



October 15, 2015

Mr. Stephen Perkins
Lake Champlain TMDL Project Manager
U.S. Environmental Protection Agency, Region 1 – New England
5 Post Office Square, Suite 100
Mail Code OEP06-3
Boston, MA 02109-3912

Re: Conservation Law Foundation and Vermont Natural Resources Council Comments on the Final Draft *Phosphorus TMDLs for Vermont Segments of Lake Champlain*

Dear Mr. Perkins:

The Conservation Law Foundation (CLF) and the Vermont Natural Resources Council (VNRC) appreciate the opportunity to submit to the Environmental Protection Agency, Region 1 (EPA) comments on the final draft *Phosphorus TMDLs for Vermont Segments of Lake Champlain* (draft 2015 TMDL) published on August 14, 2015.

CLF is a member-supported, non-profit organization that uses legal, scientific, and policy tools to protect and enhance water resources throughout New England. For over fifty years, VNRC has led Vermont in protecting and restoring its natural resources and communities through research, education, and advocacy. CLF and VNRC have played a key role advocating strict controls of phosphorus discharges into Lake Champlain. However, despite decades of cleanup efforts, many segments of the lake continue to decline. The draft 2015 TMDL is therefore critically important to addressing phosphorus pollution and complying with federal mandates under the Clean Water Act (CWA).

The CWA was enacted more than 40 years ago to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.”¹ The TMDL process is critical to achieving the CWA’s purpose by requiring states to develop pollution budgets for impaired bodies of water. These pollution budgets are guided by the requisite to meet water quality standards.²

However, the TMDL process to date has had a spotty record in serving its purpose. In 2013, EPA reported that more than half of the country’s assessed waters did not meet water

¹ 33 U.S.C. 1251(a)

² 33 U.S.C. 1313(d)(1)(C)

quality standards or their designated uses, such as fishing, swimming, or drinking.³ The Government Accountability Office (GAO) has found that a majority of long-established TMDLs do not contain the necessary components to help water bodies attain water quality standards.⁴ GAO, in alignment with National Research Council and EPA studies and guidance documents, stresses that successful TMDLs: (1) accurately identify and address causes of impairment; (2) ensure implementation is feasible; and (3) can be revised as needed.⁵

We commend EPA and the State of Vermont (the State) for their effort to conduct a detailed and thorough investigation of phosphorus loading into Lake Champlain. The new reduction targets are, for the most part, rigorous and forward thinking with the best intention of cleaning up the lake. However, the draft 2015 TMDL does not incorporate the three key components of a successful TMDL in a number of its provisions and, therefore, EPA cannot be reasonably assured that phosphorus pollution will actually be reduced in the Lake Champlain watershed.

1. The draft 2015 TMDL fails to accurately identify and address causes of impairment by:
 - a. Inappropriately categorizing point and nonpoint sources of phosphorus pollution;
 - b. Allowing actual increased phosphorus discharges from wastewater treatment facilities;
 - c. Insufficiently addressing phosphorus loading during the stormwater permitting process; and
 - d. Setting a developed load allocation that is inadequate to account for the increase in phosphorus loading from this source category.
2. The draft 2015 TMDL does not ensure implementation is feasible because it:
 - a. Places a disproportionate burden of reducing phosphorus from developed lands on municipalities;
 - b. Purports to set final load allocations before an implementation plan is completed, which translates to a blind reliance on future controls that have yet to be identified or codified;
 - c. Relies on control measures for streambank and forestland erosion that are inadequate to achieve the new load allocations; and
 - d. Relies on control measures for discharges from agricultural lands that are, as is, insufficient to meet new load allocations.
3. The draft 2015 TMDL's accountability framework does not allow for revision as needed and further, is inadequate to ensure that implementation failures are rectified in a timely fashion.

1. The draft 2015 TMDL does not accurately identify and address causes of impairment.

³ U.S. Environmental Protection Agency. *National Summary of State Information*, Last accessed October 15, 2015 <http://ofmpub.epa.gov/waters10/attains_nation_cy.control>

⁴ U.S. Government Accountability Office. *Clean Water Act Changes Needed If Key EPA Program is to Help Fulfill the Nation's Water Quality Goals*. December 2013. pg. 36.

⁵ *Id.* at pg. 36-38.

The first element of a successful TMDL is to accurately identify and address the causes of water body impairment. Phosphorus has correctly been identified in the draft 2015 TMDL as the pollutant of concern because “it is causing or contributing to excessive algal biomass in the lake, and monitoring data indicate phosphorus levels are elevated above established phosphorus criteria in the Vermont Water Quality Standards.”⁶ However, the draft 2015 TMDL does not sufficiently address phosphorus pollution. It inappropriately categorizes sources of phosphorus, it allows phosphorus loads to increase, it does not include a phosphorus-monitoring requirement for stormwater permits, and it sets an inadequate allocation for developed lands.

1a. The draft 2015 TMDL inappropriately categorizes point and nonpoint sources of pollution.

EPA’s regulations require that the wasteload allocation portion of a TMDL identify “existing and future” point sources.⁷ The draft 2015 TMDL, however, fails to identify all such point sources and defers identification of point sources to future “accountability” actions. Of even greater concern, the draft 2015 TMDL acknowledges that certain sources are, in fact, point sources but then fails to include such sources in the wasteload allocation. Instead, the draft 2015 TMDL includes these sources in the load allocation portion of the TMDL, which is reserved for nonpoint sources.

EPA regulations make clear that inclusion of sources in the wasteload or load allocation is of great legal significance. At the time a TMDL is completed, EPA has an affirmative obligation to make a determination whether a source falls within the CWA definition of point source. Similarly, a determination must be made whether a source is a nonpoint source. The regulations do not allow the nonpoint source category to serve as a placeholder or catchall provision where insufficient information is available to affirmatively determine whether a source is a point or non-point source. Similarly, the regulations do not allow EPA to include known point sources in the nonpoint source category for purposes of allocation. Lastly, where sufficient information is available, EPA must make a determination one way or the other. If a source is known to be a point source, EPA is required to include it in the wasteload allocation and follow through with appropriate and necessary regulatory action.

Perhaps most egregious is the draft 2015 TMDL’s placement in the load allocation of privately owned stormwater sources, construction stormwater permits, and municipally owned stormwater sources that were not automatically included in the MS4 permitting program. These sources are known point sources and must be included in the wasteload allocation.

1b. The wasteload allocations for wastewater treatment facilities allow a substantial increase in phosphorus loading into impaired waters.

⁶ U.S. Environmental Protection Agency. *Phosphorus TMDLs for Vermont Segments of Lake Champlain*. August 2015. pg. 7.

⁷ U.S. Environmental Protection Agency. *Overview of Impaired Waters and Total Maximum Daily Loads Program*, Last accessed October 15, 2015 <<http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/overview.cfm>>

The CWA requires the incorporation of sufficiently stringent effluent limitations to meet water quality standards.⁸ Vermont water quality standards dictate “in all waters, total phosphorous loadings shall be limited so that they will not contribute to the acceleration of eutrophication or the stimulation of the growth of aquatic biota in a manner that prevents the full support of uses.”⁹

For Lake Champlain, the annual phosphorus concentrations already exceed water quality standards and impact designated uses.¹⁰ Therefore, the draft 2015 TMDL allocations cannot justify additional discharges of phosphorus pollution into Lake Champlain. For wastewater treatment facilities in impaired lake segments, an allocation set above the actual phosphorus load of that facility is inconsistent with the CWA.

In the draft 2015 TMDL, 26 of the 59 wastewater treatment facilities that discharge into Lake Champlain have received new allocations. The parameters for setting these allocations were based largely on geography (facilities in lake segments with a greater proportion of phosphorus originating from wastewater treatment facilities) and size of the facility (design flow capacities greater than 0.10 million gallons per day). The remaining 33 facilities will maintain their current permitted discharges.

There are a number of serious concerns with this approach. First, of the 26 facilities with reduced allocations only 14 are required to implement upgrades immediately. In an effort to provide the State with flexibility, EPA acknowledges that “[c]onstruction of upgraded phosphorus treatment facilities will not be required until actual phosphorus loads approach 80% of facilities’ WLAs [wasteload allocations].”¹¹ While 14 facilities’ loads have already exceeded 80 percent of the new allocation, the remaining 12 facilities can increase their discharge of phosphorus pollution until the 80 percent threshold is met or they can maintain their current discharge indefinitely.

Second, the facilities that have reduced allocations but are not required to upgrade in the near future are discharging significant loads of phosphorus into Lake Champlain. Barre City, Global Foundries, and South Burlington Airport have some of the largest design flows (>3.0 million gallons per day) with actual phosphorus discharges ranging from 1266 to 1740 pounds per year (average of all facilities is 572 pounds per year). Moreover, all three of these facilities are located in the Main Lake Segment, where phosphorus originating from wastewater treatment facilities comprises a significant percentage of the base load. The 80 percent threshold provision will allow these facilities to continue their discharges.

Third, 18 facilities have not received new allocations in the draft 2015 TMDL nor the 2002 TMDL. The phosphorus concentration limit for several of these facilities is 5.0 mg/l at design flow. In contrast, the draft 2015 TMDL bases its new allocations on phosphorus

⁸ 33 U.S.C. 1311(b)(1)(C)

⁹ VT Department of Environmental Conservation Watershed Management Division. *Vermont Water Quality Standards*. October 2014. pg. 21.

¹⁰ U.S. Environmental Protection Agency. *Phosphorus TMDLs for Vermont Segments of Lake Champlain*. August 2015. pg. 15.

¹¹ *Id.* at pg. 30.

limits of 0.2 mg/l at design flow for large facilities and 0.8 mg/l at design flow for mid-sized facilities. Further, EPA has noted that the 2002 TMDL wasteload allocations based on effluent concentrations of 0.6 mg/l is “well above what was technologically feasible at the time.”¹² This difference in concentration limits between newly regulated facilities and ones that have been ignored is astronomical. The phosphorus limits for wastewater treatment facilities should be in greater alignment with and reflective of the best available control technology.

The draft 2015 TMDL’s neglect to regulate facilities with appropriately stringent phosphorus concentration limits as well as its delay of upgrade requirements that essentially allows increased phosphorus discharges are contrary to plain requirements of the Clean Water Act and addressing the causes of Lake Champlain impairment.

1c. Achieving the new allocation for developed lands depends on stormwater permits that do not adequately address phosphorus loading.

To achieve the phosphorus reductions required by the draft 2015 TMDL developed lands allocation, the State is relying, in part, on stormwater permits. The State Stormwater Permit Program regulates discharges from impervious surfaces for new and redevelopment projects. In addition, the State is now required by Vermont law to develop stormwater permits for existing developed lands, municipal roads, and state roads. The 2002 Vermont State Stormwater Manual (Stormwater Manual) establishes the regulatory requirements and technical guidance for the management of stormwater.

However, to date current stormwater permits do not require phosphorus monitoring or pollution limits, and therefore do not address water quality impairment from phosphorus pollution. Nothing in the draft 2015 TMDL requires either monitoring or stringent enforceable phosphorus limits in state stormwater permits. All stormwater sources must be included in the wasteload allocation and the wasteload allocation must include both monitoring and stringent and effective phosphorus limits in stormwater permits.

In order to receive a stormwater permit, the State requires developers to implement specific treatments that address phosphorus, among other pollutants. The water quality standard *assumes* the removal of 40 percent of the total phosphorus load.¹³ Specific practices are accepted as meeting this water quality standard based on the Center for Watershed Protection’s *National Pollutant Removal Performance Database*.¹⁴

The database categorizes how efficient stormwater treatment practices are at removing pollutants based on 139 studies. For example, wet ponds are found to remove 49 percent of

¹² U.S. Environmental Protection Agency. *Reconsideration of EPA’s Approval of Vermont’s 2002 Lake Champlain Phosphorus Total Maximum Daily Load (“TMDL”) and Determination to Disapprove the TMDL*. January 2011. pg. 8.

¹³ Vermont Agency of Natural Resources, *The Vermont Stormwater Management Manual Volume I – Stormwater Treatment Standards*. April 2002, pg. 1-3.

¹⁴ Center for Watershed Protection. *National Pollutant Removal Performance Database for Stormwater Treatment Practices* (2nd Edition). March 2000.

total phosphorus while infiltration trenches remove 100 percent of total phosphorus.¹⁵ However, as noted, the performance of certain practices is highly variable.

During the stormwater permitting process, the State relies on this assumption – and on the choice of the applicant as to which practices to employ – to ensure the permitting standard is met rather than actually monitoring (or meeting) phosphorus loads and reductions. Therefore, the State accepts wet ponds as a stormwater treatment practice that meets the 40 percent removal requirement, despite a high degree of inconsistency in their performance.¹⁶ How much phosphorus is removed by an individual practice such as a wet pond is never verified, nor are we aware of any follow up *in situ* verification of the assumptions the Stormwater Manual is based on.

While the State has committed to revising the Stormwater Manual, the fundamental process of how stormwater treatment practices are accepted is not likely to change. We are concerned the manual will not require increased phosphorus treatment based on statements made during public process of the manual revision. Specifically, Agency of Natural Resources staff have expressed that the burden of processing permits that must demonstrate whether infiltration techniques are or are not feasible at a site is too great to incorporate into revised requirements via the manual. Relying on a revised manual, then, and not verifying the actual pollutant removals is a precarious foundation upon which to assume reductions will occur.

The draft 2015 TMDL therefore sets a new allocation for developed lands based on an implementation plan that does not accurately or predictably reduce phosphorus. Implementing treatment practices based on a national database is insufficient to accurately address phosphorus runoff and Lake Champlain impairment. Further, the draft 2015 TMDL lacks assurances or requirements related to the outcome of the Stormwater Manual.

1d. The draft 2015 TMDL developed land allocation is inadequate to account for the increase in phosphorus loading from this source category.

Developed land is the fastest increasing source category of phosphorus loading to Lake Champlain, and is now the largest source category in many lake segments. Yet, the draft 2015 TMDL continues to rely on very limited retrofit programs for existing, privately owned, paved areas and as a result fails to include an adequate wasteload allocation for this pollution source category.

2. The draft 2015 TMDL does not ensure implementation is feasible.

The second element of a legally sufficient TMDL is to ensure implementation is feasible by not only identifying who is responsible for each implementation action, but by also demonstrating that these responsibilities are reasonable. However, the draft 2015 TMDL

¹⁵ Vermont Agency of Natural Resources, *The Vermont Stormwater Management Manual Volume II – Technical Guide*. April 2002, pg. 165.

¹⁶ *Id.*

does not ensure implementation is feasible. It places an impractical burden on municipalities, it requires allocations be finalized before an implementation plan is fully established, and it includes nonpoint source controls that do not demonstrate reasonable assurances phosphorus loads will actually be reduced.

2a. The phosphorus reductions simulated from developed lands are infeasible and place an unfair burden on municipalities.

The draft 2015 TMDL relies on an insufficient 24.1 percent reduction in phosphorus loading from developed lands across the Lake Champlain basin. To meet even this insufficient allocation, EPA has simulated a series of retrofit requirements for unpaved roads, paved roads, and other impervious areas. While the State of Vermont has the ultimate authority in determining how the 24.1 percent reduction requirement is achieved, the scenario simulated by EPA is impractical due to unrealistic expectations with regard to the capacity of municipalities to retrofit existing road systems while at the same time including only very limited requirements for pollution reductions from existing privately owned paved areas.

Within EPA's simulation, the developed land allocation is met by retrofitting roughly 9,600 acres of unpaved roads¹⁷, 4,100 acres of paved roads, and 4,300 acres of non-road impervious areas. This acreage breaks down to 50 percent of unpaved roads, 14 percent of paved roads and 11 percent of other impervious areas.¹⁸ The greatest reduction to phosphorus loading is expected to stem from retrofitting Vermont's back roads.

To achieve these cutbacks, the State of Vermont has devised new permitting schemes for municipal roads, the state highway system, and other developed lands. These permitting programs are currently being developed and are expected to come into effect in 2017 at the earliest.¹⁹ The time lag is significant and indicates EPA's intention to approve allocations without any concrete program for implementation.

The responsibility of funding stormwater retrofits varies. Municipalities are responsible for implementing stormwater practices on unpaved roads while the state highway system is under the State's jurisdiction and will be publically funded. Non-road impervious area is mostly privately owned commercial real estate, such as parking lots and rooftops. The heaviest burden will therefore fall on small towns, while the lightest mandates are placed on private, for-profit businesses.

¹⁷ The unpaved roads allocation relies on a suspect, and unjustified, definition of "hydrologic connection" of roads to waters. The expansive determination that thousands of Vermont's road miles are not hydrologically connected to waters is not supported by the broad-brush approach employed in the draft 2015 TMDL. EPA is required to identify existing and future point sources and cannot rely on an unsupported, high-level analysis to affirmatively determine hydrologic connectivity. EPA must either, in fact, document the connection of these roads to waters or must acknowledge the limitations of the approach used and increase the margin of safety in the TMDL.

¹⁸ U.S. Environmental Protection Agency. *Phosphorus TMDLs for Vermont Segments of Lake Champlain*. August 2015. pg. 36.

¹⁹ State of Vermont. *Vermont Lake Champlain Phosphorus TMDL Phase I Implementation Plan*. May 2014. pg. 80-82.

The expectation that municipalities can turn to their taxpayer base to fund retrofits of half of all back roads while profit-driven businesses are responsible for retrofitting a meager 11 percent of impervious areas is illogical and unfair. Many Vermont towns already struggle to balance their budgets and are also facing expensive wastewater treatment facility upgrades. On the other hand, privately owned businesses are not bearing their fair share of the load and, on a per acre basis, are among the largest source categories of phosphorus flowing into the lake.

Moreover, the draft 2015 TMDL takes a step back from the treatment of non-road impervious areas in the State of Vermont's Phase I Implementation Plan, which requires stormwater retrofits on all existing parcels greater than three acres.²⁰ The three-acre standard equates to a little over 4,900 acres in contrast to the 4,300 acres of retrofits expected under the draft 2015 TMDL.²¹ The amount of expanded coverage is particularly important since only 25 percent of the impervious surface area in the basin is currently subject to stormwater regulation.²² The final TMDL must include a dramatic expansion of retrofit requirements for existing impervious developed land areas.

Further, the retrofits required are likely to occur under the auspices of an "engineering feasibility analysis" which balances site restraints with stormwater management requirements and is not focused on phosphorus controls in any case. Some treatment will therefore be achieved, but these projects will not be able to meet the current (or future) Stormwater Manual requirements in full, let alone include adequate treatment of phosphorus. Thus, the actual amount of impervious area that will receive stormwater treatment for phosphorus is likely to be overestimated in the draft 2015 TMDL, resulting in fewer reductions from this sector than modeled.

The draft 2015 TMDL allocation breakdown for developed lands is impractical and unfair. The permitting programs designed to implement the required reductions are still being developed while the current programs do not adequately address stormwater – 75 percent of the impervious surface in the Lake Champlain basin does not even currently require a state stormwater permit. Therefore, the path to achieving the level of on-the-ground changes required to meet the new allocation is unclear. Further, the solution offered in the draft 2015 TMDL demands municipalities retrofit nearly five times the amount of impervious surface than private businesses. While the overall load reduction from developed lands is essential, the method of attaining these reductions must be fully developed, practical, and fair to prove feasible.

2b. The draft 2015 TMDL allocations cannot be finalized before the implementation plan is fully developed.

²⁰ State of Vermont. *Vermont Lake Champlain Phosphorus TMDL Phase I Implementation Plan*. May 2014. pg. 82.

²¹ Tetra Tech, Inc. *Vermont Nutrient Framework Technical Support: Stormwater Permit Threshold Analysis Results*. August 2015. pg. 10.

²² *Id.* at pg. 1.

In order for the draft 2015 TMDL to be approved, it must provide reasonable assurances that the allocations for nonpoint sources will be achieved.²³ When reviewing whether a TMDL delivers reasonable assurances, EPA has traditionally sought to answer two questions: “1) Is there reasonable assurance that nonpoint source control actions will occur, and 2) If these actions occur, is there reasonable assurance that they would achieve enough phosphorus reduction to meet the load allocations specified in the TMDL.”²⁴

The draft 2015 TMDL relies on the Phase 1 Implementation Plan, new modeling and scenario tools, and the accountability framework to provide reasonable assurances that nonpoint source control measures will achieve the load allocations.²⁵ However, it is problematic that the draft 2015 TMDL depends significantly on an implementation plan that remains in its initial phase of development.

Over the next 20 years, the State will develop and implement the Phase II Implementation Plans through the tactical basin planning process.²⁶ This lengthy time period required to develop each plan means EPA must rely on the broad strokes in the Phase I Implementation Plan to make a determination of reasonable assurances.

Moreover, the tactical basin planning process has not produced reliable results. The plans have repeatedly lacked assurances and guidance on their content. Oftentimes projects included in these plans are never realized because watershed groups and others working on the ground lack the resources and time to expand project implementation. Rather than requiring the basin plans to contain specific measures, the draft 2015 TMDL presents a “wait and see” approach to identifying and establishing phosphorus control practices. While aligning the basin planning process with the draft 2015 TMDL may appear efficient, it does nothing to assure projects identified will actually be implemented.

The draft 2015 TMDL’s reliance on an implementation plan that is woefully incomplete as well as its incorporation into the unreliable tactical basin planning process undermines any reasonable assurance that nonpoint source control actions will occur. Further, the measures devised to address phosphorus from nonpoint sources, including stream banks and forests, are not sufficient to meet the load allocations as detailed below.

2c. The control measures for streambank and forestland erosion are inadequate to achieve the new load allocations.

To meet the load allocations for stream banks and forests, the State is inappropriately relying on voluntary measures and regulatory mechanisms that grandfather in current encroachments and other activities that produce phosphorus discharges.

²³ U.S. Environmental Protection Agency. *Reconsideration of EPA’s Approval of Vermont’s 2002 Lake Champlain Phosphorus Total Maximum Daily Load (“TMDL”) and Determination to Disapprove the TMDL*. January 2011. pg. 8.

²⁴ *Id.* at pg. 9.

²⁵ U.S. Environmental Protection Agency. *Phosphorus TMDLs for Vermont Segments of Lake Champlain*. August 2015. pg. 49.

²⁶ VT Department of Environmental Conservation Watershed Management Division. *Updated 2013-2036 Timeline for Completing the Vermont Lake Champlain Restoration Plan*, Last accessed October 15, 2015 <<http://www.watershedmanagement.vt.gov/erp/champlain/docs/2015-08-13UpdatedTimeline.pdf#zoom=100>>

Stream banks

The draft 2015 TMDL describes the streambank allocations as a “moderate reduction level” and that “reductions from stream banks are important, but are expected to take many decades to occur, as the restoration strategy depends in part on actions that will facilitate natural stream evolution processes.”²⁷ However, the phosphorus reductions required to achieve the streambank allocation are relatively stringent, while the control measures to implement these reductions are abstract and undeveloped.

Seven segments received streambank allocations in the draft 2015 TMDL: South Lake B, Otter Creek, Main Lake, Shelburne Bay, Malletts Bay, St. Albans Bay, and Missisquoi Bay. The phosphorus reductions required to achieve these allocations ranges from 29 to 65 percent. The total across all lake segments is 43.4 percent, a significant reduction requirement. In comparison, reduction requirements from other sectors include: 42.1 percent reduction from wastewater treatment facilities, 24.1 percent reduction from developed lands, 23.4 percent reduction from forests, and 51.5 percent reduction from agriculture.²⁸ Streambank reductions are the second most severe, preceded only by agriculture.

The ambitious targets set for phosphorus reductions from stream banks are not supported by a concrete implementation plan. The majority of streambank action items relate to mapping, training and outreach, and voluntary programs to incentivize floodplain, river corridor, and riparian buffer regulations at the municipal level. An important program that addresses current streambank erosion is the active removal of river, river corridor, and floodplain encroachments. However, these efforts are limited by financial considerations and the willingness of landowners.

EPA has recognized the insufficiency of voluntary measures to meet allocations. For the 2002 TMDL, EPA noted, “its weakness (in the reasonable assurances context) is that nearly all of the recommendations are just that – recommendations. Nearly all elements of the plan depend on both additional funding and entities’ willingness to participate or cooperate voluntarily with the intent of the program.”²⁹

The regulatory components of the streambank implementation plan apply to new developments, but do little to mitigate existing streambank erosion. The Flood Hazard Area and River Corridor General Permit applies to development and substantial improvements to structures that are exempt from municipal regulation. Act 250 developments will also now be regulated to the higher standard of no adverse impact.³⁰ These are important steps to control phosphorus loading from future development within floodplains and river

²⁷ U.S. Environmental Protection Agency. *Phosphorus TMDLs for Vermont Segments of Lake Champlain*. August 2015. pg. 38.

²⁸ *Id.* at pg. 44.

²⁹ U.S. Environmental Protection Agency. *Reconsideration of EPA’s Approval of Vermont’s 2002 Lake Champlain Phosphorus Total Maximum Daily Load (“TMDL”) and Determination to Disapprove the TMDL*. January 2011. pg. 11.

³⁰ State of Vermont. *Vermont Lake Champlain Phosphorus TMDL Phase I Implementation Plan*. May 2014. pg. 90.

corridors. However, these actions are insufficient to address the existing stream bank erosion.

While cutting phosphorus loads from stream banks is important, the new allocations are ill supported. Voluntary measures coupled with regulatory programs that grandfather in existing encroachments are insufficient to address streambank erosion. The implementation plan does not provide reasonable assurances that nonpoint source pollution from stream banks will actually be reduced.

Forests

The draft 2015 TMDL describes the forest allocations as “modest” but that in the South Lake B and Missisquoi segments the required reductions of 60 percent are significant.³¹ In South Lake, stormwater runoff from agricultural and forested lands contributes approximately 75 percent of the load.³² In St. Albans Bay, “agriculture, forested lands, and streambank instability account for 73 percent of the annual phosphorus loading.”³³ Agricultural and forested lands, and streambank instability, contribute 88 percent of the base load of phosphorus to Missisquoi Bay.³⁴

The ambitious targets set for phosphorus reductions from forested lands must be supported by a concrete implementation plan. We have strong concerns that the Phase I Implementation Plan relies too heavily on voluntary measures, especially the implementation of Acceptable Management Practices (AMPs) on lands that are not enrolled in the Current Use Program (only the Current Use Program requires the implementation of the AMPs). There is simply no accurate way to quantify the outcome of relying on AMP implementation – especially if they are not required on harvest operations that take place outside of the Current Use Program.³⁵

The draft 2015 TMDL states, “the vast majority of the phosphorus load [within the forest sector] comes from erosion along forest roads and active harvest areas”.³⁶ The draft 2015 TMDL (and the Phase I Implementation Plan) rely heavily on two mechanisms to address forest contributions: the AMPs (with Technical Advisory Teams), and a voluntary portable skidder bridge initiative.

The AMPs are required via Act 64 to be revised by 2016. It’s important to note that they are not currently mandatory (unless land is enrolled in the Current Use Program), though a

³¹ U.S. Environmental Protection Agency. *Phosphorus TMDLs for Vermont Segments of Lake Champlain*. August 2015. pg. 24, 37.

³² *Id.* at pg. 30.

³³ *Id.* at pg. 31.

³⁴ *Id.*

³⁵ County foresters must review landowner compliance with management plan requirements and AMP compliance at least once every ten years for lands enrolled in the Current Use Program. This provides some nominal oversight, but there is no such oversight on the 40 percent of forest lands that are not enrolled in the Current Use Program and where timber harvesting activity may be occurring.

³⁶ *Id.* at pg. 19.

report by the Agency is required as to how to implement the AMPs as mandatory practices and how the Department of Forests, Parks and Recreation will enforce them.

The draft 2015 TMDL relies on the AMPs to be revised, as articulated in the Phase I Implementation Plan, but the TMDL does not address whether the AMPs must be mandatory for all forest practices. The Phase I Implementation Plan explains that “AMPs or equivalent requirements are mandatory on nearly 60 percent of forest land in the state, and a similar percentage applies to forest land within the Lake Champlain basin in Vermont.”³⁷ This means, about 40 percent of the remaining forest land remains vulnerable to harvest activities that may, or may not, comply with AMPs. Unless the AMPs are made mandatory, and adequate resources are identified and committed to make implementation effective, a large deficit will remain in the amount of land where implementation of the AMPs are actually occurring. This raises serious questions as to whether the reduction targets can be reached. EPA should clarify that it is expected that the revised AMPs will be made mandatory with adequate resources (e.g. staffing, outreach and education) to ensure implementation to meet the substantial phosphorous reduction targets required.

The draft 2015 TMDL references that there will be increased enforcement under the Forest Management Section of the Phase I Implementation Plan.³⁸ From our reading, the Implementation Plan does not actually call for increased enforcement under any of the strategies. EPA should articulate what increased enforcement it expects in the draft 2015 TMDL and implementation plan so it is clear to all parties what increased enforcement is necessary to decrease loading and meet pollutant target reductions.

While EPA may believe that “major enhancements to the Acceptable Management Practices (including in particular practices that address erosion and sedimentation at water crossings, forest roads, log landings and forest harvest sites)”³⁹ provides assurances, in reality there is nothing in Act 64, the draft 2015 TMDL or the Phase I Implementation Plan to compel or ensure a robust revision. Without further clarification in the draft 2015 TMDL that the revisions are necessary, the AMP revision process could actually lead to weakened standards due to pushback from the regulated community. The draft 2015 TMDL should outline in a clear manner which AMP improvements are necessary and required to meet load allocations.

We believe the Vermont Forestry Direct Link Loan Program and the Vermont NRCS Forest Trails and Landings Cost share Program are worthy initiatives to implement. They are, however, voluntary programs, and in order to bring measured results, they must have adequate funding and landowner enrollment.

Finally, we strongly support the initiatives outlined in the Healthy Forest Cover Strategy. A policy of “no net forest cover loss” is an ambitious and smart implementation strategy. There are many positive implementation steps outlined in the implementation plan, yet we

³⁷ State of Vermont. *Vermont Lake Champlain Phosphorus TMDL Phase I Implementation Plan*. May 2014. pg. 95.

³⁸ *Id.* at pg. 52.

³⁹ U.S. Environmental Protection Agency. *Phosphorus TMDLs for Vermont Segments of Lake Champlain*. August 2015. pg. 52.

did not see any of these referenced in the draft 2015 TMDL, nor are there any measures in the Phase I Implementation Plan to ensure implementation and the quantification of the success of whether these strategies are resulting in no net-loss of forest cover and, ultimately, decreases in phosphorus loading. The draft 2015 TMDL should clarify what specific steps are required to reduce phosphorous loadings under the Strategy, accompanied by measurable outcomes.

2d. The Required Agricultural Practices are insufficient to meet new load allocations, and unless a Best Management Practices program is implemented, there are no reasonable assurances that actual phosphorus reductions will be achieved.

Agricultural contributions of phosphorus to Lake Champlain are significant. The draft 2015 TMDL calls for a 59 percent reduction of phosphorus loading from agricultural sources into South Lake B and a whopping 83 percent reduction into Missisquoi Bay.⁴⁰ However, the control measures outlined in the Phase I Implementation Plan are insufficient to meet the target reductions.

One of the many measures called for in the draft 2015 TMDL is the revision of the Required Agricultural Practices (RAPs). As with forest AMPs, revisions to the RAPs are called for in Act 64 by 2016. While Act 64 does specify the kinds of revisions envisioned, the list of required practices was developed in conjunction with the regulated (farming) community, not as the result of a public process. The draft 2015 TMDL must contain additional measures and guidance beyond those required in Act 64 to assure that the new RAPs are protective and will result in decreased pollution upon their implementation across all farms in Vermont.

Further, unless a program that mandates the implementation of Best Management Practices in the most impaired watersheds is adopted, EPA cannot find reasonable assurances that new allocations will be achieved. The target reductions established for Missisquoi Bay and South Lake B are unprecedented. Therefore, a new program that includes a specific implementation schedule, documentation that BMPs are actually being implemented consistent with plans, and a regulatory backstop in the case of noncompliance is legally obligatory to demonstrate reasonable assurances.

3. The accountability framework for the draft 2015 TMDL does not allow for revision as needed.

A third element of a successful TMDL is to allow for effective revision to assure appropriate modifications of programs to control the pollutant of concern. EPA is relying on an “accountability framework” that appears intended to backstop state failures to implement source-specific control programs.

Perhaps of greatest concern, EPA’s accountability framework purports to reserve implementation of required regulatory programs to the future rather than requiring

⁴⁰ *Id.* at pg. 37.

immediate use of these authorities to rectify the known problems in Lake Champlain. Where existing regulatory programs are available and required, they must be implemented aggressively now to assure near term phosphorus reductions. These programs cannot be held in abeyance for future action.

Additionally, the accountability framework cannot be implemented in a fashion that undermines the inclusion of legally enforceable water quality based effluent limitations in Clean Water Permits *at the time those permits are issued*. Water quality based effluent limitations are required by the Clean Water Act and sources cannot be permitted in a fashion that would continue, let alone expand, contributions to water quality standards violations based on an accountability framework in a TMDL. Such an approach would subvert the entire water quality based approach included in the statute by Congress.

Even if it were otherwise lawful, the accountability framework for the draft 2015 TMDL does not contain the necessary elements for modification, which are: (1) a plan to monitor a TMDL's effect on water quality and (2) an adaptive implementation approach where monitoring data is used to regularly assess progress towards attaining water quality standards.⁴¹

Instead, the draft 2015 TMDL accountability framework is based on the Phase I Implementation Plan, the Tactical Basin Plans (also referred to as the Phase II Implementation Plan), and EPA's commitment to track and assess Vermont's progress and to take appropriate federal action if Vermont fails to meet key milestones. While these commitments are helpful by outlining specific implementation actions, they do not include phosphorus monitoring or assessments of whether water quality standards are being met.

The framework is centered on plans to implement specific practices. Therefore, EPA will consider the draft 2015 TMDL successful if the action items outlined by the State are put into practice regardless of their efficacy at reducing phosphorus loads. Without comprehensive monitoring, the actual impact of the draft 2015 TMDL on water quality will be unknown and ineffective implementation practices will continue.

Further, successful monitoring goes beyond the target pollutant. The GAO found a water temperature TMDL in Oregon to be insufficient because it tracked water temperature, but failed to monitor biological indications. The report found that "without tracking biological conditions affected by temperature, it would be impossible to assess whether progress was being made toward the water body's designated use."⁴²

The framework does not include assessments on whether water quality standards are being achieved. Without the necessary phosphorus and biological indicator monitoring, EPA's report card process is based on surrogate measurements such as issuing permits and

⁴¹ U.S. Government Accountability Office. *Clean Water Act Changes Needed If Key EPA Program is to Help Fulfill the Nation's Water Quality Goals*. December 2013. pg. 38-39.

⁴² U.S. Government Accountability Office. *Clean Water Act Changes Needed If Key EPA Program is to Help Fulfill the Nation's Water Quality Goals*. December 2013. pg. 43-44.

publishing guidance documents that do not adequately gauge water quality.⁴³ In addition, the report card process does not specify a mechanism or timeframe for evaluating and modifying the draft 2015 TMDL.

Lastly, the milestones included in the plan are insufficient. Given the spotty track record of implementation to-date, the accountability framework must include annual milestones and oversight for the first 10 years of implementation. From years 10 to 16, the framework should include accountability documentation every 2 years. If all goes according to plan, timeframes for accountability determinations could be extended after year 16. Given the vagaries of funding, program development, and the tactical basin planning process along with the severity of the water pollution problem in the lake, the current accountability framework unlawfully withholds required regulatory actions and includes unreasonable timeframes and insufficient monitoring.

Conclusion

Lake Champlain is impaired by phosphorus pollution. The lake's designated uses of swimming, boating, wildlife habitat, and public water supply are no longer fully supported. EPA, in collaboration with the State of Vermont, has established new allocations for phosphorus source categories across each segment of the lake to achieve water quality standards. However, the draft 2015 TMDL does not contain the necessary elements to be successful.

The first element of a successful TMDL is to accurately identify and address the causes of water body impairment. Phosphorus has correctly been identified in the draft 2015 TMDL as the pollutant of concern. However, the draft 2015 TMDL does not sufficiently address phosphorus pollution. It inappropriately categorizes sources of phosphorus, it allows phosphorus loads to increase, it does not include a phosphorus-monitoring requirement for stormwater permits and it sets an inadequate allocation for developed lands.

The second element of a successful TMDL is to ensure implementation is feasible by not only identifying who is responsible for each implementation action, but by also demonstrating that these responsibilities are reasonable. However, the draft 2015 TMDL does not ensure implementation is feasible. It places an impractical burden on municipalities, it requires allocations be finalized before an implementation plan is fully established, and it includes nonpoint source controls that do not demonstrate reasonable assurances phosphorus loads will actually be reduced.

The third element of a successful TMDL is to allow for effective revision to assure appropriate modifications of programs to control the pollutant of concern. Instead the 2015 draft TMDL relies on future authorities to reduce phosphorus loading rather than mandating immediate use of regulatory programs. Further, it does not include phosphorus monitoring or assessments of whether water quality standards are being met.

⁴³ U.S. Environmental Protection Agency. *Phosphorus TMDLs for Vermont Segments of Lake Champlain*. August 2015. pg. 53-54.

The draft 2015 TMDL cannot be approved in its current state. It does not sufficiently address phosphorus pollution, ensure the implementation plans are feasible, or include an effective accountability framework.

Sincerely,

A handwritten signature in black ink, appearing to read "C. Kilian". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Christopher M. Kilian, Esq.
Vice President and Director, CLF Vermont
Director, Clean Water and Healthy Forests Program
Conservation Law Foundation

A handwritten signature in black ink, appearing to read "B. Shupe". The signature is cursive and somewhat stylized, with a large initial "B" and a long horizontal stroke.

Brian Shupe, AICP
Executive Director
Vermont Natural Resources Council