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ISSUE BRIEF

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Water Quality Financing

Executive Summary

This issue brief offers an overview of the current estimated costs and existing revenues to support water quality improvements in Vermont. The State has agreed to a plan with the U.S. Environmental Protection Agency (EPA) to clean up Lake Champlain. The Agency of Natural Resources (ANR), with guidance from the General Assembly, has adopted a broader statewide clean water initiative. The cleanup work is intended to achieve or maintain Vermont water quality standards in all State waters, including through the implementation of total maximum daily load (TMDL)[1] plans for degraded or polluted waters. The pollutants of greatest concern are nutrient pollutants: phosphorous and nitrogen. These pollutants come from various sources, including discharges from wastewater treatment plants; stormwater runoff and erosion caused by rainfall or snowmelt running off roads, buildings and parking lots; erosion from unstable riverbanks; and nutrient runoff from farm fields. The State's cleanup work involves two tiers of effort:

- Tier I[2] projects are mandatory under federal and State law for improving the quality of impaired waters.
- Tier II projects are supplemental to Tier I efforts and are geared toward maintaining water quality. These costs may be required for other permitting to protect public health and the environment.

Summary of FY18 Clean Water Financing		
Annual Costs and Funding		
Based on avg. annual estimates for 20 yrs. (in millions)		
Tier I Project Costs	($82.2)	
Tier I Funding	$33.7	
"Gap" in funding	($48.5)	
FY18 proposed funding to fill the "Gap"	Treasurer and Gov.	House*
Capital $	$11.9	$12.5
Clean Water Fund $	$5.0	$5.0
Federal/ GF/TF/Other $	$6.7	$6.3
Total	$23.6	$23.8
Remaining Tier I "Gap"	($24.9)	($24.7)
* House spent $600,000 more capital funds than Gov. in FY18 and $200,000 less in FY19 for a net increase of $400,000 in total capital funds over two years. The House column assumes anticipated $400,000 reduction in T-bill based on capital bill offsetting increase.		

[1] A TMDL is a limit, approved by the EPA, on the total amount of pollutants that can enter an impaired body of water each day while still maintaining water quality standards. See Federal Water Pollution Control Act of 1972, 33 U.S.C. Section 1251 et seq. Section 303(d).

[2] Tier I should not be confused with "Phase I," used to describe the document containing policy commitments for implementing the Lake Champlain TMDLs titled " Vermont Lake Champlain Phosphorous TMDL Phase I Implementation Plan." http://dec.vermont.gov/sites/dec/files/wsm/erp/docs/160915_Phase_1_Implementation_Plan_Final.pdf http://dec.vermont.gov/sites/dec/files/wsm/erp/docs/2017-01-20%20Clean%20Water%20Initiative%20Deliverables.pdf

Focusing on Tier 1 projects, the estimated average annual costs over a 20-year planning period are $82.2 million[3]. The State already funds some of this work at approximately $33.7 million annually. The cost of the additional Tier 1 work leaves an average annual gap of $48.5 million. These costs, "filling the gap," will be borne by the State government and municipalities, as well as private entities. The Office of the State Treasurer developed a financing proposal for this "gap." The Treasurer proposed that for FY18 and FY19 the State use unexpended capital funds and other funds for a total of approximately $25 million per year. For future years, she offered an array of financing options. The Governor used the Treasurer's recommendation in his proposed FY18 budget, and the House has followed that general recommendation with some slight changes. The Senate appears close to following the same general blueprint.

Background

On January 15, 2017 the Vermont State Treasurer, as directed by the Vermont General Assembly in Act 64 of 2015,[4] released a report[5] detailing funding and financing options for cleaning up the waters of the State. In the report, the Treasurer recommended a two-phase approach to funding water quality improvements. The first phase, for FY18 and FY19, would use State existing general obligation bond authorization to make immediate capital investments in water quality. The second phase would involve the General Assembly choosing one, or more, of several potential revenue options laid out in the Treasurer's report to establish a long-term water quality funding source.

Appendix A[6] of the Treasurer's report contains detailed tables showing the breakdown of estimated yearly water quality improvement costs statewide over a 20-year period, yearly baseline funding sources to offset those costs, and the yearly remaining gap between the two. The Treasurer's report focused only on costs and funding for capital/infrastructure improvements and does not include ongoing administrative, operating, and maintenance costs for water quality improvements. The General Assembly authorized the increase or creation of fees in Act 64 for the Agency of Agriculture, Food and Markets and the Agency of Natural Resources to hire staff for the administration of water quality initiatives throughout the State.

The "Gap"

Sources of confusion for many have been:

- What is the clean water funding gap?
- How much money does it represent?

The gap is the difference between the estimated costs for cleaning up the State's waterways and the funding that is currently available to cover the costs, not including the new additional FY18 funding proposals. The story of the gap can be told in several different ways. The table below shows the estimated FY18 clean water gap as well as the annualized gap over a 20-year period. These numbers are different because the costs and funds available will vary from year to year. All numbers were taken from the Treasurer's report.

The Treasurer, and subsequently the Governor, proposed a short-term funding plan (for FY18 and FY19) that focused solely on plugging the Tier I gap. The 20-year annualized Tier I gap is approximately $48.5 million per year, as shown in the table above. The proposal from the Treasurer and the Governor was to dedicate approximately $25 million per year for two years in additional State and federal funds to fill in one-half the annualized Tier I gap. The funding would be made up primarily of State money but would also consist of some additional federal funds.

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[3] There were estimates provided for each year. The financing plan was based on the average annual 20-year estimates. Please see "The Gap" section later in this brief for more details.

[4] Sec. 40 of Act 64 of 2015, "An Act relating to improving the quality of State waters," directed the State Treasurer to consult with the Administration and write a report to the General Assembly highlighting many possible long-term funding sources to pay for improving Vermont's water quality.

[5] www.vermonttreasurer.gov/sites/harry2015/files/_FINAL_CleanWaterReport_2017.pdf

[6] www.vermonttreasurer.gov/sites/harry2015/files/APP_a_c.pdf

Overview of the Clean Water Funding "Gap"		
All funding sources (millions)	**FY18**	**20-yr. Annual Avg.**
a. Tier I Costs (est.)	($68.0)	($82.2)
a. Tier II Costs (est.)	($32.7)	($33.4)
a. Total Costs (est.)	**($100.7)**	**($115.6)**
b. Tier I Funds (est.)	$32.8	$33.7
b. Tier II Funds (est.)	$24.1	$19.6
b. Total Funds (est.)	**$56.9**	**$53.3**
c. Tier I "Gap" (a - b)	($35.2)	($48.5)
c. Tier II "Gap" (a - b)	($8.6)	($13.9)
c. Total "Gap" (a - b)	**($43.8)**	**($62.4)**
		Total 20-yr. Costs *(in millions)*
	Total 20 –yr. Costs (est.) (Tier I-II)	*($2,312.8)*
	Total 20 –yr. Funds (est.) (Tier I-II)	*$1,064.6*
	Total 20 –yr. Gap (est.) (Tier I-II)	***($1,248.2)***

Estimated Costs

The Treasurer's report contains the most recent, comprehensive estimate for total costs to clean up the State's waters over a 20-year period. The current total cost estimate is approximately $2.3 billion over 20 years, or $116 million on an annual basis (see table above). The cost estimate was developed collaboratively by the Department of Environmental Conservation (DEC), the Agencies of Transportation and of Agriculture, Food and Markets, and a large stakeholder group, and was incorporated into the Treasurer's report. Many of the numbers originated in the Act 138 report[7] released by DEC in 2013.

The Treasurer's report presents the water quality remediation costs in two different ways:

- By Tier: The "Tiers" represent an attempt to express which costs are necessary in order to meet legal requirements and which costs serve primarily to facilitate compliance with legal requirements going forward.
- By Sector: The "Sectors," serve as a way of emphasizing the "all in" approach to water quality remediation. Each sector would share, to some extent, the burden of paying to clean up the State's waters based on that sector's contribution to the existing water quality issues. Each Sector contains Tier I and Tier II expenses in the Treasurer's report.

Tiers I & II

Tier I - This category represents required expenditures for compliance with EPA and Vermont total maximum daily load (TMDL) requirements, Act 64 requirements, and ANR's combined sewer overflow (CSO) rule.

Tier II - This category represents the costs to maintain compliance with State water quality standards to protect public health and the environment, as well as support current water quality practices that are a necessary foundation for Tier I activities.

[7] In this report, DEC tabbed the cost of water quality improvements at $156 million per year for 10 years. http://dec.vermont.gov/sites/dec/files/wsm/erp/docs/Act-138-Report-Water-Quality-Funding-Report-Jan-2013.pdf

Sectors

1. *Wastewater Sector* – Sources of pollution in this sector are limited almost exclusively to "point-sources"[8] and are subject to regulation by the EPA and the State under its delegated authority pursuant to the federal Clean Water Act. If the State fails to meet its TMDL requirements, the EPA can require costly investments in this sector based on its regulatory authority. However, when compared to investments in other sectors, expenditures for wastewater improvements are expensive and offer limited benefits.
2. *Agricultural Sector* – Studies have shown that farms are most often a source of "non-point source"[9] pollution in the form of nutrient and pesticide runoff during storm events. Non-point sources are defined simply as those conveyances not meeting the definition of "point source."
3. *Stormwater/ Developed Lands Sector* – Stormwater runoff, typically a non-point source,[10] is the fundamental concern in this sector and is often facilitated by impervious surfaces that cause stormwater to flow quickly into waterways without first being absorbed into the ground or otherwise dispersed. Examples of impervious surfaces are roads, parking lots, driveways, and buildings. This sector includes the requirements of Act 64 for a State roads stormwater permit, a municipal roads stormwater permit, and a permit to retrofit existing un-permitted or under-permitted impervious surfaces of 3 or more acres in area.
4. *Natural Resources Sector* – This sector deals primarily with restoring natural ecosystems such as wetlands and floodplains to allow a conduit for nutrient absorption and a reduction of erosion from storm events before reaching large water bodies.

Estimated Funding

The Treasurer, and subsequently the Governor and the House, have chosen to prioritize Tier I projects for FY18 and FY19 State funding. The Senate appears to be on a similar trajectory.

Federal

The Treasurer's report lists the total federal funding commitment over 20 years at approximately $624 million. Federal spending is subject to Congressional appropriations and could be increased or reduced from what has been estimated. The President has proposed significant cuts to each of the departments and agencies listed below in his recently released budget blueprint. All federal funding for water quality improvements should be considered to be in some degree of endangerment at this point. The federal sources are listed as follows:

1. U.S. Environmental Protection Agency – Grants and loans through the Clean Water State Revolving Fund program and through the Water Pollution Control Program.
2. U.S. Dept. of Agriculture – Rural Development grants and loans from the Water Environment Program and from the Rural Economic Area Program. Grants for agricultural best management practice (BMP) implementation from the Natural Resource Conservation Service (NRCS) and the Regional Conservation Partnership Program (RCPP). Funding from the Wetland Reserve Easement (WRE) program for habitat restoration.
3. U.S. Dept. of Transportation – Funding from the Federal Highway Administration for transportation alternatives and for project development and construction.
4. Lake Champlain Basin Program – Funding is from federal sources: EPA, Great Lakes Fishery Commission, and National Park Service.
5. U.S. Fish and Wildlife Service – Funding for restoration of wetlands and woody buffers in riparian areas (land immediately adjacent to waterways).

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[8] Section 502 (14) of the Clean Water Act defines "Point Source" as "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural storm water discharges and return flows from irrigated agriculture." https://www.epa.gov/cwa-404/clean-water-act-section-502-general-definitions

[9] Non-point sources of pollution, often referred to as polluted runoff and erosion, are sources that do not meet the Clean Water Act's legal definition of point source. Nationally, non-point source pollutants are the leading causes of water quality degradation. Discharges from certain farm operations, known as consolidated animal feeding operations (CAFO), are considered a "point-source" pollutant. https://www.epa.gov/nps/what-nonpoint-source

[10] An example of when stormwater can become a "point source" is when it is combined with wastewater in a combined sewer overflow (CSO).

State

Clean Water Fund

The Clean Water Fund was created in Act 64 of 2015. The primary source of revenue for the fund is from a 0.2% surcharge on the value of property subject to the property transfer tax.[11] The surcharge raised approximately $4.6 million in FY16, the first full fiscal year of implementation. The Clean Water Fund Board is required to make recommendations to the Administration/General Assembly on how these funds are to be allocated on an annual basis. The surcharge is currently set to sunset on July 1, 2018. The Governor proposed extending the surcharge to July 1, 2019 to give the Administration and the General Assembly more time to establish a long-term clean water funding source. The House-passed miscellaneous tax bill (H.516 of 2017) would repeal the sunset and extend the surcharge indefinitely.

Capital Funds

In order to fill the "gap," the Treasurer's report recommended a two-year interim funding plan using general obligation bonding and transportation infrastructure bonding, in addition to Clean Water Fund money. This will fund $25 million of water quality remediation investments in both FY18 and FY19. The Governor's capital budget followed the Treasurer's recommendation. The House-passed capital bill (H.519 of 2017) fulfills the Governor's request, although some water quality spending was reallocated among sectors and the capital bill increased funding by $400,000 over the Governor's proposed budget, assuming there would be a corresponding decrease in transportation funding.

Other Funds

In the Treasurer's Report, and in the Governor's FY18 spending request, some of the General Fund money appropriated to the Agency of Agriculture, Food and Markets would go back out to farmers as grants to implement best management practices and other water quality initiatives. Additionally, transportation funds would be utilized for the Better Roads grant program and for stormwater utility payments. The State funding will help to leverage additional federal funds.

Future Considerations

While this issue brief is focused primarily on summarizing the current picture for water quality costs and financing, there are other topics that should be addressed going forward.

- Long-term funding – In her report, the Treasurer recommended that the General Assembly establish a long-term funding source, reallocating existing revenues where feasible, in order to cover the costs of cleaning the State's waters. The report also contains many options for new revenues should the General Assembly decide to raise new money. The General Assembly will also need to decide whether to continue focusing on closing only the Tier I gap or whether to allocate additional funds to lessen the Tier II gap.
- Prioritization of Expenditures – The Department of Environmental Conservation currently maintains a Watershed Projects Database with a list of current and future non-point source, nonagricultural projects that are necessary for meeting water quality remediation requirements. The database is currently limited to projects identified by an implemented tactical basin plan.[12] The State has 15 major drainage basins,[13] but not all currently have an implemented tactical basin plan. Within the database is a "Go List" of projects that meet certain criteria for immediate funding consideration. As there are many potential projects throughout the State, many could wait years for implementation. Legislators should gain an understanding of how the project prioritization process works in order to answer constituents' questions about why actions are not being taken immediately in a specific location.
- Evaluation – As water quality projects are implemented, it is important that methods tracking and evaluation effectively record the impacts (positive, negative, or neutral) of the projects in order to

[11] For principal residences, the first $100,000 in value is exempt from the surcharge. For principal residences purchased with VHFA, VCTF, or USDA assistance, the first $200,000 in value is exempt from the surcharge. For non-principal residences, the entire value is subject to the surcharge.

[12] http://dec.vermont.gov/watershed/map/basin-planning

[13] http://dec.vermont.gov/watershed/map/program/major-basins

"look back" at previous assumptions and make adjustments going forward. Tracking investments and measuring outcomes will enable the State to monitor its progress in achieving its clean water goals, including TMDL targets. Pursuant to Act 64, DEC issued its first Clean Water Investment Report in December 2016, cataloguing State-funded clean water projects and the resulting phosphorous reductions.[14] The role that the General Assembly will play in the feedback loop is an important consideration.

- Federal Uncertainty – Perhaps the biggest question, not only for clean water but for many State programs, is how the current President will alter federal spending priorities. Two key and related issues are:
    - Level of federal funding – If current key State programs across State government are left without federal funding, there could be strong pressures to alter State spending to make up the difference and Vermont's water quality challenges could lose priority.
    - Federal involvement in regulating clean water actions – If the EPA decides that the State is not taking adequate actions to clean up waters, the federal government could take control of the effort. The EPA's current regulatory authority is limited to "point sources" of pollution. If the State fails to meet its TMDL requirements, the EPA can require costly investments in the wastewater sector based on its regulatory authority. However, when compared to investments in other "non-point" sectors, expenditures for wastewater improvements are expensive and offer limited benefits. It is important for the Administration and the General Assembly to understand what alternative actions the State and municipalities may have to take, and the associated costs that would be incurred, if the clean water efforts fall under the federal government's mandate.

Due to the scale and complexity of the issues discussed in this issue brief, and because these issues will receive attention from numerous Legislative committees going forward, it is important that Vermont's water quality challenges be given a coordinated Legislative response. While this brief frames the funding pieces of the puzzle, there are policy questions that will need to be answered by legislators and committees in order to make funding decisions. The resources referenced throughout this document should be useful for individuals seeking a better understanding of water quality topics.

[14] http://legislature.vermont.gov/assets/Legislative-Reports/2016-Clean-Water-Initiative-Investment-Report.pdf