimates $1.75 million in total funding need for inventory reassessments. The SFY 2025 and SFY 2026 budgets are anticipated to fully cover the need with one-time funds.

- Beginning in SFY 2024, a small portion ($10,000) of VTrans' Better Roads funds cover 50% of the Rivers and Roads Training Program. This training program assists municipalities and other land managers and project proponents on approaches that minimize hazards and conflicts between rivers and road infrastructure. The program is jointly delivered by VTrans and the ANR-DEC Rivers Program. The $10,000 included in the Clean Water Budget was previously covered by ANR-DEC CWIP's Program and Partner Support line item and was transferred annually from ANR-DEC to VTrans via Memorandum of Agreement. By directly appropriating the dollars to VTrans it eliminates an administrative step to transfer the funds from ANR-DEC to VTrans. Existing funds are in place to cover this training program through calendar year 2024. VTrans and DEC will evaluate whether additional funds are needed to sustain this program in the future. If these funds are not required for Rivers and Roads Training, VTrans will allocate them through the Better Roads Program.

Vermont Housing and Conservation Board (VHCB)

Line 1.42: Land Conservation and Water Quality Projects

- This line item complements the Water Quality Enhancement Grant Program and is therefore aligned with Tier 1 priorities for the Clean Water Fund.

Part of VHCB's core funding, this allocation is used for grants to eligible applicants (land trusts and other conservation non-profits, towns, certain state agencies) for conservation and water-quality related investments in fee lands and conservation easements. All grants will require perpetual conservation restrictions. Those with surface waters will include specific water quality-related easement provisions such as riparian buffers and wetland protection zones.

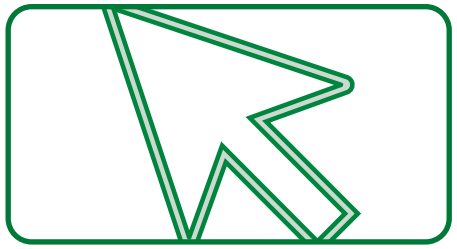
Line 2.3: Water Quality Farm Improvement and Retirement Projects

- This line item reflects a Tier 2 priority for Clean Water Fund spending pursuant to 10 V.S.A. § 1389 (e)(2)(E).

VHCB works closely with other partners – particularly AAFM and ANR – to identify agricultural land that is difficult to farm without adversely impacting water quality. These funds allow VHCB to help fund the purchase and/or conservation of such properties with a goal of taking them all or mostly out of production. All grants will require perpetual conservation restrictions. VHCB also uses this funding to award grants to farmers for water quality-related capital improvements. Eligible projects include production area improvements, manure management projects, farm equipment, and pasture management. Grants typically help farmers pay for project components that state and federal grant programs cannot cover. In cases of significant hardship, the grants

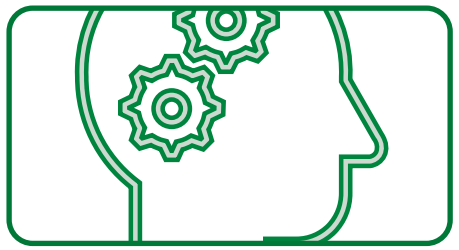
may assist farmers who are otherwise unable to fully meet the cost share requirements for priority AAFM BMP or U.S. Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS) projects.

Engaging the Public in the Budget Process



Access materials online

- Visit the Clean Water Board webpage: dec.vermont.gov/water-investment/cwi/board
- Join the Clean Water Stakeholders Listserv: tinyurl.com/87s7tjse



Review available materials

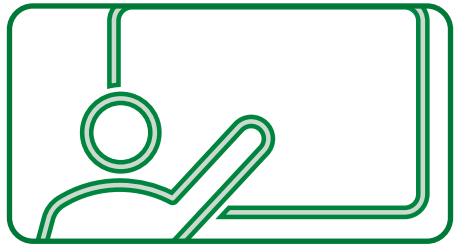
1) Background: Clean Water StoryMap

2) SFY 2026 At a Glance:

- Two-Pager
- Plain Language Budget Table

3) SFY 2026 Deep Dive:

- Budget Table
- Policy Document
- Line-Item summary recordings



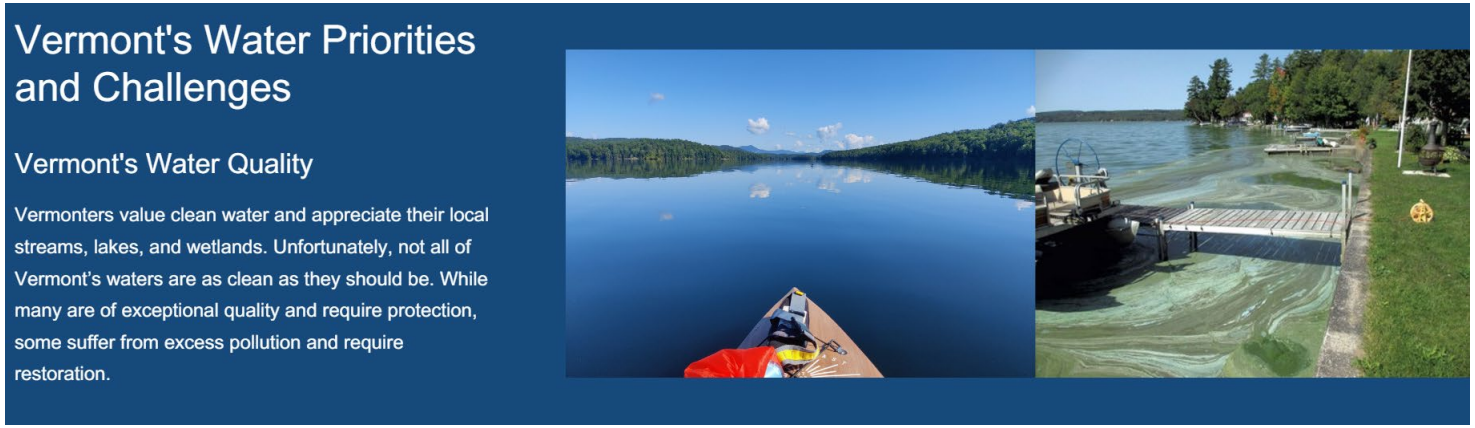
Feedback

- Via online questionnaire
- Via written submission: anr.cleanwatervt@vermont.gov
- At Public Hearing

Public Comment Period: October 18, 2024 - November 17, 2024
Public Hearing: November 8, 2024
Clean Water Board consideration of public comment: December 3, 2024

VERMONT

SFY 2026 Communications Improvements



Screenshot of Clean Water Board and Budget StoryMap

Plain Language Clean Water Budget Table

No.	Agency	Activity	Total SFY26	Focus of Funds	Are these projects required by any law or regulation?	Geographic Location or Recipient Availability	Sector
Clean Water Budget Statutory Priority Tier 1 (Items of Equal Priority)							
1.1	ANR-DEC (CWIP)	Water Quality Restoration Formula Grants to Clean Water Service Providers & O&M	7,210,000	To find, design, construct, and maintain diverse natural resource and stormwater-type practices that provide measurable reductions in phosphorous pollution	No, projects are done voluntarily	Lake Champlain Basin, Lake Memphremagog Basin	
1.2	ANR-DEC (CWIP)	Basin Planning, Basin Water Quality Council Participation, Education, and Outreach	750,000	To enhance regional coordination on identification and planning for local watershed priorities	N/A, not for projects	Statewide, but funds only availble to organizations listed in law: Regional Planning Commissions, Natural Resource Conservation Districts, and Watershed Groups	
1.31	ANR-DEC (CWIP)	Statewide Non-Regulatory Clean Water Projects	5,000,000	To find, design, construct, and maintain diverse natural resource and stormwater-type practices. Also includes dam removals, and river corridor easement purchases. All projects must meet at least one of five goals listed out in Vermont law: a. Protect high quality waters, b. Maintain or improve water quality, c. Restore degraded or stressed waters, d. Create resilient watersheds and communities, or e. Support the public's use and enjoyment of the State's waters.	No, projects are done voluntarily	Statewide	
1.32	VHCB	Land Conservation and Water Quality Projects	2,000,000	To purchase permanent conservation easements and install enhanced water quality protections like wetland protection zones.	No, Projects are done voluntarily	Statewide	
1.4	AAFM	Water Quality Grants to Partners and Farmers	8,446,887	To provide education, technical assistance, and agricultural practices.	Yes and no. Some projects help farmers comply with the Required Agricultural Practices are others are done voluntarily.	Statewide	
1.51	AAFM	Program Support	900,000	To support staff time at the Agency of Agriculture Food and Markets to perform foundational clean water activities like permitting, investigations and complaints farm inspections and technical assistance.	N/A, not for projects	Internal, funds operations	
1.52	ANR-DEC (CWIP)	Program and Partner Support	1,511,800	To support a range of initiatives that ensure the success of Vermont's Clean Water Act such as organizational capacity development, improvements to clean water tracking and accounting tools and methodologies, and water quality monitoring. Exact initiatives are articulated in the Clean Water Initiative Program's Annual Spending Plan.	N/A, not for projects	Statewide	
Clean Water Budget Statutory Priority Tier 2 (Items of Equal Priority)							
2.11	ANR-FPR	Forestry Water Quality Practices and Portable Skidder Bridges	144,000	To support State staff in performing outreach and education on the forestry acceptable management practices and to cost share on portable skidder bridges; a practice that prevents erosion around stream crossings at logging sites.	Yes, this funds technical assistance while complying with regulations in the Forestry Management Practices.	Internal, funds operations. Skidder bridge cost shares available statewide.	