

**Vermont Department of Environmental Conservation
Agency of Natural Resources
Responsiveness Summary to Public Comments Regarding:**

**Missisquoi Bay Watershed (Basin 6) Tactical Basin Plan, and
Lamoille Watershed (Basin 7) Tactical Basin Plan**

On November 1, 2016 the Vermont Department of Environmental Conservation (DEC) of the Agency of Natural Resources (ANR) released a final draft of the Basin 6 and 7 Water Quality Management, or Tactical Basin Plans for a public-comment period. The public comment period, which ended on December 2, 2016, included several public meetings.

The Missisquoi meetings were :

- November 9th, 2016, 6:00-8:00 p.m., Georgia Fire Station, Georgia
- November 14th, 2016, 6:00-8:00 p.m., Jay Municipal Building, Jay
- November 17th, 2016, 5:00-7:00 p.m., FELCO Community Room, Franklin Homestead, Franklin

The Lamoille meetings were:

- November 7th Jericho, Jericho Town Hall, 67 Route 15, 6:30-8:00 p.m.
- November 9th Georgia, Georgia Fire Station, 4134 Ethan Allen Highway, 6-8:00 p.m.
- November 14th Hyde Park, Green Mountain Technical and Career Center, 738 Route 15, 7-8:30 p.m.
- November 15th Hardwick, Hardwick Town Hall, 20 Church Street, 6-7:30 p.m.

The DEC prepared this responsiveness summary to address specific comments and questions and to indicate how the plans have been modified. Comments may have been paraphrased or quoted in part, and combined when they pertained to both basin plans. The full text of the comments provided for each plan individually is available for review by contacting the Watershed Management Division.

Commenter: Conservation Law Foundation

Recommendation to separate information from the Plan into a standalone document.

Comments: Recommends information that is general and applicable to every TBP be pulled out of individual TBPs and incorporated into an introductory, accompanying document. would also include the general, background information. Chapter 3 provides an excellent overview of the regulatory

programs and obligations under both Vermont’s Clean Water Act and the federal Clean Water Act. The first few pages of this chapter as well as sections scattered throughout contain important, general information on the Lake Champlain TMDL and associated tools. However, because it is not specific to the Missisquoi Bay or Lamoille basins, it should be incorporated into an accompanying document.

Response: We agree that the Tactical Basin Plans should include information specific to the basins, to allow a concise description of problems and solutions, and therefore a clearer understanding and increased confidence in the DEC’s plan to bring waters of the State into compliance with the Vermont Water Quality Standards. In most cases, where additional background information is needed, we have provided links to existing documents instead of summarizing the information in the plan. An example would be the TBP’s reference to the Vermont Surface Water Management Strategy, which provides the background for most of the Tactical Basin planning process, specifically Chapter 4, “Tactical Basin Planning: Managing Waters along a Gradient of Condition”. It is the “accompanying document” recommended and the latest revisions, expected in 2017, will provide an overview of the information suggested by the commenter to be too broad for the tactical basin plan.

In these plans, we decided not to replace text associated with regulatory programs and obligations, like the Vermont Clean Water Act and the Lake Champlain Phosphorus TMDL with links to a broader explanation of Tactical Basin planning. For this tactical basin plan cycle, we did want to ensure that readers understood the implications of the newly enacted Act 64 and adopted TMDL as they have shaped the development of these TBPs. We felt that it was important to ensure that readers did not miss this connection. For future TBP’s, when partners and other community members have already been introduced to how the TBP meets these new regulatory obligations, we will simply reference Chapter 4 and other Chapters of the Surface Water Management Strategy, which itself is recently updated to contain new federal and State law requirements

The Missisquoi Bay and Lamoille TBP Watershed Assessments

Comments: CLF recommends the priority actions in watershed assessment tables link to specific actions included in the implementation table. It also seems more appropriate to place these tables in Chapter 4 on management goals and prioritization.

Response: We agree that it would be useful for readers to be able to find the specific action that are supported by Table 11’s priority actions (Missisquoi Plan). Presently, the reader is able to query the database by basin and project type to find the specific projects. For example, Hungerford is a subbasin identified in the data base as well as flood plain restoration. Program types are in some cases under slightly different names, although easily translated. The Lamoille Plan has been amended to impart additional clarity as requested. Chapter 4, however, presents information on priorities for protection through reclassification of management objectives. Chapter four is thus not a relevant location to summarize actions for restoration of impairments or stresses.

Comment: In the Lamoille Plan, CLF recommends DEC move the summary on page 13 to the top of Section A Chapter 2 since it is essentially a summary of the following information.

Response: The section makes more sense as a preface to Chapter 2 and has been moved.

Comment: For the Lamoille Plan, Tables 1-3 in Chapter 2 Section C are incredibly helpful and achieve the degree of specificity highlighted in the 2016 TMDL. However, some of the usefulness of these tables is lost without an overview that teases out trends and provides the general composition of

stressors/problems to the Lamoille River Basin. Similar to the percent breakdown of land-use type on page 13, a breakdown that aggregates or averages the information in Tables 1-3 would be helpful.

Response: VTDEC believes that the display of information included in tables 1-3 (now 2-4) has been broken down to a level of specificity clear enough to illustrate the trends in the Lamoille Basin. Tables 2 through 4 go a step further in breaking down these trends by sub-basin, stressor type and also illustrate geographically how these priority waters are spread through each sub-basin. However, we have added a new table (now table 1) of the primary stressors and land cover per HUC12, a summary of the primary stressors based on tables 2-4, a proposed action column for each of the listed water bodies in tables 2-4, a new table (now table 5) identifying the priority sub-basins, stressors, strategies, and actions, and lastly a summary table of recommendations before the Water Quality Monitoring and Assessment sections, to make the trends more easily digestible. However, it is important that this information is not over simplified and that actions related to the primary stressors in each watershed are not implicit everywhere in watershed.

Comment:

- CLF would like to better understand what DEC's management priorities/top objectives and strategies for the Lamoille River Basin are.
- After reading through Chapter 2 of the Lamoille Plan, CLF struggles to comprehend the state of the Lamoille River Basin. [1] What are the biggest stressors in this basin? [2] What are the specific areas of the basin that need to be focused on? [3] What are DEC's recommendations for the assessment and monitoring types? Again, CLF commends DEC for its inclusion of a vast quantity of information. However, with added detail comes the challenge of interpreting and comprehending the trends.
- The Lamoille River TBP provides in-depth information on the Lamoille River Basin, and includes a number of important tables and graphics that showcase the data. However, it lacks the level of analysis necessary in successful planning. While this TBP goes beyond previous plans in its specificity, it falls short of examining these large datasets to tease out trends, set priorities, provide guidance on how to move forward, and craft alternative action plans should targets not be met.

Response: See previous response. Also, [1] The biggest stressors are provided in Chapter 2, section C by sub-basin. [2] The specific areas that need to be focused on (top objectives and strategies) are listed in the overview in the Executive Summary and actions to address these are listed in detail in Tables 29 and 30. [3] DEC's recommendations for the assessment and monitoring types are listed in Chapter 2, Section E and Chapter 4, Sections A and D, and summarized in tables 5 (overview) and 30 (detail). VTDEC has interpreted to the best of our ability all available information where possible, with recommendations and current status descriptions for each section. The Department contends that the level of detail needed to provide recommendations requires a thorough presentation of the pertinent information. Summaries and graphics are included where they are necessary and useful, but we are concerned with oversimplification. In both the Missisquoi Bay and Lamoille Plans, VTDEC has endeavored to distill information down to a level that provides the detail to support the priorities, without over simplifying. It is a difficult balance to achieve. In future tactical plan iterations which feature Lake Champlain Phase II TMDL information, the Department is open to options for alternative, and clearer presentations.

Comment: Aside from including this table in the TBP, what does DEC anticipate doing to alert partners of these needs in Table 10 of the Missisquoi Bay Plan?

Response: The recommendations in Table 10 that refer to need for biomonitoring or identifying high quality lakes will be the responsibility of the DEC. The additional information about monitoring needs that a volunteer water quality monitoring group could take on, has already been provided to an interested group.

The TBP Specific Planning with Prioritization

Comment: Executive summary - CLF wonders whether these objectives are weighted equally? And are intended to occur simultaneously?

Response: The objectives in the executive summary are not prioritized against each other. They are the highest priority strategic-level actions, reflecting Act 64 requirements. They are objectives that DEC is currently addressing and committed to meeting.

Comment: Table 3 in Chapter 3 contains key information for a watershed assessment. We would appreciate seeing this information not only in tabular format, but as a graphic as well. Visualizations help stakeholders grasp complex and complicated relationships. Again, this data makes more sense as part of Chapter 2.

Response: this information is presented in an accompanying figure in Chapter 3. The placement of these tables and figures in Chapter 3 reflect that these analyses are from modeling, which is distinct from the results of assessments (borne of water quality monitoring and other field measurement) that are presented in Chapter 2.

Comment: For the Lamoille Plan, CLF encourages an overview/summary be included in Chapter 2, which is dedicated to the watershed assessment. It would also be helpful to reference Table 28 (now Table 30), which includes the specific monitoring and assessment priorities for the basin.

Response: VTDEC added a reference to table 30 in Chapter 2, Section E. Chapter 2 is an overview and includes summaries for each assessment type. These have been further cut down and highlighted in Table 30. Summarizing these further would result in a redundant presentation of information.

Comment: In the Lamoille Plan, CLF questions breaking down the watershed assessment sections into Chapters 2 and 3. Highlighting the conditions of the Lamoille basin in two separate chapters hinders the reader's ability to synthesize the big picture state of the basin.

Response: The assessments presented in Chapter two represent on the ground monitoring results, or results of field investigations. The mapping presented in Chapter three presents modeling results specifically conducted to inform Phase II TMDL implementation. As such, VTDEC has elected not to modify the Plan in the manner suggested, but will evaluate alternative presentations in future tactical basin plans.

Management Planning

Comment: CLF questions why management objectives planning is not centralized in one location within the TBP. It is confusing to find different aspects of prioritization and planning strewn

throughout. Specifically, that Chapter 4 separates actions related to changes in management goals from those in Table 14. A similar comment was provided with respect to the Lamoille Plan.

Response: We have intentionally kept management objectives proposals (e.g., classification, designation) separate from actions that work towards implementation of practices aimed at maintenance or restoration. The basin plans have always separated out the discussion of upgrading management goals for State waters and proposals to change overall goals for how we manage a water. As these proposals could result in landuse management implications, we wanted to ensure that reader has a thorough understanding of what is proposed and why.

The process for carrying through with the reclassification is also different than for completing many of the other assessment or BMP implementation actions. The effort may be initiated by a community group or DEC, and either way, DEC coordinates the efforts or is involved to provide technical assistance. In other words, we go about carrying through with the proposal in different way than we do for many of the actions listed in the implementation database. We have included recommendations in the executive summary to ensure visibility, and because it is a priority of the Department.

Comment: it is interesting to note the degree of specificity and range of reclassification opportunities within the Lamoille River TBP. While the Missisquoi Bay TBP provides more prioritization, it would be helpful to understand why fewer waters are recommended for reclassification. This may simply be the result of different ecology and recreation – however some discussion across TBPs in an accompanying document would be of interest.

Response: In the case of the Missisquoi Bay watershed, as the management goals are based on existing conditions as well as reasonably attainable and desired water quality management goals (VWQS Section 1-02.D.5), insufficient monitoring data reduced the number of proposals for this Basin relative to the Lamoille, where there is substantially less agricultural development. Waters that are eligible for reclassification or designation must meet very specific criteria outlined by the Water Quality Standards and in statute (§§10 VSA 1252, 1253d, 1424a). To clarify for readers, surface waters proposed for reclassification to Class B1 for any use shall, pursuant to 10 VSA 1252, be demonstrably and consistently of higher quality than Class B2 uses. DEC interprets this to mean that the water quality criteria pertaining to Class B1 uses are met before reclassification is proposed. For Class A1, surface waters may be proposed based upon reasonable obtainable water quality, and public interest (§1253d). Proposals for Outstanding Resource Waters should be substantiated by data indicating outstanding scenic, natural, recreational, or cultural features (§1424a). In Missisquoi Bay TBP, Table 10 does identify 15 waterbodies that we suspect may already meet a higher standard than presently protected for and we will work to ensure that their present condition is documented through additional monitoring and appropriate changes to management goals will be subsequently made.

Project Identification and Specificity

Comment: The Missisquoi Bay TBP includes over 600 individual projects in the online database with priority actions in Table 16. Again, CLF recognizes the Lamoille River and Missisquoi Bay watersheds are distinct; however, it would be helpful to better understand why the Lamoille River TBP has over 1,000 projects identified while Missisquoi Bay TBP has 600.

Response: In addition to working with the communities in the watershed to identify projects during the planning process, we included projects from supported DEC assessments. The number of projects

in the database can be closely associated with the amount of assessment work supported by community groups with the help of DEC and other partners over the years. These include geomorphic assessments and stormwater master plans. In the case of the Basin 7, the plan also includes culverts in need of replacement to improve aquatic organism passage and geomorphic alignment that were identified in assessments that RPCs and TNC conducted. In the Lamoille Plan, there are several hundred individual culverts listed, and these can be prioritized by RPCs and Towns. In the Missisquoi Bay TBP, culverts, which have also been assessed by TNC and RPCs, were listed separately in the appendix and work to replace them was described in one action in the database. DEC understands that most replacements will happen in the course of road maintenance by municipalities as culverts deteriorate. DEC will over the course of this Plan cycle enter those that rise to high priority, to ensure that they are reflected in the Watershed Projects Database.

Comment: While there is a column in the Missisquoi Bay TBP for the start and end year, it is not filled in. There are no specific dates associated with any given project. Without associated timeframes it is challenging to hold the State accountable for actual implementation. For this reason, the 2016 TMDL explicitly states that “[e]ach Tactical Basin Plan will include an “Implementation Table” that lays out the priority actions to be taken by *specific dates*” (emphasis added).⁸ The Missisquoi Bay TBP fails to follow this assumption.

Response: Dates-certain for the promulgation of permit programs and implementation of required assessments are shown in the summary section of Chapter 3. Successful implementation of voluntary actions (i.e, projects) also depends on all the following: coordinating partners to implement, willing landowners, and, availability of funds. We were not able to predict when each of these would be aligned for each project to establish start and end dates for each project in the implementation table. As explained in Chapter 5, we have provided the end of the planning period, 2021, as the date by which we expect new regulations to be promulgated, *and* nearly all required assessments completed. DEC absolutely recognizes the need to ensure implementation of actual projects, not just assessments, and are committed to so-doing.

Funding

Comment: CLF recognizes there is ongoing discussion spearheaded by the Treasurer’s Office and DEC on clean water funding. However, it is important that TBPs also discuss funding sources since cost is a significant obstacle to implementation. CLF appreciates the column for funding sources in the implementation table, and encourages DEC to refine and fill in further funding opportunities. Appendix E also has helpful funding information.

Response: Both Plans contain reference to funding sources, and an appendix had been added to the Lamoille Plan. Additional information on funding is addressed later in this response summary, and by amendments to the summary section of Chapters 3 and 5.

Basin Plans and Tracking

Comment: Tracking project implementation and phosphorus reductions is critical to the success of TBPs. CLF applauds DEC for developing the Lake Champlain BMP Accounting and Tracking Tool (BATT). The importance of BATT is highlighted in the Missisquoi Bay TBP:

“In conjunction with Tactical Basin Planning is a project implementation tracking system that VTDEC is also developing. This system intends to track implementation of projects across all sectors and apply an expected phosphorus reduction estimate to each. Over time, as projects are continually implemented, a more precise estimate of cumulative actual phosphorus reductions can be reported rather than relying on estimates of potential actions.”

CLF would like to reiterate our suggestion that the removal efficiencies incorporated into BATT be conservative estimates. Incorporating low removal rates into BATT will help maintain honest accounting.

Response: VTDEC notes this suggestion.

Comment: The State should also conduct water quality monitoring pre and post implementation to spot-check removal efficiencies. While we understand DEC intends to conduct this type of monitoring, it remains unclear to what extent and for which sectors. We emphasize the need for across-every-sector BMP monitoring.

Response: The Vermont Water Quality Monitoring Strategy outlines how Vermont’s water quality monitoring program is managed. DEC does not have the capacity or means to test effectiveness of each BMP installation across all sectors, but we can depend on existing research results that incorporate a rigorous scientific process to test the effectiveness of these BMPs. DEC does support BMP testing in several geographic scales within Vermont: subwatershed (e.g., Rock River, MS4 flow restoration plans, Upstream/Downstream of Practices (numerous installations, WQ Remediation Plans); edge-of-field (in partnership with AAFM and NRCS). Where capacity exists to support BMP monitoring, DEC supports conducting this monitoring.

Comment: As BATT is developed further, CLF expects progress reports to be incorporated into TBPs.

Response: Act 64 requires annual reporting of progress in the Clean Water Investment Report, which contains environmental, social, financial, and programmatic indicators of progress. It is DEC’s intent to report on progress in the implementation of Lake Champlain Phase II efforts in each tactical basin plan update.

Regulatory Gaps Identified in the Missisquoi Bay TBP

Comment: CLF notes that Table A2 on page 48 is the summary table of allocations for the Mallets Bay segment of Lake Champlain rather than Missisquoi Bay.

Response: The correction has been made.

Discussion of Regulatory Gaps

Comment: DEC is highlighting the role of basin planning in honing in on and prioritizing specific projects:

“By using modeling results for the entire Champlain Basin, the TMDL was able to show that through a concerted effort across all phosphorus sources, it appeared possible to reach the lake loading targets with appropriate application of BMPs [best management practices].”

However, since this exercise was conducted at the major-basin scale, there is no specific prescription as to where BMPs should be applied. It is through the development of the Tactical Basin Plans that more precise opportunities for BMPs can be identified and prioritized for implementation.”

The rest of Chapter 3 is dedicated to examining the regulatory programs in place to reduce phosphorus loads from each land use type. While the Missisquoi Bay TBP provides an excellent analysis of current regulatory programs and programs under development, there is no discussion of regulatory gaps. CLF understands that many of these programs have yet to be implemented and therefore gap analysis may seem premature.

However, certain regulatory programs are further developed than others, including the Accepted Management Practices for forestry and the Required Agricultural Practices. Within these sections, the Missisquoi Bay TBP provides a helpful examination of the catchments with greatest potential for phosphorus reductions and the expected reductions based on application the 2016 TMDL allocations. However, there is minimal analysis of the sufficiency of these regulatory programs, or an examination of what additional measures may be necessary to meet reduction requirements.

CLF strongly encourages DEC to complete Table LA-5 on page 62. A comparison of the RAPs to the BMPs presented in the Scenario Tool would be extremely helpful.

Response: The tables containing agricultural practices and results of the North Lake Farm Survey have been expanded with content provided by AAFM. VTDEC condends that it is premature to conduct a regulatory gap analysis associated with the sufficiency of future actions when most of these programs are in initial and/or assessment phases determining baseline conditions. For the time being, VTDEC is depending on the extensive effort conducted by the USEPA to emulate the results of the new regulatory programs set forth in Act 64; results set forth in the Reasonable Assurance Scenario as part of the TMDL (https://ofmpub.epa.gov/waters10/attains_impaired_waters.show_tmdl_document?p_tmdl_doc_blobs_id=79164). Based on this analysis, there is reasonable assurance that forthcoming implementation actions will be sufficient to meet the TMDL phosphorus requirements. Over time through VTDEC’s tracking and accounting process, more refined conclusions can be drawn as to if the necessary level of implementation is occurring.

Highlight P export rates across sectors in Chapter 2

Comment: In addition, CLF greatly appreciates Tables LA-4 through WLA-8, which provide excellent information on phosphorus export rates across sectors and further explanation of how phosphorus enters Lake Champlain. We wonder whether this information is better highlighted in Chapter 2 on watershed assessment.

Response: See prior comment. The Department has included this information in Chapter 3 because it results specifically from modeling efforts that are distinct from the assessments summarized in Chapter 2.

Regulatory Program for river corridors

Comment: There are no regulations currently in place that focus specifically on reducing phosphorus loading from unstable stream channels. The Missisquoi Bay TBP highlights the need to focus on high-priority sub-watersheds where Stream Geomorphic Assessments indicate the highest potential for phosphorus reductions. DEC also discusses the development of the Stream Equilibrium Tracking Method to help score and prioritize projects. However, the Missisquoi Bay TBP is remiss in not even considering the potential need for regulatory programs to protect river corridors and floodplains.

Response: We believe that current regulations along with voluntary and funding programs to remediate floodplains are sufficient to promote actions relating to stream equilibrium. In other sections, we do highlight the existing regulations that encourage and expect towns to protect river corridors to reduce factors that could limit a river's ability to meet equilibrium conditions in the future (see Chapter 3, Flood resilience, page 98 in Missisquoi Bay TBP) and, in addition, that the Stream Alteration Rule and general permit regulates structural modifications and culvert/bridge sizes for installation of replacement or new crossings to support the river's evolution towards equilibrium. The plans also recommend actions to protect river corridors and floodplains (see Table 16 in the Missisquoi Bay TBP and Table 29, actions C1, C9-C18, C30, C32-33, C37-C39 in Lamoille TBP).

Backstops

Comment: The Missisquoi Bay and Lamoille TBPs do not highlight what the State intends to do should projects not be implemented. A successful TBP must include specific projects and deadlines that will be evaluated using BATT in addition to what measures the State is committed to taking if we are not on track. What if projects simply aren't being implemented, or projects are not removing sufficient phosphorus? The State needs to have backstops. What actions does the State intend to take?

It is the hope of the State "that these tables outline priorities that are realistic to implement over a five-year period, noting that there are many unforeseen variables, like landowner willingness and funding availability."¹¹ At some point, landowner willingness is no longer unforeseeable. The State has been working for several years within the Missisquoi Bay watershed, and significant additional resources have been prioritized to this area. Vermont's clean water obligations do not allow for hopeful statements of implementation. Rather, implementation tables should strive to reflect real-time project ripeness – which would incorporate funding opportunities and landowner disposition. The organization of the plan itself could be improved by exploring management priorities in a single section.

The plan would further benefit from increased specificity, set timeframes, and guidance on how to move forward should targets not be met.

Response: The implementation table focuses on encouraging voluntary projects *and* on implementing regulatory permit requirements. VTDEC expects that most of the P reduction will occur through the regulatory programs, including agriculture. Figure TMDL4 (in Lamoille TBP) and Figure A-2 (Missisquoi Bay TBP) in Chapter 3 provides an example of how P levels may decline based on regulatory timeline. The efforts of VTDEC and our partners include adaptive management. At the end of the five-year planning period, we will review our progress and at that time make necessary adjustments. Further, the Lake Champlain TMDL and the Lake Champlain Phase I Plan contain a comprehensive description of the accountability framework developed jointly between VTDEC and USEPA.

Commenter: *US Environmental Protection Agency*

Comment: We strongly encourage you to indicate for each source sector how much of the cycle will be devoted to assessment versus implementation post-assessment. At the conclusion of the assessment step, it will be important to quantify the amount of phosphorus reduction to be achieved by sector during the first 5-year cycle. The implementation tables should be updated at this time to make clear which actions will be completed in order to achieve the indicated phosphorus targets.

Response: We expect to meet goals by both regulatory and voluntary based actions. The regulatory actions will provide most of the lift for at least the Lake Champlain P TMDL. Timelines for these programs are identified in the summary Figure TMDL4 (in Lamoille TBP) and Figure A-2 (Missisquoi Bay TBP) in Chapter 3. As regulatory programs enter the implementation phase, on-the-ground actions will be tracked in a DEC tracking and accounting database, at a frequency not expected to be less than annually. As projects or regulatory actions are completed, associated phosphorus reduction will be calculated and tallied by lake segment. These data will be continuously updated and will be available for periodic reporting to measure success at appropriate intervals.

Comment: In addition, we understand that for the Missisquoi Bay much of the agricultural assessment step has already been completed by VAAFm through the farm surveys. Given these data are already available, it is very important that the survey results be used in the final version of the Missisquoi Bay tactical basin plan to quantify the phosphorus reduction achievable from the agricultural sector during the first five years, as well as subsequent 5-year cycles.

Response: VTDEC concurs and the farm survey data were added in summary form to the Missisquoi Bay TBP as an indication of how much needed effort remains in the basin from the agricultural sector. Estimated phosphorus reductions for the first 5-year cycle has been provided in the priority implementation areas of the Rock and Pike River watersheds.

Comment: As EPA discussed with DEC staff, we think it will also be very helpful to include in the Missisquoi Bay TBP the implementation tables from the NRCS plans for the Pike and Rock Rivers.

Response: VTDEC concurs and has added these implementation tables

Comment Given the importance of quantifying the amount of phosphorus targeted for reduction during the first 5-year cycle, we urge you to include an initial estimate (prior to completing the assessment step) of the amount of phosphorus reduction that you anticipate could be achieved through projects that you and partners are committed to during the first five years.

Response: As previously noted, since many of the regulatory programs upon which much of the phosphorus reductions depend are still being developed or are in their “assessment phase”, it is difficult to estimate with any accuracy what level of phosphorus reductions will be attained in 5 years. However, we know for a fact that many projects have been and will be implemented over the next 5 years, but these have not been accounted for, as of yet. VTDEC has developed a proposed implementation curve that indicates one possible expression of the pace at which implementation will occur. A critical factor shaping this curve is the availability of funding. Since the process of determining the final funding mechanism for the Clean Water Fund is incomplete, it would be imprudent to commit to a binding implementation target at this early time in the implementation phase of Act 64. As time moves forward and the tracking and accounting database becomes populated, more accurate estimates will be easily retrievable and made available to the public.

Comment: Also, the actions included in the separate databases are an important part of the plans. If the contents of the databases are not directly in the plans, we recommend making the link to these databases more prominent to readers.

Response: VTDEC agrees and has consolidated links in the Summary section of Chapter 3 to provide clarity.

Comment: Lastly, cost estimates for needed actions are an important part of the watershed-based plans that EPA requires for watersheds where Section 319 funds are expended. To address this requirement, please include a discussion of costs in a general sense, and include a commitment to itemize costs more specifically once the assessment phase is completed.

Response: Costs associated with agricultural project implementation in the priority areas of the Rock and Pike watersheds in the Missisquoi Bay basin have been added to the basin plan. As have wastewater cost estimates, which are well-developed. In the future, as assessment information becomes available, and associated costs are calculated, these will be incorporated into the basin plans. In the voluntary actions arena, much of the cost information will be captured as project cost proposals are submitted and funding is ultimately tracked.

Further, the Department is in the process of assisting the State of Vermont's Treasurer in finalizing cost estimates for the Clean Water Fund. As part of this process, generalized cost estimates for sector-specific practices have been articulated, and these have been described in the summary section in Chapter three of each Plan. VTDEC contends that the content of the forthcoming Treasurer's Report, combined with cost quantification associated with project tracking, will allow for substantially more precise estimates of cost than are at hand presently.

Other comments specific to the Missisquoi Bay TBP

Commenter - Brian Fitzgerald:

Comment: the plan doesn't describe the severe impact the Swanton Dam has on aquatic organism passage and habitat for many species, including sturgeon, stonecat and listed mussel species.

I suggest adding some information on the dam and its impacts in the final version, as well as building a case for its removal.

Response: The TBP includes action #1552 in the Watershed Projects Database (Online implementation table database), listing Agency staff as partner:

Town is pursuing federal hydroelectric facility operating permit from the Federal Energy Regulatory Commission. Provide technical support for review of requested studies relating to impact to natural resources.

The Department of Fish and Wildlife supports removal of the Swanton Dam to restore several miles of aquatic habitat. Background information or links to information on habitat above and below the dam in its current state is included in the [DEC Basin 6 Water Quality Assessment Report](#).

Commenter - Vermont Paddlers Association:

Comment: Recommendations were provided for additions to boating recreational use as an existing use in the Missisquoi TBP.:

Response: These sites were evaluated, and subsequently included in the Plan.

Commenter: Orleans Natural Resources Conservation District

Comment: Requested that NRCD and VACD be added as partner under specific objectives in Table 16, Summary of Implementation Table of the Missisquoi Bay TBP.

Response: addition of name as partner.

Comment: Recommended additional actions to be included under objectives in the section on Agriculture in Table 16, Summary of Implementation Table of the Missisquoi Bay TBP

Response: The recommendations were considered in developing the final draft.

Commenter: Ken Sturm, Missisquoi National Wildlife Refuge

Comment: Suggested adding following: Fish and freshwater mussel die offs have been noted associated with algal blooms in recent years. (I actually don't think that we have to address this unless we know this to be true and want to add it to the description of how algal blooms are affecting the Missisquoi Bay (page 20, under Lakes and ponds).

Response: The recommendation was included in the final draft.

Comment: For Table 3 in the Missisquoi Bay TBP, suggestion to include algal blooms as problem

Response: The current problem listed is phosphorus enrichment, which we recognize as a source of algal blooms.

Comment: Noted that The Missisquoi Bay and Delta wetlands complex was recognized as Wetlands of International Importance under the Ramsar Convention on Wetlands in 2013.
<http://www.ramsar.org/news/united-states-designates-36th-ramsar-site>

Response: The recommendation was included in the final draft.

Comment: Include "Identify contaminants leading to intersex bass on Missisquoi River." In Table 10. Monitoring and Assessment needs.
(<http://www.sciencedirect.com/science/article/pii/S0147651315301093>)

Response: There were aspects of the prior research that did not completely characterize the observations of intersex fish in surface waters of the refuge. DEC and DFW are currently waiting for the release of additional USFWS research results on contaminant leading to intersex bass in the Missisquoi River. DEC and DFW will at that time determine a strategy to ensure a healthy and robust Bass population.

Comment: The Missisquoi Federal Wildlife Refuge supports designation of the Missisquoi Delta as a Class I although the wetlands are already protected under federal ownership by the USFWS. The wetlands are also recognized as Internationally Important under the Ramsar Convention.

Response: We will recognize the Refuge as a partner in this action.

Comment: Include the Missisquoi National Wildlife Refuge as a Partner in Appendix A?
“The Missisquoi National Wildlife Refuge was established in 1943 to provide habitat for migratory birds. It consists of 6,729 acres, mostly wetland habitats, which support a variety of migratory birds and other wildlife. The 900 acre Maquam bog is designated as a Research Natural Area and the refuge was designated as an Important Bird Area in partnership with the Audubon Society. The Refuge in partnership with other publicly owned (State of Vermont) lands has been designated a Wetland of International Importance under the Ramsar Convention. A mosaic of wetland habitats offers opportunities to see and manage more than 200 species of birds. Fall migration features 20,000-25,000 migrating ducks. Nesting bald eagles, osprey, and a great blue heron colony numbering more than 300 nests are present on the refuge. “

Response: The recommendation was included in the final draft.

Comment: Should Map A of stressors in the Missisquoi include algal blooms which can kill fish and native mussels? and Cyanobacteria?

Response: DEC has a specific definition for stressor that would not include algal blooms. A stressor, see Table 2, is defined by the VDEC as a phenomenon with quantifiable damaging effects on surface waters resulting from the delivery of pollutants to a waterbody, or an increased threat to public health and safety. The effect of the stressor on water body include the occurrences of algal blooms including Cyanobacteria, the stressor itself in Map A is the actual activity on the landscape or in the stream channel that results in the higher phosphorus loads that feed the algal blooms.

General comments from Missisquoi Bay watershed public hearings

Comment: Would like to see door-to-door visits to provide information to landowners who lease to farmers about sustainable best management practices that would protect water resources as well as maintain productive agricultural land in the Missisquoi Bay watershed.

Response: The NRCS and AAFM do provide resources to support door to door visits to agricultural producers in the Pike and Rock Rivers, see Table 16; however, not to landowners who lease to the producers. This could be a useful action and partners in the watershed would be interested in assisting. An action will be added to support efforts to inform landowners who lease their land for agricultural production

Comment: Many people don't understand what they should be doing to protect water resources. Would like to see support of education and reach that provides a clearer message to the residential community about what role they can play in protection water resources.

Response: Although DEC and partners are working in multiple areas to provide information to efforts to engage the community in water resource protection; we understand the need to continue to improve in this area. Current actions include continued work to assist lakeshore owners using DEC's

Lake Wise campaign. An additional action will be added to continue to assist partners with development of a “healthy soils” campaign that is directed at the residential and golf course sectors

RPCs Plan Conformance Comments

Comment: CCRPC recommends that the Plan include a statement that the Plan does not preclude any development that is consistent with river corridor protection areas, municipal zoning, and applicable state and federal regulations. NRPC recommends that the "basin plan should explicitly recognize this potential conflict [prohibition of development and river corridor protection] and support municipalities in their efforts to plan for and regulate new development or re-development in these areas. In addition, The LCPC Board recommends revising the term “zoning” to the term “bylaws” -- a more encompassing term which include standalone municipal flood hazard bylaws and subdivision ordinances.

Response: Text was added on page 13 paragraph 2 under Section C, "The overall role of the TBPs is not to determine where development should happen. This TBP encourages communities to take protective measures that will restore, maintain and enhance water quality in all areas, and does not preclude any development that is consistent with municipal bylaws, regional and municipal plans, and with applicable state and federal regulations."

Comment: CCRPC and NRPC recommends the text to describe prioritization based on phosphorus loading at the end of the lead paragraph of “Chapter 5, The Implementation Table: Protection and Remediation Actions”. Ex. The tactical plan implementation table summaries . . . carry out the actions identified in the basin plan. As projects are developed, DEC and other agencies and organizations that provide funding, or implement projects directly, should prioritize projects that achieve a high phosphorus removed benefit per cost ratio. Additionally, projects that also provide co-benefits such as other TMDLs (i.e. Flow Restoration Plans, e.coli, mercury, etc.), hazard mitigation, transportation improvement, aquatic organism passage, and/or listed in municipal comprehensive plans and capital plans should also receive additional consideration in making funding decisions. (NOTE these comments were also tendered for the Missisquoi Bay Basin Plan).

Response: Additional text was added on page 139, paragraph 2, in Chapter 5 to describe prioritization for projects with high phosphorus removal, "As projects are developed, priority for funding will be given to those projects that achieve a high phosphorus removed benefit per cost ratio. Additionally, projects that provide co-benefits (i.e. flood resiliency, water quality improvement, water resource protection, aquatic organism passage) will receive additional consideration for prioritization."

Comment: LCPC recommends that "since Sterling Pond drains into the Lamoille Basin, it should be included in the Lamoille Basin Plan."

Response: Sterling Pond is currently mapped in the Winooski Basin. After a review of the ponds drainage, based on field visits and supporting photos, Sterling Pond is being updated to reflect its primary drainage into the Lamoille Basin. Both the Vermont Waterbody ID and National Hydrography Dataset will be updated based on this new information.

Comment: LCPC recommends that the "Implementation Table should be updated to reflect stormwater mapping projects identified in the VT DEC stormwater mapping reports for both Johnson and Cambridge."

Response: Table 13 on page 58 and table 29 on page 148 (table #B12) of the Lamoille Plan reflect that stormwater projects identified in stormwater mapping reports be implemented in Cambridge and Johnson.

Comment: LCPC recommends that "the Basin Plan should note the importance of incorporating ground-truthed data into the State's River Corridor Maps. Geomorphic assessments which include field verified valley widths have been completed for many of the larger streams in Lamoille County. ANR's process for incorporating this data to develop updated river corridors should be expedited."

Response: River Corridor Mapping is managed by the Vermont Rivers Program. This recommendation will be shared with the Rivers Program.

Comment: NRPC notes that the agricultural section in Chapter 3 of the plan is still lacking information. The information currently included is in conformance with the regional plan, but because of the missing information it is not possible to make a complete assessment of conformance with the regional plan. This is especially crucial given the targeted agricultural phosphorus reductions in the Missisquoi Basin and the impact agriculture has on the regional economy.

Response: Please see response to a similar comment provided by USEPA.

Comment: NRPC recommends the addition of one or more strategies and implementation actions supporting recreational uses of our waters and shorelines.

Response: The plan does not contain highly-specific recreation recommendations. However, there are several actions aimed at promoting recreation. One example is the recommended designation of Great Falls and an Outstanding Resource Water. The Existing Use tables also document recreational uses.

Comment: NRPC notes that the tactical basin plan includes a strategy to "Protect river corridors to increase flood resilience and allow rivers to reach equilibrium through protection of river corridors ... (page viii)."

e. Locate and configure land development to avoid the fragmentation of and adverse impacts to natural areas, critical wildlife habitat and connectivity areas identified in the regional plan or local plans by the Vermont Agency of Natural Resources, or through site investigation. The tactical basin plan should support this policy through a priority strategy to protect the intact-forested landscape and significant wetland communities to reduce resource fragmentation. This is important to minimize future increases in phosphorus from forested lands.

Response: It is a goal of ANR and the protection of intact, unfragmented forested landscapes, which with the passage of 2016 Act 171 is now also State policy. Since the Act 171 study committee is still undertaking their work to identify regulatory pathways to limiting fragmentation, the basin plan does not yet reference specific actions, but rather promotes currently available tools for use by county foresters and other land managers.

Comment: NRPC recommends that the strategy to "Protect riparian areas from encroachment and increase flood resilience through conservation easements, floodplain and wetland restoration, as well as encouraging towns to adopt ordinances with a focus on flood prone communities" be amended to clarify that the protection of riparian areas from encroachment is a basin-wide priority.

Response: The top objectives and strategies are considered basin-wide priorities, but because the Tactical Basin Plan is intended to provide focus and target areas for those areas that have been identified by assessments, monitoring, regional and town plans, focus areas were added. No towns in Franklin County were identified during the basin planning process to focus efforts for flood resilience and encroachment. The focus towns identified in the Lamoille basin plan are those recommended by the Lamoille County Planning Commission based on ongoing flood modeling efforts for these towns.

To ensure that the top objectives and strategies are recognized as basin-wide priorities, text was added to the preceding paragraph, "The following is a list of the basin-wide top objectives and strategies identified in the plan targeted to town, watershed, water resource or geographic region based on the most current assessments, inventories, environmental modeling and monitoring data."

Comment: NRPC recommends that the strategy "Reduce Stormwater inputs into water resources in villages and town centers through stormwater master planning and the implementation of existing stormwater mapping inventories" be amended to include mention of green infrastructure and low impact development techniques." (NOTE this comment was also tendered for the Missisquoi Bay Basin Plan).

Response: The strategy was reworded to say "Reduce stormwater inputs into water resources in villages and town centers through stormwater master planning and the implementation of existing stormwater mapping inventories using green infrastructure and low impact development techniques..."

Comment: NRPC states that, "The tactical basin plan identifies sub-basins or catchment areas that are top priorities for reducing phosphorus under each of the land use categories of developed lands (including roads), agriculture, forestry and river corridors", and recommends that, "The tactical basin plan should go one step further and identify the sub-basins or catchment areas that are a priority for multiple point and non-point sources." (NOTE this comment was also tendered for the Missisquoi Bay Basin Plan).

Response: The Lake Champlain Phosphorus TMDL section of the Lamoille Tactical Basin Plan identifies the top twenty catchments that are a priority for multiple point and non-point sources in Table TMDL3. Although this table is broken into sectors, it also provides the top 20 catchments from a multi-sector, non-point source perspective.

Comment: NRPC states "Point source pollutants from wastewater treatment facilities and illicit discharges are described in the tactical basin plan. The plan does not contain any recommendations for needed improvements to wastewater treatment plants. It should be clarified whether this is because they are not included in the basin plan or because none are recommended. (NOTE this comment was also tendered for the Missisquoi Bay Basin Plan).

Response: There are no specific improvements recommended for WWTF in the Lamoille Basin at this time because the 2016 LC TMDL did not modify the allowable phosphorus discharge loads from WWTFs that discharge to Malletts Bay. This does not eliminate requirements for ongoing operation and maintenance, and scheduled engineering performance reviews required of all WWTF. A sentence has been added to clarify this in the Lamoille Plan. In the Missisquoi Plan, additional information upgrades necessary to achieve the Lake Champlain TMDL have been added.

Other comments specific to the Lamoille Plan

Commenter - Brian Bigelow - Town of Underhill Administrator:

Comment: Minor editing corrections and updates to the Municipal Protective Matrix. In addition a recommendation was made to add the Jericho/Underhill Water District to Table F4 in Appendix F, Existing Uses.

Response: All recommended corrections were addressed and the Municipal Matrix was updated to reflect changes with the exception of Table F4. The public water sources listed in Table F4 are surface waters that are managed for the purpose of public water supplies. While the Jericho/Underhill Water District is indeed a public water supply, it relies on wells, not surface water. Thus, there is no documentable existing use of surface water for public water source purposes.

Commenter - Dan Albrecht - CCRPC Planner:

Comment: I suggest adding this text to better define the distinction between LID and GSI. I lifted these definitions from the ANR LID and GSI fact sheets.

Response: Added to plan: "In order to differentiate LID and GSI practices: LID is defined as an innovative land planning and design approach which seeks to maintain a site's pre-development ecological and hydrological function through the protection, enhancement, or mimicry of natural processes, whereas GSI is a suite of systems and practices that restore and maintain natural hydrologic processes in order to reduce the volume and water quality impacts of stormwater runoff."

Comment: Page 47 (now page 54), top sentence: Suggestion to reference additional information sources for Vermont Green Infrastructure Toolkit.

Response: Added to page 54, second paragraph, "The Vermont Green Infrastructure Toolkit is a project of the ten Regional Planning Commissions of the Vermont Association for Planning and Development Agencies (VAPDA) and the Vermont Agency of Natural Resources' Watershed Management Division.

Comment: Suggestion to check with to check with Dennis Lutz or Annie Costandi at the Town of Essex Department of Public Works to see if they have mapped stormwater infrastructure in the portion of the town in the Lamoille watershed.

Response: This information will be shared with Jim Pease, the stormwater planner for the Clean Water Initiative Program to update their stormwater mapping database. VDEC will also suggest that the stormwater planning tables be updated with the 2010 census data.

Comment: Suggest new paragraph before paragraph titled "VTrans Project Identification in the Lamoille Watershed to include Road Erosion Inventory update for the Lower Lamoille watershed.

Response: New paragraph based on suggestion was added to the plan on page 65.

Comment: Suggest adding in a paragraph describing DEC's Brownfields Program and then noting that "Vermont RPCs regularly obtain grants from the EPA to conduct Environmental Site Assessments and prepare Corrective Action Plans which can aid in the cleanup and redevelopment of properties contaminated with hazardous substances and petroleum."

Response: Text was added on page 69, paragraph 3, "VDEC manages the Brownfields Reuse Initiative to encourage brownfield reuse projects as a means of accomplishing positive environmental and human health impacts while advancing sound land-use practices. Additionally, Vermont RPCs regularly obtain grants from the EPA to conduct Environmental Site Assessments and prepare Corrective Action Plans which can aid in the cleanup and redevelopment of properties contaminated with hazardous substances and petroleum."

Comment: Page 111, Figure WLA-3 - Suggest adding in labels for some of the major state roads for reader convenience.

Response: We appreciate this suggestion and will improve maps in the future. The Clean Water Roadmap tool will provide users a higher-resolution set of maps that will also help.

Commenter - Alison Low - NVDA:

Comment: Table II says that Craftsbury does not address flood resilience in its plan. They adopted a new plan with a flood resilience element last summer, and it's on our web site. Can you see that this correction is made?

Response: Correction was made on Table II.

Commenter - Annie Costandi - Town of Essex Stormwater Coordinator:

Comment: Under Section 6.1 on page 58 of the BRCP [Browns River Corridor Plan], it says that individual summary reach reports from Phase 2 database are included in the appendices, but these appendices are not provided at the end of the report or on ANR's Stream Geomorphic Assessment website which links to all of the assessments completed for the Browns River Watershed.

Response: This issue was brought to the attention of the VDEC Rivers Program and the database has been updated to include the Appendices.

Comment: The BRCP projects have also been added to ANR's Watershed Database. The Town cannot find where the projects identified in database are in the corridor plan with the exception of two projects. These two projects are the Browns River Corridor Plan Bridge Project Essex #20 and the Browns River Corridor Plan Essex #27 Structure Replacement. Additionally, the BRCP is outdated. The plan was completed in 2009 and the Town has upgraded stormwater infrastructure, specifically culverts, and completed projects within the Browns River Watershed since 2009. The Town requests that more information regarding the projects identified in the BRCP be provided and that the State work with the Town to ensure the highest priority projects are included in the TBP and in the Watershed Database.

Response: The previously generated reports listed in the Watershed Projects Database are required to be cross-referenced with the Corridor Plans or Stream Geomorphic Assessments on the Rivers Program website (website link included in the plan). New assessments will follow a format to be

entered directly into the Watershed Projects Database and will include location information where appropriate to identify where projects are located. The projects related to the 2009 report are located based on the SGA Reach or River Segment ID and project description. These older reports will be updated where possible with coordination between the town, RPC, and VDEC.

Comment: On pages 114 and 115 of the TBP, the MS4s are required to develop a Phosphorus Control Plan (PCP) on all developed land within the municipality to achieve the percent phosphorus reduction for their respective lake segment. Although it is identified as a general action in the implementation tables under stormwater issues, the Town would like to stress to ANR the importance of incorporating specific projects identified in the PCPs and regularly updating the implementation tables.

Response: VDEC agrees with the Town of Essex on the importance of incorporating projects identified in PCPs and regularly updating the watershed projects database (when new information is available) and the implementation table summaries in the tactical basin plans (every five years). As information is received from the towns, the database will be updated accordingly by the town's RPC, town staff, and VDEC.

Comment: On pages 115 and 116 of the TBP, Table WLA-11 estimates the number of three-acre parcels and associated impervious cover for the Town. The TBP estimates that there are 6 parcels with a total impervious cover of 21.6 acres within the Town. According to the Town's GIS database, there are only 2 parcels with a total of 20.97 acres of impervious cover. The Town requests DEC coordinate with the Town to ensure the information is correct before the three-acre impervious surface permit program is developed.

Response: We have provided this information to the VDEC Stormwater Program and they intend to work with the Towns prior to any 3-acre designation. The estimates in Table WLA-11 are a preliminary coarse estimate of the potentially designated 3-acre parcels.

Commenter - Ryan McCall and Mike Mainer - Vermont Paddlers Club (VPC):

Comment: Recommendations were provided for updates and additions to the boating and recreation use table in Appendix F, table F2.

VPC recommends the following additions/revisions to Table F2. Recreational Boating: (1) The Browns River, from Westford to the Lamoille River, is a highly important Class II-III section popular with beginner and intermediate boaters. Paddlers typically put in at Route 128 in Westford Village and paddle out to the Lamoille River. (2) The Browns River "Gorge", in Jericho Village, is an important class III-IV section. Paddlers typically put in on Old Pump Road and take out at Old Mill Park. (3) Ithiel Falls, approximately ½ mile below Route 15 in Johnson contains a hydraulic feature that can be used for playboating. This feature is important since it is one of only two known to exist on the river, and the only one that is usable at anything but high water. (4) Both the North Branch Lamoille and Gihon Rivers should be considered "Highly Important" as they are the two most popular whitewater runs in the Lamoille watershed.

Response: These entries were evaluated and as appropriate, added to the Existing Use listing.