



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1

5 POST OFFICE SQUARE, SUITE 100  
BOSTON, MA 02109-3912

January 17, 2014

David Mears, Commissioner  
Vermont Department of Environmental Conservation  
1 National Life Drive, Main 2  
Montpelier, VT 05620-3520

Chuck Ross, Secretary  
Vermont Agency of Agriculture, Food and Markets  
116 State Street  
Montpelier, VT 05620-2901

Dear Commissioner Mears and Secretary Ross:

The purpose of this letter is threefold: to provide comments on the draft "State of Vermont Proposal for a Clean Lake Champlain" (the "Proposal"); to provide the Vermont agencies with a clear understanding of the Environmental Protection Agency's expectations for the development of plans to implement the required phosphorus reductions in the revised Total Maximum Daily Load (TMDL) for Lake Champlain; and to describe an accountability framework to ensure those reductions are achieved.

The State Proposal

EPA applauds the substantial efforts the State has made in developing the Proposal. It is broad in scope and ambition, appropriately reflecting the challenge of restoring the health of Lake Champlain. As we have learned from the Scenario Tool, it will take an aggressive application of all of the measures in the Proposal to achieve water quality standards. Generally the Proposal lacks the specific details of what will be done by when. We appreciate that fleshing out the details is an iterative process and that the public outreach conducted in December, the comments you will receive this month, and analyzing information about things like unit costs are part of that process.

Climate change is another area that needs to be addressed throughout the Proposal. We suggest that relevant sections in the document include a discussion of how the implementation approach will take climate change into account. Climate adaptation and flood resilience should be addressed for each major category of practices. The report should note the phosphorus increases projected in EPA's climate change analysis, and explain how certain BMP, AAP, AMP

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measures can and will be designed to be effective for higher intensity rainfall events. We suggest including a stand-alone section that summarizes the efforts the State has already undertaken to prepare and adapt to climate change (e.g., new culvert sizing specifications, etc.) and the additional things the State will be doing moving forward. EPA's additional comments on many of the programs in the draft Proposal are provided in an attachment.

### Implementation Planning

We recognize that the level of detail necessary for implementation planning will take time to develop. The following are EPA's expectations divided into distinct planning phases. For the first phase EPA expects the state agencies to revise the Proposal and provide final policy commitments in a basin-wide scale implementation plan (Phase I Plan) by March 31, 2014. EPA expects the Phase I Plan to include a description of the authorities, actions, and, to the extent possible, control measures that will be implemented to achieve the nonpoint source target loads. EPA expects the Phase I Plan to identify a schedule for accomplishing reductions including dates for enhancing programs and implementing key actions to achieve these reductions, with all such actions to be implemented as soon as possible and by no later than a date to be discussed further. These actions include, but are not limited to, adopting new regulatory authorities, improving compliance with existing regulations, and securing additional resources for personnel, grant or cost-share programs. Ideally, EPA would like to see a high level project management chart (e.g., Gantt chart) that shows the intended schedule for each of the program elements.

Each of the programs identified in the Proposal is described as applicable across the Vermont portion of the Lake Champlain basin. For each of those programs, EPA expects that the State will identify and commit to implement specific pollutant reduction controls and actions in successive two-year milestones. We anticipate that some programs can be implemented quickly while others will need to be developed. For those items that depend on new funding, please prioritize actions into items that will be funded in the first two years, the next two years, and so on. EPA expects that the Phase I Plan will be followed by a commitment letter from the Governor by April 30, 2014.

EPA is seeking these commitments this spring because the State has expressed a clear preference to retain some flexibility in the TMDL's Waste Load Allocation (for point sources). As noted in my October 23, 2013 letter to Commissioner Mears, under these conditions in order for the TMDL to be issued consistent with EPA's regulations, it must provide reasonable assurances that the nonpoint source control measures will achieve expected load reductions. A satisfactory Phase I Plan and associated commitment letter will provide reasonable assurances.

After the TMDL has been finalized later this year, EPA expects the State to develop sub-basin implementation plans (Phase II Plans/Tactical Basin Plans), which more explicitly indicate what measures or practices will be applied in specific areas by certain dates. This spatial and temporal targeting of phosphorus loads to a finer scale will help local decision-makers (e.g., municipal governments, conservation districts, watershed associations) better understand the



contribution to and responsibilities for reducing pollutant loads. EPA expects the State to update these basin plans every five years, consistent with Vermont's current basin planning process, to take advantage of the latest information on phosphorus sources and control options applicable to each watershed. Additional suggestions regarding the Tactical Basin Plans are included in the attachment.

#### Accountability Framework

EPA views the Phase I and Phase II Implementation Plans the core of a broader, ongoing accountability framework by which EPA will assess progress toward fulfilling the pollution reduction targets identified in the TMDL. EPA expects that the State will identify and commit to implement specific pollutant reduction controls and actions in each of the successive two-year milestone periods included in the Plans. Prior to the start of each milestone period, EPA will evaluate whether the actions identified for that period are sufficient to achieve the pollutant reduction specified for the end of that two-year period, and whether the State has fulfilled the commitments identified in the previous period. EPA expects that the successive Plans and two-year milestone periods will contain increasingly greater source sector and geographic load reduction specificity, more rigorous assurances that load reductions will be achieved, and more detailed and transparent reporting to the public. EPA expects this accountability framework, including development of the Phase I Plans prior to the establishment of the TMDL and the State's commitment to produce detailed Phase II Plans and adopt two-year milestones, will strengthen the assurance that the TMDL point and nonpoint source allocations can and will be achieved and maintained.

#### EPA Commitments

EPA will continue to work in close collaboration with your agencies over the coming months as we develop the draft Waste Load and Load Allocations. This ongoing collaboration should provide opportunities for give and take as you digest comments on the Proposal and work to develop the Phase I Plan. If the Phase I Plan does not meet the expectations outlined above, EPA may take any of a number of actions. As noted in my October 22<sup>nd</sup> letter, likely options may include, but are not limited to setting Waste Load Allocations that would push Waste Water Treatment Plant discharges to the limit of available technology and require offsets for the plants' remaining phosphorus loads, and expansion of permit coverage to bring more sources under direct regulatory control (e.g., expand MS4 coverage, use Residual Designation Authority to capture currently unregulated point source stormwater dischargers, designate certain AFOs to be CAFOs subject to NPDES permitting). Similarly, if the State does not submit or fulfill its two-year milestones for phosphorus reductions, EPA may take any of a number of actions including, but not limited to, designating additional sources to be subject to NPDES permits.

EPA recognizes and applauds the substantial efforts the State is proposing to take to enhance program capacity and meet the necessary phosphorus reduction targets. We look forward to continuing to work with you to achieve a clean Lake Champlain.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen S. Perkins". The signature is fluid and cursive, with a large initial "S" and a long, sweeping underline.

Stephen S. Perkins  
Office of Ecosystem Protection

Attachment

cc: Kari Dolan, VT DEC



**Additional EPA Comments on the State of Vermont's November 20, 2013 draft Proposal for a Clean Lake Champlain**

- 1) EPA has estimated that lake restoration will require, at a minimum, an aggressive version of the actions included in the State's proposal. A few lake segments will require more effort. Therefore, it's very important that the State's final Phase I plan be at least as comprehensive as the November draft -- anything less extensive than these actions could significantly weaken the reasonable assurance that needed phosphorus reductions will be achieved.
- 2) Include schedules and milestones throughout, with indications of which parts of an action will be completed when. For those items that depend on new funding, prioritize actions into items that will be funded in the first two years, the next two years, etc. Ensure that major, substantial actions are funded in the early years. The two-year milestones must be measurable accomplishments that can be readily tracked, such as funding sources established, key personnel hired, numbers of farms inspected, new categories of stormwater covered by permits, numbers and percentages of needed management practices implemented, etc.
- 3) Include in each section a discussion of how the implementation approach will take climate change into account. Climate adaptation and flood resilience should be addressed for each major category of practices. The report should note the phosphorus increases projected in EPA's climate change analysis, and explain how BMP, AAP, AMP, and other management measures will be designed to be effective for higher intensity rainfall events and greater annual flow volumes. A stand-alone section should be added to the report to summarize the efforts Vermont has already undertaken to prepare/adapt to climate change (e.g., new culvert sizing specifications, etc.) and the additional things the state will be doing moving forward.
- 4) For the agricultural section, as part of the schedule and milestones additions, please indicate the full number of agricultural inspectors needed to complete inspections of all small farms by a certain date (preferably 2015), and include a strategy for securing the funding and staff needed, with clear milestones and schedules for completing all inspections and achieving compliance with AAPs. Likewise, please specify all other staff, such as agricultural engineers and agronomists, needed to carry out other aspects of the agricultural section of the proposal, and the schedule for hiring these staff. Agricultural staff currently funded through the Lake Champlain Basin Program should be included in this plan, as the Basin Program funding for these staff is anticipated to be temporary and non-sustainable.
- 5) The proposal to relax the winter manure spreading ban raises concern. EPA's preliminary review of research on this topic indicates that few if any BMPs can prevent significant nutrient loading to waters from manure spreading on frozen ground. Rather than relaxing the spreading ban, we recommend greater use of



nutrient management plans to guard against heavy spreading in the spring during wet conditions and other inappropriate times.

- 6) For stormwater treatment practices for existing development (retrofits), include a discussion of the level of treatment (e.g., the types of practices and runoff depth to be designed for) to be required through the new permit initiative. For the phosphorus reduction scenarios generated by the scenario tool, EPA assumed use of stormwater practices that would achieve a 50% - 70% phosphorus reduction from applicable impervious area. Please add this information to the proposal so that EPA can be assured that the stormwater aspects of the State's proposal will achieve a comparable level of phosphorus reduction. Also, it's important that the criteria for triggering the need for retrofits be at least as aggressive as those indicated in the November 20<sup>th</sup> proposal.
- 7) Also regarding stormwater, please include a section that addresses new requirements anticipated for existing MS4s. Currently, stormwater management is presented in the context of expanding permit coverage to areas not presently regulated. Even though this would be somewhat outside the central focus on reasonable assurance for nonpoint sources, it's important to include the existing regulated stormwater sources for completeness purposes, and to avoid giving the unintended impression that nothing further will be required from existing MS4s. EPA's scenario tool simulations include significant additional reductions from existing MS4s as part of the package that allows phosphorus reduction goals to be met in applicable lake segments.
- 8) Please add a section that addresses new initiatives for stormwater from new development. Include a description of how the current revisions to the stormwater manual will require the use of practices with higher phosphorus removal efficiencies in the Lake Champlain basin. With all the effort to reduce phosphorus loads from existing sources, it's important that new sources are also adequately addressed. It is much less expensive to implement phosphorus controls during the initial project construction stage than as post-development retrofit projects.
- 9) The river channel stability section addresses the need to minimize further river corridor and floodplain encroachments. This topic is very important to include as minimizing future encroachments will be critical to allowing natural progress towards stream equilibrium conditions. Likewise, the section on preventing adverse channel modifications is also important, as stream channelization (such as berming and straightening) decreases stream stability and increases phosphorus loads from streams. However, an additional section (perhaps a subsection 4.3) is needed to cover actions that will accelerate this progress toward equilibrium conditions for river and stream reaches where intervention is deemed appropriate based on geomorphic assessments. This additional section should especially include actions related to re-establishing stream and river access to floodplains and should lay out a



systematic approach that makes use of the river corridor plans and related information to identify opportunities, secure easements where needed, and complete floodplain restoration projects on an on-going basis. This section should also address the State's plans to support efforts to stabilize banks where appropriate, although EPA recognizes such interventions need to be approached carefully and typically only in cases supported by suitable geomorphic assessments. EPA's analysis suggests a large percentage of the phosphorus load to the lake comes from stream channel erosion, so it's important that the State adequately address how this source will be addressed. While EPA understands it will take time for streams to approach equilibrium conditions, and that natural and passive stream "evolution" will be a big part of the solution, we also believe it is very important for Vermont to adequately document steps the State will take to accelerate this process where appropriate.

- 10) Please include plans for addressing the internal phosphorus load in St. Albans Bay. EPA's scenario runs simulating the potential reduction from nonpoint sources in the St. Albans Bay watershed estimate that phosphorus targets can be achieved as long as the Bay's internal phosphorus source (from bottom sediments) is ultimately reduced as well. While EPA acknowledges that internal phosphorus controls will not be effective until watershed sources are adequately reduced (as has been affirmed in several St. Albans Bay studies), for completeness purposes, we believe this topic must be addressed in the State's proposal.
- 11) Tracking progress: a section should be added that discusses the State's commitment to track implementation progress and enter both BMP installations and programmatic progress into a tracking tool that EPA is helping to develop. Among other things, this tracking should support reporting on achievement of the two-year milestones.
- 12) Revise and expand the section on tactical basin plans to address how either these plans or separate TMDL implementation plans will make use of the TMDL phosphorus data for each subwatershed and include a detailed strategy and schedule for implementing all practices needed to achieve phosphorus reduction goals. The basin plans must include detailed descriptions of where and when practices will be implemented, identification of critical sources areas (CSAs), and whether actions will be funded with cost-share funds or grant funds, required via regulatory programs such as AAPs or new stormwater permits, or whether they will be accomplished through enforcement of existing requirements. The proposal should indicate dates by which each basin plan will be completed, and VDEC should commit to completing all plans within no more than two to three years of TMDL issuance.

Given the importance of the basin planning step, we are including below an outline of key elements that should be included in each plan. Note that these plans must



include all actions needed to attain phosphorus reduction targets and the full time-frame for implementation, but plans should be organized into 5-year increments (consistent with the existing tactical planning process). If full implementation is expected to take 15 years, for example, the plan could be divided into three 5-year increments. The activities planned for all phases must be identified up front, with more detail included for the first 5-year increment. Subsequent increments could be updated with additional detail during the final years of the previous 5-year increment. This approach allows for use of the latest and best information in each subsequent phase, such as refined estimates of source characterizations (especially for CSAs) and the effectiveness of management practices. The plans should lay out the TMDL targets (the total reduction needed), the phosphorus load reduction expected from each 5-year increment, and the management practices to be applied in each 5-year increment. The overall process will provide both clear expectations of future work planned and documentation of quantified load reduction estimates already achieved at regular intervals (i.e., each 5-year increment).

**Outline of Recommended Elements for Initial Basin Implementation Plans:**

- Description of implementation process (the 5-year increment approach);
- Summarize reductions needed from the TMDL;
- Identify broad source categories and respective estimated phosphorus loads based on TMDL analysis;
- Identify TMDL wasteload allocations (WLAs) and associated reductions needed;
- Identify TMDL load allocations (LA) and associated reductions needed;
- Provide master implementation schedule for all phases (increments) including timetable for developing implementation plans for each phase and accountable implementation and load reduction milestones;
- Results of CSA analysis (GIS analysis at a minimum) to be conducted as part of the initial plan development;
- Basis and documentation of any revisions/refinements in information used to estimate source loading rates and P load reduction credits for management practices;
- Inventory of phosphorus reduction practices already implemented in all applicable source categories, together with estimates of phosphorus load reductions achieved;
- Revised estimate of outstanding load reduction to be achieved (TMDL reduction less reduction already achieved by existing practices);
- Phosphorus load reduction to be achieved during the first 5-year implementation period;
- Description, location, and schedule for practices/actions selected to achieve the phosphorus reduction amount assigned to the first 5-year period. EPA's scenario tool and/or a separate DEC analysis (with adequate documentation) can be used to confirm that the level of implementation will be sufficient to achieve the needed reduction.



- Any additional resources (staff and funds) and regulatory mechanisms needed to accomplish all of the implementation activities consistent with achieving the full 5-year phosphorus load reduction;
- Identification of year-2 and year-4 implementation milestones (what actions will be completed by each of those periods);
- Description of the method to be used to track progress on implementation actions;
- Description of how water quality trends will be monitored over time; and
- Identification of any immediate and long term research needs important to the development of future phases of implementation plans.

**Outline for all future 5-year increments of implementation plans:**

- Same elements as described above (although some of the broader items such as those related to TMDL requirements could be referenced from the first iteration);
- Refinements to existing CSA analysis if applicable; and
- Basis and documentation for any revisions/refinements to information used to estimate source loading rates and P load reduction credits for management practices.