STATE OF VERMONT
AGENCY OF AGRICUTURE, FOOD AND MARKETS

In re: CLF Petition to Require Mandatory Pollution Control
Best Management Practices for Agricultural Non-Point Sources
Identified in the Missisquoi Basin Plan AAFM Docket # 2014-06-04 ARM

Secretary's Decision

I. Introduction and Background

In today's Decision, the Secretary denies the request to impose mandatory best management practices (BMPs) on farms in the Missisquoi Bay basin. The Secretary directs the Agency of Agriculture, Food and Market's (AAFM) Agricultural Water Quality Program to continue to re-deploy its personnel and accelerate its compliance and enforcement activities in the Missisquoi Bay basin for Vermont's existing agricultural water quality requirements and focus on those farms confirmed through ground inspection to be within critical source areas and in need of additional water quality mitigation efforts.

On May 22, 2014, the Conservation Law Foundation (CLF) filed a Petition under 6 V.S.A. § 4813(a) to require that agricultural operations identified in the Lake Champlain Basin Program (LCBP) report, titled "Identification of Critical Source Areas of Phosphorus within the Vermont Sector of the Missisquoi Bay Basin" (Study), be subject to mandatory BMPs in addition to the requirements of the *Accepted Agricultural Practices Regulations (AAPs).* [1] The Petition included six (6) exhibits consisting of technical reports and the state's March 2013,

1 CLF asked the Secretary to require the following best management practices above and beyond the current *AAP* regulatory requirements: cover cropping, grassed waterways and critical area seeding, vegetated filter strips (buffers) of at least 25 feet along all waterways and field ditches adjoining critical source area agricultural operations, manure incorporation, conservation tillage, livestock exclusion from waterways, and conversion of tilled cropland to permanent cover.

Missisquoi Bay Basin Water Quality Management Plan.

On July 18, 2014, the Secretary held a public hearing in St. Albans to provide farmers and other affected citizens with an opportunity to be heard. The public hearing process extended until August 18, 2014 at 4:30 PM to enable farmers and interested persons additional opportunity to provide written comments.[2]

On August 18, 2014, CLF filed written comments seeking to clarify what it perceives as misperception of the basis for its petition and the relief requested. CLF's written comments also address what CLF asserts is the controlling legal framework and they provide a brief overview of what CLF envisions as the program structure to implement the relief requested. In short, CLF urges the AAFM to fulfill its statutory mandate to "ensure that agricultural animal wastes do not enter the waters of the state." 6 V.S.A. § 4801.

The relevant statute at issue, 6 V.S.A. § 4813, provides that a person with an interest in the agricultural non-point source component of Vermont's basin planning process may petition the Secretary to require BMPs in an individual basin, beyond the *AAPs*, in order to achieve the water quality goals in 10 V.S.A. § 1250 and any duly adopted basin plan.

The statute also provides that, before requiring BMPs, the Secretary shall determine that sufficient financial assistance is available to assist farmers in achieving compliance with applicable BMPs. The statute further provides for an appeal process for any person engaged in farming who is required to implement BMPs and for any person who has petitioned the Secretary under § 4813(a). The *Best Management Practice Regulations* describe the requirements for the contents of a petition filed under § 4813.

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2 Written comments:
https://outside.vermont.gov/agency/agriculture/mississquoi_basin/Public%20Comments/Forms/AllItems.aspx

The Decision to deny the request is based on the facts found and conclusions made as supported by credible information and evidence, and in light of applicable law, with due consideration given to the positions expressed in the Petition, on July 18, 2014 and in all written comment received by August 18, 2014.

II. Findings of Fact

1. Vermont's basin planning is administered by the Department of Environmental Conservation (DEC) under authority of chapter 47 of title 10 for water pollution control. Basin plans are prepared by the Secretary of the Agency of Natural Resources (ANR) for each of Vermont's 17 basins in conjunction with the basin planning process required by the federal Clean Water Act (CWA). The Legislature has delegated discretion to the Secretary of ANR to determine what degree of water quality and clarification should be obtained and maintained for certain waters, and be managed and enforced under the ANR Secretary's supervision.
2. The DEC has developed a 6-step process in a regulatory strategy to monitor and assess the protection and restoration of Vermont's waters by highlighting the projects or actions needed to protect or restore specific waters and identify appropriate funding sources to complete the work. These basin plans identify and prioritize sub-basins of Vermont's major watersheds for enhanced monitoring, assessment, planning, and project development within the life cycle of each plan.
3. Basin plans are data driven, and are developed then updated on a five-year cycle as specified by the Water Quality Standards and as required by 10 V.S.A. § 1253(d). The underlying concept of the basin planning process is to focus resources and attention on a

more concentrated area in a more coordinated fashion so that efficient utilization of resources such as technical assistance and funding can be achieved, and water quality can be protected or improved in a cost effective manner. Coordinating with interested public and private groups is an integral part of the basin planning process.

4. The 2013 water quality basin plan for the Missisquoi bay basin was prepared under 10 V.S.A. § 1253(d), Vermont's water quality standards, the federal Clean Water Act and its federal regulations at 40 C.F.R. § 130.6.1.
5. The major tributary rivers of the Missisquoi Bay watershed are the Missisquoi River, Black Creek, Tyler Branch and Trout River and the Rock and Pike Rivers. The Vermont portion of the Missisquoi Bay watershed, which is shared with the Province of Quebec, is 767,000 acres.
6. The collaborative planning process for the Missisquoi Bay basin started in 2005 with a series of public meetings designed to hear water quality concerns and begin discussing possible solutions. Included in the planning process were farmers, foresters, business owners, municipal officials, anglers, local watershed and lake organizations, environmental advocates, teachers, and regional planners. A watershed council further investigated the identified water quality concerns and potential strategies to address them.
7. In 2006, a watershed council met thereafter to complete the strategies. A watershed coordinator and staff from the AAFM developed draft water quality improvement strategies for the agricultural sector of the plan. With facilitation assistance from the Northwest Regional Planning Commission (NRPC) staff, the council discussed the draft strategies and commented on their relative priority for implementation.

8. The *Missisquoi Bay Basin Plan,* which was adopted in March 2013, is a very detailed scientifically based 93-page plan which focuses on the Vermont portions of the Missisquoi, Rock and Pike River watersheds. The Plan's goal for the Missisquoi Bay and all of the waters in its drainage basin is the sustained ecological health and human use by meeting or exceeding state water quality standards, including targets for phosphorus loading and in-lake phosphorus.
9. The key component of the existing basin plan is the implementation schedule which includes a 14-point agricultural action plan component designed to strategically apply best management practices and increase outreach programs to reduce sediment, phosphorus and pathogens from agricultural activities within the basin. As actions are completed, updates are added to the plan on an ongoing basis.
10. The AAFM is an active partner in the Missisquoi bay basin planning process.
11. As part of the basin planning process a study was conducted by Stone Environmental, Inc. The overall purpose of the Study, with results published in 2011, was to identify critical source areas (CSA) in the Missisquoi Bay basin in order to improve the cost-effectiveness and efficiency of land treatment efforts in that basin to reduce phosphorus loads.
12. The Study was not developed for or intended to be used as the basis for mandatory state-imposed BMPs in the agricultural sector and it has inherent limitations for regulatory use The Study recognizes that upland phosphorous runoff from land-applied animal wastes and sediment from field erosion both contribute to phosphorous pollution. While nutrients and sediment from agricultural non-point sources are the leading contributors,

the Study also found that stream bank erosion is also a significant source of sediment and nutrients in the bay.

13. The Study also employed a modelling analysis based on many assumptions and limited data sets that were available when the analysis was conducted. As one example, the Study used data about 2003 crop plantings from farmers who had received services by the USDA's NRCS. The modelling further assumed simplified crop rotations would occur.

14. The Study also assumed no BMPs had been implemented. However, across the basin, including in many areas modeled as CSA by the Study, farmers have voluntarily employed BMPs, including production area improvements and conservation field practices.

15. The Study's modeling is a prediction. Since the Study was published in 2011, users of its maps confirm that current site assessments are needed to ground-truth the modeled results. The Study is a vital resource for guiding the AAFM's activities within the watershed, and is to be viewed as a part of a broader CSA methodology and as an important screening tool to guide the deployment of on-the-ground work by state and federal entities, extension service, non-governmental organizations, farmers groups, and farmers. The tool provides targeting information for the use of existing technical and financial resources aimed at reducing non-point source phosphorous pollution from agricultural operations.

16. The Study is the best information developed, to date, of predicting where the implementation of BMPs is most likely to make a difference in reducing non-point source phosphorous pollution from agricultural operations. It also verified that certain enhanced field practices offer more benefits than others when strategically deployed, in order to

further target solutions to non-point source phosphorous pollution from agricultural operations.

17. Each farming operation is different. Site specific analysis using tools like the APEX model, in concert with Nutrient Management Plans tailored to each farm's characteristics and operating needs, is required to determine which BMPs will most benefit water quality when implemented on a particular farm. Strategically placed BMPs provide the greatest potential in reduction of phosphorus contribution to the watershed.

18. Farms have incentives to voluntarily implement BMPs on a targeted basis, beyond the water quality benefits. A farm's loss of nutrients or soil due to run off and erosion negatively impacts a farm's productivity and ultimately its economic viability.

19. The desire and need by farmers in the basin for technical assistance and access to available cost-share funding to voluntarily install and implement BMPs outstrips existing available resources.

20. Subsequent to the Study's published results in 2011, state and federal entities, non-governmental organizations, and farmers' groups have continued working in concert to re-focus their efforts conducting outreach and site specific assessments, technical assistance, and existing professional and financial resources to achieve voluntary implementation of BMPs on farms that are confirmed to be CSAs.

21. The AAFM has been working together with the DEC and other stakeholders, including farmers, to develop a rigorous plan to reduce phosphorous discharges within the basin from non-point agricultural sources as required by federal law. The "Vermont Lake Champlain Phosphorous TMDL Phase I Implementation Plan" (TMDL Plan) contains a detailed description of state commitments and timelines.

22. Among others, the TMDL Plan commits to targeted implementation of BMP's in critical source areas, funding for targeted BMPs and Nutrient Management Plan requirements, and increasing the base regulatory standards in the *AAPs*, which are applicable to all farming operations regardless of size or type.

23. The TMDL Plan commitment to increase the base regulatory standards in the *AAPs* includes: 25' vegetated buffers along all perennial streams, the exclusion of livestock from perennial streams where erosion is prevalent, and a reduction in field tolerable soil loss for fields in annual crop production from 2T to T.

24. The TMDL Plan Phase I for Lake Champlain is, at the time of this Decision, in the process of review and development through collaboration between the EPA and the State of Vermont. A portion of that plan with regard to the funding needs of non-point sources of phosphorus pollution reduction programs, including agriculture, provides that the State will submit a report to EPA in November of 2014 as a component of a water quality improvement report to the Vermont Legislature.

25. The existing regulatory standards for Large Farm Operations (LFOs) and Medium Farm Operations (MFOs) are more stringent than the *AAPs*. For instance, both MFOs and LFOs are already required to install and maintain a vegetated 25' (twenty-five foot) buffer on perennial streams, and are required to have Nutrient Management Plans.

26. An unmet need exists for education and outreach resources about the current regulatory requirements of the *AAPs* and the benefit of implementing BMPs. This is particularly true in the case of crop farms, farms with livestock numbers that fall below the statutory level to be considered an MFO, and livestock farms, including non-commercial farms that do not ship milk.

27. The *AAPs* are the minimum water quality regulatory requirements currently enforceable by the AAFM. They are applicable to all farming operations statewide. Additional compliance monitoring and enforcement resources for the *AAPs* are needed, with particular emphasis on small livestock farms, including those that confine horses, beef cattle, hogs, goats, sheep, alpaca and llama.

28. The Petitioner did not file an affidavit with its petition certifying that a complete copy of the petition and required documentation had been sent to the farmer or farmers who are subject to the petition as required by Rule 7.5 of the adopted *BMP Rules*. CLF clarified in testimony on July 18 that the Petition seeks mandatory BMPs on all farming operations identified within areas modeled as CSAs in the Study, regardless of size or type.

29. The AAFM does not have access to the name, address, or contact information for every farming operation in the basin. On the ground field work is needed to confirm the information used to model the CSAs.

30. Without on-the-ground field work to confirm the information used to model the CSAs in the Study, the AAFM does not have access to contact information for every farm within the modeled CSAs to which the Petition is addressed.

31. However, the AAFM does have access to information about many farming operations through its own records or through data sharing agreements with the United States Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) and the University of Vermont's Extension Service. These include farms that ship milk, those with livestock numbers that meet or exceed the minimum threshold to be considered an MFO, farms that have accessed public funding or cost share or assistance from state and federal governmental entities, and farming operations that have been

brought to the AAFM's attention through citizen complaint of alleged regulatory violation, including non-commercial or hobby farms.

32. The data-sharing MOU with the USDA's NRCS prohibits the AAFM from using the data for regulatory purposes, as required by the federal 2008 Farm Bill.

33. During the hearing process, the Petitioner, farmers, non-governmental organizations, and private citizens provided credible information that there are not, at present, sufficient financial resources or technical assistance and professional services to require implementation of mandatory BMPs as requested and subsequently clarified by the Petitioner through its written comments.

III. Conclusions and Rationale

As an initial matter, there is universal agreement among stakeholders on a number of issues raised by the Petition. Water quality in the Missisquoi Bay suffers from an abundance of phosphorous. Historical land uses, including agriculture, transportation, development, forestry and others, have left a legacy load of phosphorous in the bay while modern land use and associated practices contribute on-going phosphorous loading.

The stakeholders recognize that, even if the requested relief is implemented on a mandatory basis, water quality improvement in the bay will not immediately be noticed. Informed stakeholders understand that a constellation of factors contribute to excessive aquatic plant and algae growth, including the more recent and recurring large volume rainfall events that exacerbate sediment and nutrient run off from stream banks and farm fields. The complex and technical nature of the Petition's exhibits exemplify that non-point source pollution, by its very nature, is difficult to measure. Evaluating the extent of non-point source contribution of

phosphorous across the various land uses has not been an easy task. As described in the *Missisquoi Bay Basin Plan*, the collaborative planning process for the basin started in 2005 and has brought resources and renewed commitment to bear on assessing the issues and targeting a strategy to most efficiently address and reduce agricultural non-point source phosphorous pollution in the most cost-effective manner.

The stakeholder collaboration that developed the *Missisquoi Bay Basin Plan* also supported the CSA Study. The Study's results provide all stakeholders with clarity – and a unifying guidepost – to advance on the course of action needed. The work is on-going.

There is universal agreement that BMPs, when targeted and implemented on a farm specific basis that includes field level assessment, can reduce the contribution of phosphorus to the lake from agricultural operations in the basin while also increasing long term farm productivity and economic viability.

The BMPs as defined in state law are farm management practices that go above and beyond the current regulatory requirements in the *AAPs* applicable to all farming operations which are enforceable by the AAFM. Vermont's LFO and MFO livestock farm permitting programs, which are more stringent in many respects in terms of water quality regulation than the federal CAFO program, also provide additional water quality regulatory requirements above and beyond the *AAPs*. Many farms in the basin, including farms within the modeled CSAs, have already employed BMPs, but there is no comprehensive database to account for the BMPs already implemented, where they are implemented, how long they have been deployed, and no assessment of overall effectiveness.

The Vermont Legislature developed a statutory scheme in § 4813 that provides incentives for voluntary BMPs and provides the Secretary with authority to mandate BMPs on a case by

case basis as part of regulatory enforcement or basin wide. It is evident from the credible information in the record that much of what the Petition seeks to have mandated is work that is already underway in the basin, supported by incentives and marked by extensive voluntary participation, or deployed and maintained in response to the existing regulatory requirements of the AAPs and Vermont's LFO and MFO farm permitting programs, such as the requirement to maintain 25' vegetated buffers along perennial streams.

There is no question that additional work and resources are needed, including enhanced enforcement of existing water quality requirements. This year's algae bloom is compelling evidence that more work is needed. More funding is needed for voluntarily implemented farm conservation practices, including the suite of BMPs requested in the Petition, and is required under the state law upon which this Petition is based to be available for any mandated improvements aimed at protecting water quality. 6 V.S.A. § 4813(c). The stakeholder community continually seeks additional resources to address unmet needs. The public partners, the AAFM, the DEC, and our federal counterparts, each value the support of stakeholders to seek additional public funding for water quality efforts. As noted in the Findings, the funding needs and strategy to address the agricultural non-point sources of phosphorous pollution to Lake Champlain are interwoven in the EPA's TMDL approval process and the State executive and legislative appropriation process. The Petitioner has acknowledged more resources to implement BMPs are needed and has pledged to assist in that quest.

Vermont's plan of action to do more on a statewide and basin-wide basis is described in the TMDL Plan proposal and reflects the combination of voluntary and mandatory public policy described in § 4813. The TMDL Plan proposal is supported by those stakeholders who participated in the collaborative planning process that resulted in the 2013 Missisquoi Basin

Plan.

In order to carry out the objectives of the federal CWA, States are required to identify waters for which pollution controls need to be enhanced. 33 U.S.C.A. § 1313(d). The State is then required to set a total maximum daily load (TMDL) for those waters. Once identified, and approved by the EPA, the State must then incorporate the TMDL Plan for the water body into the State's continuing planning process for water pollution control. 33 U.S.C.A. § 1313(e). That continuing planning process must also be approved and reviewed by the federal EPA. In order to be approved by the EPA under the CWA, the State's continuing planning process must include, in addition to any TMDLs, applicable basin plans, and schedules for compliance with water quality standards.

When a TMDL is developed for waters such as Lake Champlain that are impaired by both point and nonpoint sources, and the NPDES permits issued for direct point source discharges are based on an assumption that nonpoint source load reductions will occur, the EPA requires that the TMDL should provide reasonable assurances that nonpoint source control measures will achieve expected pollution reductions.

Thus, the TMDL Plan for Lake Champlain for phosphorus is legally intertwined under federal law with Vermont's basin plans for the Lake, including the *Missisquoi Bay Basin Plan.* Given the controlling nature of federal law with respect to the impairment of Lake Champlain for phosphorus, any decisions made under 6 V.S.A. § 4813 for BMPs regarding the Missisquoi Bay basin must be consistent with the elements of the TMDL Plan currently being proposed by EPA under 33 U.S.C.A. § 1313(d)(2). The Petitioner's written comments expressly challenge the "reasonable assurances" provision of the newly proposed TMDL for Lake Champlain made by Vermont to the EPA as being not sufficient under federal law with respect to implementation of

BMPs in the Missisquoi watershed. A petition filed under 6 V.S.A. § 4813 of state law is not a substitute process for a challenge to the TMDL process under federal law.

The reasonable assurances set forth in the proposed TMDL Plan establish actions and implementation timeframes using scientific methodologies and available technical research to meet the TMDL load allocation targets and water quality standards. These assurances rely upon various sources of data and assumptions about the interplay of multiple variables. The scientific and statistical veracity of the data is useful but is not always conclusive when it comes to the results of the models utilizing this data.

The TMDL plan requires implementation of targeted BMPs in the modeled critical source areas, but is further informed by additional research on the phosphorus reduction values of certain field practices which were not evaluated in the 2011 Study, such as cover crops, reduced tillage, and manure injection and aeration, reduced soil compaction, precision nutrient application, management of farm roads and controlled tile drainage. The TMDL Plan requires funding for these targeted BMP and Nutrient Management Plan requirements in the Missisquoi Bay as well as St. Albans Bay and South Lake, but on-going, on-the-ground work is needed to identify which farms and which BMPs to implement. The farms cannot be conclusively identified or specific BMPs mandated solely based on the modeling in the CSA study.

The TMDL Plan requires updating the statewide *AAPs* which are mandatory and enforceable regulatory standards. The updated requirements which will be sought through rule-making include 25' buffers along all perennial streams, no matter the farm size, the exclusion of livestock from perennial streams where erosion is prevalent, a reduction in field tolerable soil loss for fields in annual crop production from 2T to T on all small farms, and a small farm *AAP* compliance certification process.

In some respects, the Petition may be premature. While the underlying intent of what is requested is on the mark, the form of relief requested – mandatory BMPs on all farms in areas modeled as CSAs in the Study - cannot realistically be implemented or administered on programmatic level based on the Study alone. The Petition, moreover, improperly shifts the burden to the AAFM to identify the farms entitled to notice and a formal opportunity to be heard before BMPs are mandated, and who are entitled to appeal a decision to mandate BMP to court under § 4813. The AAFM's BMP Rules, which implement the basin management provisions in 6 V.S.A. § 4813, required the Petitioner CLF to document the water quality violations, and provide qualified data which reasonably demonstrated that there is a correlation between the water quality violation and the farmers' practices, rather than just submit generalized, albeit well-intentioned, assertions. These farm identification activities alone require extensive ground-truth to locate and verify farms needing BMPs because the Study was based on assumptions and incomplete data-sets from one point in time. The Study's limitations, coupled with the procedural infirmity of the failure to include an affidavit with the Petition as required by the *BMP Rules*, and the failure to demonstrate a reasonable correlation between any water quality violation and a farmer's or farmers' practices are reasons alone to deny the request at this point in time.

Vermont has a long and proud history of independence, fairness, and community, as exemplified by its motto of "freedom and unity." Many farms have already implemented BMPs, work is on-going, and more work and resources are being brought to bear for voluntary BMPs and increased enforcement of existing standards. Regulations with minimum standards such as the *AAPs*, the MFO and LFO Rules and General Permits that make sense are embraced by a regulated community. A regulatory community expects voluntary compliance by all of its

members, assistance for those who need help with compliance, and fair and equitable enforcement of those who do not comply. The TMDL Plan's approach provides the commitments and timelines to meet these expectations. A raised threshold in the *AAPs,* coupled with the stakeholders' on-going targeted work that is guided by the 2011 CSA Study, is strong incentive and a message for those farmers who are not making progress to actively seek assistance and improve their farming practices.

Many Vermonters are familiar with the phrase "a rising tide raises all boats." The TMDL Plan's comprehensive approach to water quality includes raising the minimum regulatory floor of the *AAPs* by adding certain best management practices supported by research and leaders in the agricultural community. These practices raise the floor of the *AAP's* minimum regulatory threshold while also helping to prevent the loss of productive soil and nutrients from farm fields which ultimately contribute to the productivity and economic viability of farming. Coupled with the on-going targeted efforts, this increased regulatory threshold under the TMDL process is the better course than what is being requested in the CLF Petition to stem the tide of non-point source phosphorous contribution from agricultural operations across the state and provide enhanced water quality standards for all farms, regardless of size or location, including those both inside and outside the Basin. The rule-making activities to enhance the *AAPs* provide an additional venue for thoughtful collaborative work and civil discourse among stakeholders to complement Vermont's on-going enforcement work of existing mandatory water quality standards.

In summary, the CLF Petition is hereby denied for the following reasons, as more fully set forth above:

1. The Petition impermissibly conflicts with EPA's TMDL process currently under way

pursuant to the federal Clean Water Act; and

2. The Petition fails to adequately document the water quality violations at issue, and fails to provide data which reasonably demonstrates that there is a correlation between the water quality violations and the farmer's or farmers' practices in order to require specific BMPs on individual farms; and
3. There is insufficient financial assistance available at this time to assist farmers in achieving compliance with the applicable best management (BMP) practices called for in the Petition as required by 6 V.S.A. § 4813(c).

Although this Decision denies the relief requested in the Petition, each farming operation in the basin remains subject to the statutory scheme outlined in § 4813, including the possibility that BMPs may be required on a case by case basis as a result of the AAFM's compliance and enforcement activities. An increase in the *AAP* standards which will be sought as part of the TMDL process may also prove difficult for some farms to meet. The Petition and this Decision can be considered a fair and meaningful warning to those farmers not making adequate progress. The AAFM's Agricultural Water Quality Program shall continue to re-deploy its existing resources and accelerate compliance and enforcement efforts in the Missisquoi Bay basin.

SO ORDERED

Chuck Ross

Secretary of Agriculture, Food and Markets

Date of Entry: 11-17-14

APPEAL RIGHTS

Any person engaged in farming that has been required by the secretary of agriculture, food and markets to implement best management practices or any person who has petitioned the secretary of agriculture food and markets under 6 V.S.A. § 4813(a) may appeal the secretary's decision to the environmental division of superior court within 30 days de novo.