THE TRANSITION TOWARDS THE 2016 LAKE CHAMPLAIN TMDL: A SURVEY OF SELECT WATER QUALITY LITIGATION IN VERMONT FROM 2003–2015

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INTRODUCTION

Lake Champlain is treasured by Vermonters. Vermonters sail, fish, and swim in the lake. The lake also provides drinking water for Vermonters, "attracts businesses and tourists to the region and is a major driver of the State's economy."[1] Lake Champlain is also a very real indicator of the health of Vermont's beautiful streams and rivers: nine of Vermont's fourteen counties are located in the Lake Champlain Basin.[2] At the same time, phosphorus pollution from "farm fields, barnyards, homes, roads, parking lots and streambanks, and in wastewater discharges" have significantly degraded the water quality in Lake Champlain.[3] "In excessive amounts, phosphorus and the associated algal growth can impair

1. VT. AGENCY OF NAT. RES. & VT. AGENCY OF AGRIC., FOOD & MKTS., VERMONT LAKE CHAMPLAIN PHOSPHORUS TMDL PHASE 1 IMPLEMENTATION PLAN 1 (2015) [hereinafter ANR PHASE 1 IMPLEMENTATION PLAN].

2. *Political Boundaries*, LAKE CHAMPLAIN BASIN PROGRAM, http://www.atlas.lcbp.org/HTML/nat_political.htm [https://perma.cc/87BD-PC4H] (last visited Apr. 3, 2016).

3. ANR PHASE 1 IMPLEMENTATION PLAN, *supra* note 1, at 1.

recreational uses and aesthetic enjoyment, reduce the quality of drinking water, and alter the biological community. In some cases, algal blooms—particularly cyanobacteria (or blue-green algae)—can produce toxins that harm animals and people."[4]

Vermont identified numerous lake segments as high priority "impaired" waters more than decade ago,[5] but the water quality in the "lake has been slow to improve."[6] Under the federal Clean Water Act, Vermont must identify waters that do not or are not expected to meet the Vermont Water Quality Standards after requiring technology-based effluent limits for point sources.[7] These waters are "impaired," and the State must include these waters on a "Section 303(d) list."[8] Once a State identifies a water as impaired for one or more pollutants, Vermont must develop a pollution budget (i.e., Total Maximum Daily Load or TMDL) for the water that ensures compliance with water quality standards.[9] Although the State received approval from EPA for a Lake Champlain TMDL in 2002, EPA later withdrew its approval.[10] EPA and the Agency of Natural Resources ("ANR") recently released a revised and more robust TMDL for the Lake,[11] which was finalized on June 17, 2016.[12]

Vermonters are passionate about protecting Lake Champlain and other lakes, rivers, and streams. It should come as no surprise then that Vermonters have often turned to the courts to protect the waters they cherish. This article provides a high-level survey of key water quality litigation that has helped highlight the deficiencies in the 2002 Lake Champlain phosphorus TMDL and set the stage for the adoption of the 2016 Lake Champlain Phosphorus TMDL. Specifically, this article summarizes state litigation related to phosphorus pollution from stormwater

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4. *Id.* at 14.

5. U.S. ENVTL. PROT. AGENCY NEW ENGLAND, REVIEW OF THE VERMONT PORTION OF LAKE CHAMPLAIN PHOSPHORUS TMDL 4 (2002) [hereinafter 2002 PHOSPHORUS TMDL APPROVAL].

6. ANR PHASE 1 IMPLEMENTATION PLAN, *supra* note 1, at 1.

7. Clean Water Act § 303(d)(1)(a), 33 U.S.C. § 1313(d)(1)(A) (2012).

8. *See id.* (requiring all states to identify and rank waters where the water quality is insufficient).

9. *See id.* § 1313(d)(1)(C) (requiring all states to establish total maximum daily loads for waters with insufficient water quality).

10. U.S. ENVTL. PROT. AGENCY, RECONSIDERATION OF EPA'S APPROVAL OF VERMONT'S 2002 LAKE CHAMPLAIN PHOSPHORUS TOTAL MAXIMUM DAILY LOAD ("TMDL") AND DETERMINATION TO DISAPPROVE THE TMDL 2 (Jan 24, 2011), http://www.epa.gov/sites/production/files/2015-09/documents/2002-lake-champlain-tmdl-disapproval-decision.pdf [https://perma.cc/697S-WEVY] [hereinafter EPA DISAPPROVAL DETERMINATION].

11. *See* ANR PHASE 1 IMPLEMENTATION PLAN, *supra* note 1, at 1 (discussing the plan for a new TMDL for Lake Champlain).

12. *Lake Champlain Phosphorus TMDL: A Commitment to Clean Water*, U.S. ENVTL. PROT. AGENCY, https://www.epa.gov/tmdl/lake-champlain-phosphorous-tmdl-commitment-clean-water [https://perma.cc/R8CM-ESHD] (last visited at July 22, 2016).

discharges, wastewater treatment plants, and agricultural activities.[13] In addition, the article provides a summary of the federal lawsuit that ultimately led to the U.S. Environmental Protection Agency's ("EPA") disapproval of the 2002 Lake Champlain TMDL.

I. STORMWATER DISCHARGE PERMITS

Stormwater runoff is a significant contributor to the phosphorus problem in Lake Champlain.[14] Water that runs off roofs, roads, parking lots, and other paved surfaces carries pollution into Vermont waters, which includes phosphorus, nitrogen, metals, sediment, and other pollutants.[15] One area of water quality law that has been particularly fraught with litigation in Vermont relates to the State's residual designation authority ("RDA") for stormwater discharges under the federal Clean Water Act and Vermont's delegated National Pollutant Discharge Elimination System ("NPDES") program. The increase in litigation is due to the significant pollution threat caused by stormwater discharged and the challenges associated with treating these discharges.

With respect to stormwater, discharges from municipal sewer systems and those associated with industrial activity must obtain a state NPDES permit.[16] In addition, discharge permits are required for any stormwater "discharge which the [State] . . . or the EPA Regional Administrator[] determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States."[17] This provision is known as the "RDA" for stormwater discharges.[18] Federal regulations set forth specific factors that a state or EPA Regional Director must consider when making this determination, including the location and size of the discharge, quantity and nature of the discharged pollutants, and

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13. For a comprehensive overview of water pollution in Vermont, see generally Daniel D. Dutcher & David J. Blythe, *Water Pollution in the Green Mountain State: A Case Study of Law, Science, and Culture in the Management of Public Water Resources* 13 VT. J. ENVTL. LAW 705 (2012).

14. ANR PHASE 1 IMPLEMENTATION PLAN, *supra* note 1, at 16.

15. *See* U.S. ENVTL. PROT. AGENCY, PROTECTING WATER QUALITY FROM URBAN RUNOFF 1 (2003) (describing the different sources of urban runoff and pollutants contained within that runoff).

16. 33 U.S.C. § 1342(p)(2); 40 C.F.R. § 122.26(a)(1) (2015).

17. 33 U.S.C. § 1342(p)(2)(E); 40 C.F.R. § 122.26(a)(1)(v).

18. Act 64 of 2015 expressly incorporates this authority into state law. *See* VT. STAT. ANN. tit. 10, § 1264(e) (2015) ("The Secretary shall require a permit . . . for a discharge or stormwater runoff from any size of impervious surfaces upon a determination by the Secretary that the treatment of the discharge or stormwater runoff is necessary to reduce the adverse impacts to water quality . . . .").

"other relevant factors."[19] As EPA has recognized, RDA can be an important tool for states to clean up and protect water quality.[20]

Over the course of five years, the Conservation Law Foundation ("CLF"), Vermont Natural Resources Council ("VNRC"), ANR, and other stakeholders fought at the Water Resources Board, the Vermont Supreme Court, and Vermont's Environmental Court to determine the scope of the State's RDA as it applied to five impaired streams: Potash, Englesby, Morehouse, Centennial, and Bartlett Brooks.[21] The issue at the heart of the litigation was when the Agency must "exercise its residual designation authority."[22] After the dust settled, it appears clear that "residual designation authority is not optional."[23] Although the state has some discretion to determine whether an existing stormwater discharge contributes to water quality standard violations, Vermont must exercise its RDA and require a discharge permit once it makes this determination.[24] As discussed, this RDA is a powerful tool to clean up and protect water quality in Vermont.

In 2003, CLF and VNRC filed a petition that kicked off the litigation.[25] The Petition sought individual NPDES permits for existing stormwater discharges into several streams that the Water Resources Board had previously determined were impaired due to stormwater discharges.[26] ANR denied the petition, and CLF and VNRC appealed the decision to the Water Resources Board.[27]

ANR and several intervenors initially argued that the Water Resources Board did not have jurisdiction to hear the appeal because the "Vermont Water Pollution Control Act does not contain any express authority for

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19. 40 C.F.R. § 122.26(a)(1)(v).

20. *See, e.g.*, National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges, 64 Fed. Reg. 68,722, 68,781 (Dec. 8, 1999) ("In today's rule, EPA believes, as Congress did in drafting section CWA 402(p)(2)(E), that individual instances of storm water discharge might warrant special regulatory attention, but do not fall neatly into a discrete, predetermined category. Today's rule preserves the regulatory authority to subsequently address a source (or category of sources) of storm water discharges of concern on a localized or regional basis. For example, as States and EPA implement TMDLs, permitting authorities may need to designate some point source discharges of storm water on a categorical basis either locally or regionally in order to assure progress toward compliance with water quality standards in the watershed.").

21. *See, e.g.*, *In re* Stormwater NPDES Petition, No. 14-1-07 (Vt. Envtl. Ct. Aug. 28, 2008).

22. *Id.*

23. *In re* Stormwater NPDES Petition, 2006 VT 91, ¶ 21, 180 Vt. 261, 910 A.2d 824, 833 (2006).

24. *Id.*

25. *Stormwater NPDES Petition*, No. 14-1-07.

26. *Id.*

27. *Id.*

ANR to act on petitions" to exercise the State's RDA.[28] Thus, ANR argued, the petition "must be characterized as a request for rulemaking under the Vermont Administrative Procedure Act" and the Water Resources Board lacked jurisdiction to review the Agency's decision.[29] The Board disagreed, noting that section 1258(b) of the Vermont Water Pollution Control Act directed "ANR to use 'the full range of possibilities' under section 402 to administer the state program and to meet its objectives."[30] The Board also found that Vermont law "specifically requires ANR's stormwater management program to be consistent with 'applicable requirements of the federal Clean Water Act.'"[31] Among other things, the Board was also persuaded by the fact that federal regulations require that delegated states have the authority to implement 40 C.F.R. § 122.26, which includes the RDA and petition process.[32] In total, the Board concluded that "Vermont does not directly apply federal law. However, the Vermont Water Pollution Control Act is broadly written and intended to authorize ANR to fully implement the Clean Water Act in Vermont."[33] Thus, the Water Resources Board determined the appeal was properly before it.[34]

Once the CLF and VNRC appeal cleared these initial procedural hurdles, the next issues before the Water Resources Board were whether: (1) Act 140 of 2004 excused ANR from exercising RDA; (2) "a discharge of stormwater [is] subject to NPDES permitting if the discharge contributes to a violation of water quality standards even if it has not been shown that the discharge also constitutes a significant contributor of pollutants" to impaired waters; and (3) a petitioner is required to "identify every discharge that contributes to violations of the Vermont Water Quality Standards in the waters at issue."[35]

First, the Board found that Act 140 did not excuse the State from exercising RDA where cleanup plans to protect water quality are not in place for the streams.[36] The Water Resources Board rejected ANR and opponent arguments that federal regulations allow delegated states to

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28. *Id.* at 11.
29. *Id.* at 11.
30. *Id.* at 12.
31. *Id.* at 13. (quoting VT. STAT. ANN. tit. 10, § 1264(b)(4).
32. *Id.* at 13 (citing 40 C.F.R. § 123.25(a)(9)).
33. *Id.* at 13.
34. The Water Resources Board also rejected a similar procedural argument advanced by ANR and the intervenors, which was that the Board lacked jurisdiction because this particular petition was a request for a rulemaking relating to its residual designation authority as opposed to a petition to force ANR to exercise its residual designation authority in specific instances. *Id.* at 15–17.
35. *Id.* at 18. ANR also raised several additional procedural issues that the Water Resources Board did not find persuasive. *Id.* at 2–5.
36. *Id.* at 6.

consider "other relevant factors" like state policy preferences expressed in Act 140 when determining whether to exercise its RDA.[37] When determining whether stormwater discharges "contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States . . . [ANR] may consider the following factors:

> (A) The location of the discharge with respect to waters of the United States . . . ;
> (B) The size of the discharge;
> (C) The quantity and nature of the pollutants discharged to waters of the United States;
> (D) Other relevant factors."[38]

The Board found that the section (D) category must be "reasonably read in the same fashion" as the other three factors, which "clearly relate to . . . technical considerations."[39] Thus, Act 140 alone does not excuse ANR from compliance with the federal Clean Water Act.[40] The Board made clear that "residual designation is not optional."[41]

Second, the Board rejected arguments that a petitioner must prove that the stormwater discharge alone would adversely impact water quality or that the discharge is a "significant contributor of pollutants to the receiving waters."[42] Finally, the Board agreed with CLF and VNRC that a petitioner is not required to identify all stormwater discharges that require a NPDES permit.[43] The Board stated that "[i]t would not be reasonable for the law to require NPDES permits for categories of stormwater discharges but to limit the petition process to one discharge at a time. Moreover, if a category were appropriate for NPDES permitting, it is the state's responsibility to effectuate the permitting process, rather than the responsibility of citizen petitioners to identify every discharge that might be involved."[44]

The Board denied the motions to dismiss the appeal, reversed ANR's denial of CLF and VNRC's petition, and remanded the matter back to ANR to exercise its RDA subject to a determination as to whether a *de minimis* threshold applied.[45]

ANR and other parties appealed the Water Resources Board decision to the Vermont Supreme Court in 2006. While the Supreme Court ultimately

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37. *Id.* at 5.
38. 40 C.F.R. § 122.26(a)(1)(v).
39. *Stormwater NPDES Petition*, No. 14-1-07.
40. *Id.*
41. *Id.* at 6.
42. *Id.* at 8.
43. *Id.* at 10.
44. *Id.* at 11.
45. *Id.* at 12.

did not find the Appellants' procedural arguments persuasive, the Court reversed the Board's decision because the "Board erroneously encroached on the Agency's authority in assuming that the discharges contribute to violations of water quality standards . . . ."[46] Implicit in the Board's decision was that existing stormwater discharges contribute to water quality standard violations in the streams identified in the CLF and VNRC petition.[47] In making this determination, the Board effectively applied the doctrine of collateral estoppel by relying on two prior cases that involved permits issued under the state stormwater program for stormwater discharges into the streams.[48] In both cases, the Board had expressly declined to address compliance with federal permit requirements.[49] The Court found that the Board incorrectly applied the doctrine of collateral estoppel because the issue raised in the prior cases was not the same issue in this case.[50] The Court noted that

> [t]he question before the Board in this case was whether, under the federal NPDES permitting program, the Agency was compelled to exercise its residual designation authority to require federal discharge permits. Resolution of this issue, which the Board was careful to avoid in both earlier decisions, involves a particularized, fact-specific determination on a case-by-case basis as to whether certain discharges or categories of discharges 'contribute to a violation of a water quality standard.'[51]

The Court noted that, "while the Agency's residual designation authority is not optional, its discretion in exercising that authority is broad . . . ."[52] The Court went on to state, however, that "[i]t is equally apparent . . . that the Agency erred in summarily denying the petition rather than undertaking the requisite fact-specific analysis under its RDA to determine whether NPDES permits were necessary for the discharges in question."[53] The Court reversed the Board's decision and remanded the matter back to ANR to determine whether the stormwater discharges identified in the CLF and VNRC petition contribute to water quality standard violations.[54]

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46. *In re Stormwater NPDES Petition*, 2006 VT ¶ 1, 180 Vt. at 264, 910 A.2d at 824.
47. *Id.* ¶ 23, 180 Vt. at 274–75, 910 A.2d at 834.
48. *Id.*
49. *Id.* ¶ 24, 180 Vt. at 275, 910 A.2d at 834.
50. *Id.*
51. *Id.* ¶ 26, 180 Vt. at 276, 910 A.2d at 835.
52. *Id.* ¶ 28, 180 Vt. at 276, 910 A.2d at 835.
53. *Id.* ¶ 29, 180 Vt. at 277, 910 A.2d at 836.
54. *Id.* ¶ 29–30, 180 Vt. at 277, 910 A.2d at 836.

After this decision, ANR denied the CLF and VNRC petition a second time.[55] In its denial letter, ANR determined it was "not prudent or necessary" to exercise its RDA and that ANR would "consider residually designating the discharges" after ANR issues a TMDL and a general watershed permit for the area.[56] Once again, CLF appealed—this time to the Environmental Court.[57] ANR had gathered site-specific data regarding existing discharges and the streams over the past two years.[58] The issue before the Environmental Court was, in light of ANR's fact-specific analysis, "whether ANR is now compelled to exercise RDA . . . ."[59] The court noted that "ANR has some discretion to determine whether a discharge 'contributes' to a violation, but once that determination is made in the affirmative, ANR is compelled to exercise RDA."[60] In order to make the contribution determination, the Court noted that ANR must identify stormwater discharges and loads. If these existing discharges "load more pollutants into the impaired [streams] than the existing remedial efforts remove—in a more than net 'de minimis' amount—then the discharges must be deemed to 'contribute' to violations of water quality standards."[61]

Based on a review of the data regarding the streams, the Court concluded that "it is undisputed that the five [streams] at issue in this case are impaired and that specifically identified stormwater discharges into these [streams] are causing material impairments" and that existing remedial efforts do not remove a sufficient amount of pollution.[62] The Court held that ANR was compelled to exercise its RDA authority, granted CLF's petition, and remanded the matter back to ANR to implement the RDA authority.[63] The Agency issued RDA General Permit No. 3-9030.[64] As of November 19, 2009, designated discharges into Bartlett, Centennial, Englesby, Morehouse, and Potash Brook watersheds require coverage under the general permit.[65]

In the aftermath of this litigation, Vermont has recognized the residual authority designation as an important tool in its toolbox to clean up and

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55. *Stormwater NPDES Petition,* No. 14-1-07.
56. *Id.* at 14.
57. *Id.*
58. *Id.* at 11–13.
59. *Id.* at 18.
60. *Id.* at 25.
61. *Id.* at 26.
62. *Id.* at 27, 33.
63. *Id.* at 36.
64. *Residual Designation Authority (RDA)*, DEP'T ENVTL. CONSERVATION, http://dec.vermont.gov/watershed/stormwater/permit-information-applications-fees/rda#General Permit [https://perma.cc/KJ6Q-89XG] (last visited Apr. 3, 2016).
65. *Id.*

protect water quality in Lake Champlain and across the state. Act 64 of 2015 expressly incorporates the RDA into Vermont law. Section 1264(e) states that "[t]he Secretary shall require a permit under this section for a discharge or stormwater runoff from any size of impervious surfaces upon a determination by the Secretary that the treatment of the discharge or stormwater runoff is necessary to reduce . . . adverse impacts to water quality . . . ."[66] Further, in the draft Vermont Lake Champlain Phosphorus TMDL Phase I Implementation Plan, the Agency identifies its RDA as a tool to reduce phosphorus loading from stormwater discharges.[67] ANR notes that it plans to implement Tactical Basin Planning to identify specific instances when RDA is appropriate for impervious surfaces and individual or categories of point sources.[68]

II. WATER QUALITY AND WASTEWATER EFFLUENT LIMITS UNDER THE 2002 LAKE CHAMPLAIN TMDL

For most of the early decades of the implementation of the Clean Water Act, the implementation focus has been on point source discharges.[69] "Phosphorus loading to Lake Champlain is dominated by 'nonpoint sources,' which are generated by runoff and erosion across the landscape, as opposed to 'point sources' such as wastewater and certain stormwater discharges that are conveyed by a pipe and are more closely regulated."[70] Wastewater treatment facilities ("WWTFs") represent three percent of the total amount of phosphorus being discharged into the Lake.[71] Notwithstanding the small contribution of phosphorus loadings into the Lake, wastewater treatment plants have been the focus of several court challenges due to the legal structure of the Clean Water Act and the fact that point source discharges are generally easier to monitor and control compared to more diffuse water pollution like urban runoff and runoff from farms.

ANR is authorized to administer the federal Clean Water Act.[72] ANR must adopt water quality standards,[73] prevent direct and indirect discharges without a permit,[74] and establish the minimum criteria for discharge permits

66. VT. STAT. ANN. tit. 10, § 1264(e)
67. ANR PHASE 1 IMPLEMENTATION PLAN, *supra* note 1, at 84.
68. *Id.*
69. U.S. ENVTL. PROT. AGENCY, INTRODUCTION TO THE CLEAN WATER ACT 2, http://cfpub.epa.gov/watertrain/pdf/modules/introtocwa.pdf [https://perma.cc/NPH7-AXDK].
70. ANR PHASE 1 IMPLEMENTATION PLAN, *supra* note 1, at 1.
71. *Id.* at 32.
72. VT. STAT. ANN. tit. 10, Ch. 47.
73. VT. STAT. ANN. tit. 10, § 1252.
74. *Id.* § 1259(a).

within the state.[75] Vermont's Water Pollution Control Regulations heavily incorporate the federal requirements for the administration of the state's direct discharge program.[76]

The 2002 Lake Champlain TMDL established limitations on phosphorus at 60 WWTFs that were designed to reduce 22,300,000 metric tons per year of phosphorus.[77] The limitations within the 2002 Lake Champlain TMDL were expressed in an annual mass limit established for each facility discharging into the Lake Champlain basin.[78] For the majority of facilities, annual limits were defined by taking a 0.6 mg/l concentration limit and applying that to the design flow for the facility.[79] Since the actual discharges were less than the permitted discharge at design capacity for many facilities, ANR established an average monthly concentration limit of 0.8 mg/l was set for these facilities, which allowed them to meet a mass discharge amount of 0.6 mg/l.[80]

ANR determined that a mass limit was the more appropriate standard because

> [a]lthough critical conditions occur during the summer season in some lake segments when algae growth is more likely to interfere with uses, water quality in Lake Champlain is generally not sensitive to daily or short term loading. With a water residence time of about two years . . . the lake generally responds to loadings that occur over longer periods of time (e.g. annual loads).[81]

In addition to the limits established in the 2002 Lake Champlain TMDL, the Vermont General Assembly placed statutory limitations on the level of phosphorus concentrations from a WWTF.[82] A discharge into Lake Champlain or Lake Memphremagog with average monthly concentration greater than 0.8 mg/l was prohibited, and the Secretary could establish

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75. VT. STAT. ANN. tit. 10, § 1263(a).

76. *See generally* Vermont Water Pollution Control Permit Regulations, VT. STAT. ANN. tit. 10, § 1258.

77. VT. DEP'T OF ENVTL. CONSERVATION, FACT SHEET: LAKE CHAMPLAIN PHOSPHORUS TMDL 2 (2002), http://dec.vermont.gov/sites/dec/files/documents/WSMD_mapp_2002_LC%20P%20tmdl%20FS.pdf [https://perma.cc/64P5-5NYL].

78. *Id.* at 22.

79. *Id.* at 2.

80. *See id.* at 24, 26 (showing that the actual load was less than the permitted flow for many of the facilities).

81. *In re* City of S. Burlington, No. WQ-03-02, 2003 WL 23066940, at *3 (Vt. Water Res. Bd. Dec. 29, 2003).

82. VT. STAT. ANN. tit. 10, § 1266a(a).

phosphorus wasteload allocations or concentration limits that are necessary to comply with a TMDL or attain Vermont Water Quality Standards.[83] Further, this section required ANR to establish a schedule for compliance with these concentration limitations based upon the availability of funds; further, a municipal discharger was not required to comply with revised effluent limitations if funding was not available.[84] When effluent limits were required as a part of a Lake Champlain TMDL, ANR was obligated to pay 100 percent of the costs of any upgrade.[85] These funding provisions were eliminated as a part of Act 64 of 2015.[86]

A. In re City of South Burlington and Town of Colchester WWTF

The City of South Burlington operates a WWTF and contracts with the Town of Colchester to serve portions of the Town with wastewater service.[87] After the adoption of the 2002 Lake Champlain TMDL, the City applied for and was granted a renewal of its permit. The permit established an annual mass phosphorus limit consistent with the 2002 Lake Champlain TMDL, which was based on the WWTF's operation at design flows at a concentration limit of 0.6 mg/l. In addition to the annual mass limit, the permit also contained a condition that established an average monthly effluent limit of 0.8 mg/l.[88]

CLF appealed the permit asserting that the permit's annual phosphorus limitation would not meet the requirements of the 2002 Lake Champlain TMDL and that average monthly concentration limits of 0.6 mg/l are required.[89] CLF argued that because ANR failed to include a monthly average concentration limit of 0.6 mg/l in the permit, the facility would not meet its annual load limits when operating at design capacity.[90]

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83. *Id.* § 1266a(a)–(b). Note that there was an exception to this general prohibition. If a facility had a discharge of less than 200,000 gallons per day and was permitted on or before July 1, 1991 it was not subject to the 0.8 mg/L restriction; however, the Secretary could establish a more stringent discharge as a part of a TMDL.

84. VT. STAT. ANN. tit. 10, § 1266a(c).

85. Awards for Pollution Abatement Projects to Abate Dry Weather Sewage Flows, Act 64 of 2015, VT. STAT. ANN. tit. 10, §1625(e) (proposed amendment).

86. *Id.*

87. *City of S. Burlington*, 2003 WL 23066940, at *2.

88. *Id.*

89. *Id.* at *3. In addition to the phosphorus limits in the permit, CLF also challenged the validity of effluent limits established for biological oxygen demand, total suspended solids, and ammonia, asserting that they cause or contribute to a violation of water quality standards and the sufficiency monitoring in the permit. *Id.* at *1. Since they are not related to the interrelationship between the TMDL and water quality based effluent limit they are not discussed as a part of this article.

90. *Id.* at *7.

The Water Resources Board found that state and federal law require that the limit must ensure compliance with the 2002 Lake Champlain TMDL and that permit conditions less stringent than the TMDL would not ensure compliance with water quality standards.[91] The Board went on to observe that the 2002 Lake Champlain TMDL does not establish average monthly concentrations for WWTFs; rather, the TMDL establishes an annual mass load for each facility's phosphorus discharge.[92] In light of the fact that the permit conditions met the requirements of the 2002 Lake Champlain TMDL, the Board affirmed the phosphorus discharge limits contained within South Burlington's permit and dismissed CLF's appeal.[93]

B. In re Village of Enosberg Falls WWTF

The Village of Enosberg Falls operates a WWTF that discharges into the Missisquoi River and ultimately Lake Champlain.[94] The Village of Enosberg Falls applied and received a renewal permit in 2003.[95] That permit was appealed by CLF.[96]

CLF raised four arguments in their appeal: (1) the 2002 Lake Champlain TMDL cannot act as a shield that allows discharges that cause or contribute to violations of water quality standards; (2) effluent limitations more stringent than those contained within the TMDL must be applied if necessary to protect water quality standards; (3) ANR failed to implement the TMDL; and (4) ANR violated its permitting regulations by failing to include daily average and maximum quantitative effluent limits.[97] Issues one, three, and four were dismissed on procedural grounds and the Board proceeded to the merits on issue two.[98]

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91. *Id.* at *8.
92. *Id.*
93. *Id.* at *9.
94. Village of Enosburg Falls No. WQ-03-03 1 (Vt. Water Res. Bd. Apr. 21, 2004) (decision).
95. *Id.*
96. *Id.*
97. *Id.* at 3.
98. *Id.* at 5–7. The Board found that the question of whether the permit was consistent with the TMDL was resolved by the *City of South Burlington* case. *Id.* at 5. With respect to the implementation of the TMDL, the Board found that CLF failed to support this claim with sworn affidavits and therefore the claim was not properly raised. *Id.* Finally, the Board found that in light of its prior findings it did not need to address CLF's argument that the "[p]ermit unlawfully authorizes water quality standards violations" because it failed to contain daily effluent limitations. *Id.* at 7. The Board found that CLF's claim that the failure to include daily effluent limits in the permit was also a separate and distinct violation of state regulations was waived because CLF did not identify this issue in the Notice of Appeal. *Id.*

CLF claimed that effluent limitations more stringent than those contained within the 2002 Lake Champlain TMDL must be applied until the TMDL is fully implemented and water quality standards have been attained.[99] CLF claimed that the 2002 Lake Champlain TMDL cannot authorize discharges that cause or contribute to the violation of a water quality standard.[100] According to CLF, the WWTF is required to meet those effluent limitations either through offsets or treatment.[101]

The Board rejected CLF's argument, finding that "a TMDL and its accompanying implementation plan provide the means of establishing water quality based effluent limitations in discharge permits."[102] The Board went on to state that "[t]he idea that effluent limitations for discharges of pollutants of concern into impaired waters cannot be justified by a valid TMDL defies the logic of water quality based permitting and would render the TMDL process meaningless."[103] The Board then affirmed the phosphorus limits within Enosburg Falls' permit and dismissed CLF's claim with respect to this issue.[104]

C. In re Montpelier WWTF Discharge Permit

The City of Montpelier operates a WWTF that discharges into the Winooski River, which ultimately discharges into Lake Champlain.[105] In 2008, Montpelier received a renewal of its permit that established an annual limit on phosphorus of 7,253 pounds of phosphorus.[106] In setting these limits, the Agency relied on the 2002 Lake Champlain TMDL and did not perform any additional analysis in setting the effluent limitations for phosphorus.[107] CLF appealed the permit claiming that the permit did not meet the requirements of the Clean Water Act or the Vermont Water Pollution Control Act because the phosphorus limits did not protect water quality.[108] The Court ultimately held that the phosphorus limits in the Montpelier permit were invalid for two reasons: (1) the automatic adoption of a water quality based effluent limit ("WQBEL") from a TMDL more than five years old "violates the five-year limitation on NPDES permits";

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99. *Id.* at 6.
100. *Id.*
101. *Id.*
102. *Id.*
103. *Id.*
104. *Id.* at 7–8.
105. *See generally In re Montpelier WWTF Discharge Permit*, No. 22-2-08, 2009 WL 4396740, at *2 (Vtec. June 30, 2009).
106. *Id.*
107. *Id.*
108. *Id.*

and (2) there was no "specific analysis . . . to determine whether [the] WQBEL . . . derived from [the] TMDL is 'consistent with the assumptions and requirements of [the] available wasteload allocation.'"[109] In reaching this conclusion, the Court noted that its decision "does not lead to a conflict with the Champlain TMDL, which remains the ceiling beyond which the permit WQBEL cannot pass."[110]

The Court distinguished this decision from the finding of the Water Resources Panel in *Enosburg Falls*, finding that in that instance only a year-and-a-half had run since the adoption of the Lake Champlain TMDL, whereas in the case of Montpelier more than six-and-a-half years had passed.[111] The Court observed that "[i]n that intervening period, the five year statutory time limit for NPDES permits has run, and there has been ample time to study whether the underlying assumptions of the Champlain TMDL have been met to bring Lake Champlain into compliance with water quality standards."[112] The Court found that relying on a WQBEL established more than five years ago violated the requirements of 33 U.S.C. § 1342(b)(1)(B).[113] The Court examined several other permit appeals when courts found that efforts of a permitting agency to place an effluent limit that extended beyond the permit terms were impermissible.[114] The Court then applied the same rationale with respect to wasteload allocations developed in a TMDL greater than five years old.[115] The Court found that those wasteload allocations cannot be used as a substitute for conducting an analysis to ensure that the statutory requirements of establishing a WQBEL for phosphorus at a facility have taken place.[116]

In addition to its conclusion with respect to the five-year permitting requirement, the Court found that the Agency failed to meet the requirements for establishing a WQBEL under 40 C.F.R. part 122.44(d)(1)(vii)(B).[117] The Court found that the regulation requires an analysis of the underlying assumptions of a TMDL prior to relying on the wasteload allocation for a facility under the TMDL.[118] The Court reviewed the 2002 Lake Champlain TMDL in depth, examining the assumptions

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109. *Id.* at 3–5 (quoting 40 C.F.R. § 122.44(d)(1)(vii)(B)).
110. *Id.* at 15.
111. *Id.* at 8.
112. *Id.*
113. *Id.* at 8.
114. *Id.* at 7–10.
115. *Id.* at 8.
116. *Id.*
117. *Id.* at 14.
118. *Id.*

made in the document related to nonpoint reductions that were to take place under the TMDL.[119] The Court stated that

> the TMDL assumptions that were made in 2002 become problematic when they are used as the sole basis for setting a WQBEL in 2008, particularly when these assumptions were never checked in the actual permit application process, despite evidence that Lake Champlain is currently receiving roughly twice the levels of phosphorus compared to what was allowed under its approved loading capacity in the 2002 Champlain TMDL.[120]

The Court noted that its decision did not dictate what the results of the analysis of the TMDL assumptions would be; rather, ANR must review the assumptions a TMDL is based upon and ensure any WQBELs derived from a wasteload allocation are consistent with the underlying assumptions of the TMDL during the permit review.[121]

III. AGRICULTURAL WATER QUALITY AND MISSISQUOI BAY

Agricultural nonpoint source pollution represents approximately forty percent of the phosphorus load to the Lake, making it the largest single phosphorus source in the Basin.[122] With respect to Missisquoi Bay, the predominance of agricultural land in the Basin makes agricultural nonpoint sources the primary sources of phosphorus—the pollutant that supports algal blooms in Missisquoi Bay—and also sources for other pollutants.[123] In the 1990s, Vermont established an agricultural water quality program with the primary purpose of preventing animal wastes from reaching waters of the state.[124] In order to reach this goal, the State has adopted required agricultural practices ("RAPs")[125] that apply to all farms.[126] The RAPs form the floor of management practices that farms are required to implement to prevent discharges of waste to surface or ground waters.[127] The RAPs

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119. *Id.* at 15.
120. *Id.* at 15–16.
121. *Id.* at 18.
122. ANR PHASE 1 IMPLEMENTATION PLAN, *supra* note 1, at 44.
123. AGENCY OF NAT. RES., MISSISQUOI BASIN PLAN 22 (2013).
124. *See* VT. STAT. ANN. tit. 6, Chapter 215 (2015); VT. STAT. ANN. tit. 6, § 4801(1) (2011).
125. Originally, required agricultural practices were referred to as "Accepted Agricultural Practices" and were changed to "Required Agricultural Practices" as a part of Act 64 of 2015. For purposes of consistency, both will be referred to as the "Required Agricultural Practices." VT. STAT. ANN. tit. 6, § 4810(a)(1), *amended by* VT. STAT. ANN. tit. 6, § 4810(b).
126. VT. STAT. ANN. tit. 6, § 4810(b).
127. *Id.*

establish general standards and practices that apply to farms, such as prohibiting the direct discharge of an agricultural waste into a water of the state[128] and more specific requirements like requiring manure stacking 100 feet from a surface water.[129]

In addition to RAPs, the law establishes a process for the Secretary of the Agency of Agriculture, Food and Markets ("VAAFM") to require site specific best management practices ("BMPs") to address specific concerns that may exist on a farm.[130] Under Vermont law, BMPs are "site-specific on-farm conservation practices implemented in order to address the potential for agricultural pollutants to enter the waters of the State."[131] The regulations state that "[b]est management practices are site specific on-farm remedies implemented either voluntarily or as required in order to address water quality problems and in order to achieve compliance with state water quality standards."[132] Any person may petition the Secretary of VAAFM to require a BMP on a farm.[133] Prior to the enactment of Act 64 of 2015—before requiring that BMP—the Secretary of VAAFM was required to find that "sufficient financial assistance is available to assist the farmer in implementing the applicable BMP."[134]

In 2013, CLF petitioned the Secretary of VAAFM to require BMPs for farms throughout the Missisquoi Basin.[135] CLF asserted that Missisquoi Bay is the largest contributor of phosphorus to the lake when compared to all other lake segments and that agriculture is the primary source of phosphorus loadings in the lake segment.[136] CLF relied primarily on reports developed by the ANR and VAAFM in support of its claims.[137] CLF petitioned the VAAFM to develop a process to identify critical source areas of phosphorus and impose BMPs for farms in the region to reduce nonpoint phosphorus discharges to waters in the basin.[138]

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128. Agricultural Practices Rule for the Agricultural nonpoint Source Pollution Control Program, Act 64 of 2015 § 1.1–1.2 (proposed amendment) (Second draft).

129. *Id.* § 6.02(e).

130. VT. STAT. ANN. tit. 6, § 4810(c).

131. *Id.*

132. In comparison, EPA regulations state that BMPs "mean[] schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of 'waters of the United States.' BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage." 40 C.F.R. § 122.2.

133. VT. STAT. ANN. tit. 6, § 4813(a).

134. VT. STAT. ANN. tit. 6, § 4810(a)(2), *amended by* VT. STAT. ANN. tit. 6, § 4810(c) (Supp. 2015).

135. Petition from Anthony N. L. Iarrapino, Esq., Senior Attorney, Conservation Law Found. to Chuck Ross, Sec'y, Vt. Agency of Agric., Food & Mkts. (May 22, 2014).

136. *Id.*

137. *Id.*

138. *Id.*

VAAFM scheduled a public hearing on the petition to accept comments from the community and issued a final decision on CLF's petition on July 14, 2014.[139] VAAFM refused to grant CLF's petition on three grounds: (1) the petition impermissibly conflicts with EPA's TMDL process currently under way; (2) the petition impermissibly shifts the burden of identifying farms that have water quality violations to the Secretary of VAAFM; and (3) there is insufficient financial assistance available to assist farmers in achieving compliance with BMPs.[140]

CLF appealed the Secretary of Vermont Superior Court's decision to the Environmental Division, Superior Court on December 16, 2014.[141] The State of Vermont and CLF entered settlement negotiations to resolve their dispute. During the course of those settlement negotiations two key developments took place with respect to agricultural water quality.[142] First, the Vermont General Assembly passed Act 64 of 2015, which made significant changes to the law governing agricultural water quality, including eliminating the requirement that the Secretary of VAAFM consider the availability of financial assistance prior to requiring a BMP.[143] In addition, the Natural Resources Conservation Service significantly increased the funding available to assist with water quality improvements on a farm.[144]

On September 4, 2015, the Secretary of VAAFM issued an initial revised decision that made the threshold finding that BMPs are necessary in the Missisquoi Bay watershed in order to assure compliance with water quality standards and established a process for the implementation of a BMP program within that watershed.[145] That decision was finalized on February 3, 2016, following notice and a public hearing on the program.[146]

The program will provide for one year of education and outreach efforts by AAFM to explain the requirements of the RAPs and BMPs and the availability of financial assistance.[147] After the conclusion of that one-year period, VAAFM must notify all permitted large and medium farming

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139. CHUCK ROSS, VT. AGENCY AGRIC., FOOD & MKTS., IN RE: CLF PETITION TO REQUIRE MANDATORY POLLUTION CONTROL BEST MANAGEMENT PRACTICES FOR AGRICULTURAL NON-POINT SOURCE IDENTIFIED IN THE MISSISQUOI BASIN PLAN 2 (2014).

140. *Id.* at 16–17.

141. *Id.* at 2.

142. *Id.* at 2–3.

143. *Id.* at 2.

144. *Id.* at 3.

145. CLF Petition to Require Mandatory Pollution Control Best Management Practices for Agricultural Non-Point Sources Identified in the Missisquoi Basin Plan. AAFM No. 2014-06-04 ARM 3 (Vt. Agency of Agric., Food, & Mkt. Feb. 2, 2016) (revised secretary's decision).

146. *See* ROSS, *supra* note 139, at 2, 15 (explaining that the decision went through notice and comment before the Secretary finalized it).

147. *Id.* at 12.

operations, farm operations that have a license to ship milk, and farms required to certify as meeting the RAPs of the requirement to have an assessment of the potential impacts of farm operations on water quality.[148] VAAFM is required to assess all farms and require BMPs where appropriate over a period of ten years.[149] Once assessed, the farm is required to submit a plan for financing and implementation of BMPs on a schedule developed by AAFM.[150] Additional flexibility is given to farms working with VAAFM to obtain funding and implement the BMP plan.[151]

As a part of the settlement, CLF agreed not to petition AAFM under the BMP statute or assist any third party in petitioning AAFM for a period of ten years provided VAAFM was in conformance with the revised decision.[152] VAAFM plans to assess several other watersheds that are significantly impaired due to agricultural pollutants to determine whether the BMP framework should apply to those watersheds.[153]

IV. DISAPPROVAL OF THE 2002 LAKE CHAMPLAIN TMDL

In addition to the water quality litigation related to stormwater discharges, wastewater treatment plants, and agricultural activities during this time period, the 2002 Lake Champlain TMDL itself was the subject of legal action.[154] Under the federal Clean Water Act, Vermont must identify waters that do not or are not expected to meet the Vermont Water Quality Standards after requiring technology-based effluent limits for point sources.[155] These waters are "impaired," and the State must include these waters on a Section 303(d) list.[156] Once a water is identified as impaired for one or more pollutants, Vermont must develop a pollution budget for the water that ensures compliance with water quality standards.[157] EPA must

148. *Id.*
149. *Id.* at 13.
150. *Id.*
151. *Id.*
152. Draft Stipulation of the Parties for Remand at 4–5, *In re* CLF Petition to Require Mandatory Best Management Practices for Agricultural Non-point Sources Identified in the Missisquoi Basin Plan AAFM No. 2014-06-04 ARM, Vtec (Aug. 31, 2015) (No. 175-12-14) (draft stipulation).
153. *Id.* at 5.
154. Complaint at ¶¶ 1, 8, Conservation Law Foundation v. Envtl. Prot. Agency (D. Vt. Oct. 28, 2008) (No. 2:08-cv-00238) [hereinafter CLF Complaint].
155. 33 U.S.C. § 1313(d)(1)(A).
156. *See id.* (requiring all states to identify and rank waters where the water quality is insufficient).
157. *See id.* § 1313(d)(1)(C) (requiring all states to establish total maximum daily loads for waters with insufficient water quality).

approve the TMDL.[158] If EPA does not approve the TMDL, EPA must develop a TMDL that protects water quality.[159]

On November 4, 2002, EPA approved the Vermont portion of the 2002 Lake Champlain Phosphorus TMDL.[160] In 2008, CLF filed a lawsuit in federal district court challenging EPA's approval of the Vermont portion of the 2002 Lake Champlain Phosphorus TMDL.[161] CLF did not appeal the New York portion of the 2002 Lake Champlain TMDL and it remains in effect today. CLF and EPA ultimately settled the lawsuit in 2010 and EPA agreed to reconsider its decision to approve the Vermont portion of the TMDL.[162] On January 24, 2011, EPA withdrew its approval of the Vermont portion of the 2002 Lake Champlain Phosphorus TMDL.[163]

In its lawsuit, CLF asserted that the Vermont portion of the 2002 Lake Champlain Phosphorus TMDL violated the Clean Water Act in four ways: "margin of safety, stringency of WLAs in light of reasonable assurance that sufficient load reductions would occur, aggregation of stormwater WLAs, and climate change considerations associated with the loading capacity and hydrologic base year."[164] First, CLF claimed that ANR's "implicit" margin of safety—using conservative modeling assumptions—did not protect water quality or meet the requirements of the Clean Water Act.[165] A TMDL must include a margin of safety ("MOS") to account for any lack of knowledge

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158. *Id.* § 1313(d)(2).

159. *Id.* § 1313(d)(2).

160. 2002 PHOSPHORUS TMDL APPROVAL, *supra* note 5, at 2, 3.

161. Shortly before filing the complaint in federal court, CLF filed a petition with EPA seeking withdrawal of Vermont's authority to administer the federal NPDES program or a requirement that the State implement corrective actions to ensure compliance with the Clean Water Act. Envtl. & Natural Res. Law Clinic, Vt. Law Sch. for Conservation Law Found., Petition for Withdrawal of the National Pollutant Discharge Elimination System Program Delegation from the State of Vermont at 1 (Aug. 14, 2008) [hereinafter CLF, De-delegation Petition]. The petition alleged that Vermont had "failed to administer the NPDES program in accordance with the Clean Water Act" because Vermont did not: "adequately enforce against polluters; failed to comply with the public participation provisions of the CWA; failed to regulate concentrated animal feeding operations (CAFOs); and failed to promulgate and implement an anti-degradation implementation plan." *Id.* After five years of discussions and a corrective action plan for eight areas of the State's program, EPA determined that Vermont addressed all of EPA's concerns in December of 2013 except for one, which required a legislative amendment. *See* Letter from H. Curtis Spalding, Reg'l Adm'r, U.S. Envtl. Prot. Agency, to Laura Murphy, Envtl. & Nat. Res. Law Clinic, Vermont Law School, et al. (Dec. 13, 2013) (on file with recipient) (explaining the history of discussions concerning Vermont's potential corrective actions and stating the remaining issue of the need for a legislative amendment to create a permanent solution for regulating municipal discharges of phosphorus).

162. Letter from H. Curtis Spalding, Regional Administrator, U.S. Envtl. Prot. Agency, to Deborah Markowitz, Secretary, Vt. Agency of Nat. Res. (Jan. 24, 2011) (addressing discussions between CLF and EPA concerning the lawsuit that was settled in 2010) [hereinafter EPA Disapproval Letter].

163. *Id.*

164. *Id.* at 3.

165. *See* CLF Complaint at ¶¶ 61–67.

concerning the relationship between load and wasteload allocations and water quality.[166] The EPA guidance in effect during that time allowed states to incorporate an MOS into the TMDL through "conservative assumptions in the analysis" or by setting aside loadings for the MOS.[167] During its review, EPA found that while the two conservation assumptions ANR relied on "provide[] some level of MOS for certain segments, neither component provides an MOS for all segments."[168] Thus, EPA agreed with CLF that ANR's MOS did not meet the requirements of the Clean Water Act.[169]

CLF's second claim was that the TMDL failed to provide "reasonable assurances" that the projected nonpoint source phosphorus reductions would actually occur in light of the insufficiently stringent limits for wastewater treatment plants and other point sources.[170] Under the Clean Water Act, wasteload allocations may be less stringent "[i]f best management practices or other nonpoint source pollution controls make more stringent load allocations practicable."[171] EPA guidance provides that a "TMDL must provide 'reasonable assurances'[172] that nonpoint source control measures will achieve expected load reductions" if the TMDL relaxes wasteload allocations for point sources.[173] CLF asserted that ANR relied on unimplemented programs and "numerous, unproven nonpoint source controls" to support less stringent wasteload allocations for wastewater treatment plants and other point sources.[174] EPA agreed with CLF and concluded that ANR's reasonable assurances analysis was woefully inadequate.[175] The only actual program EPA identified that would provide reasonable assurance that phosphorus would be reduced from nonpoint source controls was expected to reduce "less than one percent of the reductions needed to meet the load allocations."[176] According to EPA,

166. EPA Disapproval Determination Letter, *supra* note 162, at 3.
167. *Id.*
168. *Id.* at 8.
169. *Id.*
170. *See* CLF Complaint at ¶¶ 47–60.
171. EPA Disapproval Determination Letter, *supra* note 162, at 8 (quoting 40 C.F.R. § 130.2(h)–(i)).
172. *See* Memorandum from Robert Perciasepe, Assistant Administrator, U.S. Envtl. Prot. Agency, to Regional Administrators and Regional Water Division Directors, U.S. Envtl. Prot. Agency Re New Policies for Establishing and Implementing Total Maximum Daily Loads (TMDLs) ("In watersheds impaired by a blend of point and nonpoint sources, this TMDL Process guidance document provides that where any wasteload load allocation to a point source is increased based on an assumption that loads from nonpoint sources will be reduced, the State must provide "reasonable assurances" that the nonpoint source load allocations will in fact be achieved.").
173. *Id.* at 8.
174. CLF Complaint at ¶¶ 49–52.
175. EPA Disapproval Determination Letter, *supra* note 162, at 11–12.
176. *See id.* at 11 (discussing the Watershed Improvement Permit program).

all other reasonable assurances in the TMDL implementation plan were just recommendations and relied on additional funding and voluntarily cooperation.[177] Thus, EPA found that ANR's reasonable assurances did not support the relaxed standards for point sources.[178]

CLF also complained that the TMDL did not comply with the Clean Water Act because the TMDL included a "gross wasteload allocation for nonwastewater point sources, rather than requiring individual allocations" and did not account for impacts associated with climate change.[179] EPA dismissed both of these arguments, finding that Vermont was allowed to establish a gross wasteload allocation based on the available data at the time the TMDL was prepared.[180] In addition, given the lack of specificity of guidance related to climate change and "high level of uncertainty associated with the regional impacts of climate change at the time," EPA concluded that Vermont's loading capacity analysis and hydrologic base year choice was "scientifically sound and adequately documented."[181]

Although EPA disapproved the TMDL based only on the MOS and "reasonable assurances" deficiencies, EPA made clear that the revised TMDL would be based on new available information and current EPA guidance, and "refinements" to other components of the TMDL were expected.[182] In its disapproval letter, EPA noted that it intended to work collaboratively with the Agency to develop a revised TMDL.[183] EPA recognized the "good work the State and other entities have been engaged in to restore Lake Champlain" and the "many excellent projects and programs implemented to reduce phosphorus inputs to the Lake."[184] During the years that followed, EPA, ANR, and VAAFM worked together to develop the new Phosphorus TMDL for Lake Champlain.[185] EPA issued the final TMDL on June 17, 2016.[186]

CONCLUSION

ANR states that "[p]hosphorous pollution is the greatest threat to clean water in Lake Champlain."[187] Phosphorus pollution from stormwater

177. *Id.*
178. *Id.* at 12.
179. CLF Complaint at ¶¶ 68–80.
180. EPA Disapproval Determination Letter, *supra* note 162, at 13.
181. *Id.* at 14.
182. *Id.* at 16.
183. EPA Disapproval Determination Letter, *supra* note 162.
184. *Id.*
185. *Lake Champlain Phosphorus TMDL: A Commitment to Clean Water*, *supra* note 12.
186. *Id.*
187. ANR PHASE 1 IMPLEMENTATION PLAN, *supra* note 1, at 1.

discharges, wastewater treatment facilities, and agricultural activities all contribute to the loadings that can choke the lake with algae, harming both wildlife and humans.[188] Despite identifying Lake Champlain as a high priority for cleanup more than a decade ago, past efforts have fallen far short of what is needed to restore the health of Lake Champlain. Water quality litigation related to phosphorus pollution from stormwater discharges, wastewater treatment plants, and agricultural activities over the last several years has helped to identify the deficiencies in the 2002 Lake Champlain TMDL and lay the foundation for a stronger and more effective 2016 Lake Champlain TMDL.

188. *Id.*