

Bethany Sargent
Program Manager, Monitoring and Assessment Program
Agency of Natural Resources
Department of Environmental Conservation
Watershed Management Division
1 National Life Drive, Davis 3
Montpelier, VT 05620-3533
bethany.sargent@vermont.gov

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Hannah Smith
Staff Attorney
Agency of Natural Resources
Department of Environmental Conservation
Watershed Management Division
1 National Life Drive, Davis 3
Montpelier, VT 05620-3533
Hannah.smith@vermont.gov

by e-mail: bethany.sargent@vermont.gov; hannah.smith@vermont.gov

Re: Comments on the Proposed Vermont Water Quality Standards Rule

Dear Bethany and Hannah:

Lake Champlain Committee, Connecticut River Conservancy, Conservation Law Foundation, and Vermont Natural Resources Council appreciate the opportunity to submit the following comments on the proposed revision-amendments to the 2017 Vermont Water Quality Standards (VWQS). We are especially grateful to the Vermont Agency of Natural Resources' Department of Environmental Conservation (DEC or Department) for the extensive stakeholder input process prior to the release of the Draft Rule, as well as the opportunity to comment in the formal rulemaking process.

Our comments on the proposed VWQS Draft Rule (Draft Rule) include both narrative explanations and specific in-text recommended edits. Should the Department experience any confusion regarding these comments or their organization, we remain available to discuss and clarify at any time. We appreciate the Department's consideration of these comments.

GENERAL COMMENTS

A. The Need for Monitoring Pesticides in Vermont's Surface Waters

As we have historically commented, our organizations continue to urge the Agency of Natural Resources (ANR) and Department to proactively implement water quality sampling and monitoring practices for pesticides in surface waters throughout the State. Although the Agency

of Agriculture, Food & Markets (AAFM) is specifically charged under 6 V.S.A. Chapter 87 and the Vermont Regulations for Control of Pesticides with the majority of regulatory-pesticide-related tasks including pesticide registration, licensing, certificates, and certain permitting programs (among other responsibilities under the regulations), ANR and the Department also have a critical role to play in ensuring the minimization of pesticides on non-target organisms, surface waters, and the environment-at-large.

The Department's National Pollutant Discharge Elimination System (NPDES) Pesticide General Permit (PGP) relating to discharges from the application of pesticides to waters of the State is an excellent regulatory example of the important interplay between pesticide application, water quality, and the Department's role in ensuring that impacts from the pesticides applied on, or over, surface waters are minimized.¹ Increased water quality sampling and monitoring by the Department will both help inform staff on pesticide applications—which may, or may not, have existing coverage under the PGP—and allow the Department to effectively coordinate and inform AAFM of pesticide applications impacting waters of the State, all of which provides additional protections to the environment and the health of Vermonters.

Related, as we discuss in further detail below under Section B, there is an increasing amount of scientific research being published about the presence of per- and polyfluoroalkyl substances (PFAS) in pesticides, and subsequently surface waters.² On October 5, 2021, Conservation Law Foundation and Public Employees for Environmental Responsibility (PEER) sent a letter to department commissioners and agency secretaries across New England—including leadership in Vermont—notifying them of the alarmingly high concentrations of PFAS in pesticides products registered and used in every New England state and the need for protective state responses, including water quality testing in surface waters, as well as pesticide product testing.

More recently, the Environmental Protection Agency (EPA) notified industries about fluorinated high-density polyethylene (HDPE) products, including pesticide storage containers, and the linkage for PFAS to form and migrate from HDPE items.³ Relevant here, as an example in Vermont, a close look at the Otter Creek Watershed Insect Control District's (OCWICD) historic and current adulticide applications in the towns of Brandon, Leicester, Salisbury, Goshen, Pittsford, and Proctor reveals a strong likelihood of the presence of PFAS in the pesticides that

¹ See e.g. STATE OF VERMONT, AGENCY OF NATURAL RESOURCES, DEPT. OF ENV. CONSERVATION, NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PESTICIDE GENERAL PERMIT 9 (July 15, 2022), https://dec.vermont.gov/sites/dec/files/wsm/lakes/PGP/VT_NPDES_PGP_2022.pdf (specifying a under section 3.1 that all Operator's "must minimize the discharge of pesticides to waters of the State . . .").

² See e.g. Press Release, Env't Prot. Agency, EPA Releases Testing Data Showing PFAS Contamination from Fluorinated Containers (Mar. 5, 2021), <https://www.epa.gov/newsreleases/epa-releases-testing-data-showing-pfas-contamination-fluorinated-containers>; Letter from Tala R. Henry, Deputy Director, Office of Pollution Prevention & Toxics, U.S. Env't Prot. Agency, to Manufacturers, Processors, Distributors, Users, & Those that Dispose of Fluorinated Polyolefin Containers (Mar. 24, 2022), https://www.epa.gov/system/files/documents/2022-03/letter-to-fluorinated-hdpe-industry_03-16-22_signed.pdf; see also Env't Prot. Agency, EPA Announces New Drinking Water Health Advisories for PFAS Chemicals, \$ Billion in Bipartisan Infrastructure Law Funding to Strengthen Health Protections (June 15, 2022), <https://www.epa.gov/newsreleases/epa-announces-new-drinking-water-health-advisories-pfas-chemicals-1-billion-bipartisan>.

³ See Press Release, Env't Prot. Agency, EPA Releases Testing Data Showing PFAS Contamination from Fluorinated Containers (Mar. 5, 2021), <https://www.epa.gov/newsreleases/epa-releases-testing-data-showing-pfas-contamination-fluorinated-containers>.

have been, and are currently being applied, which may make their way to waters of the State. Pesticide applications by OCWICD include roadside spraying of Permanone⁴, a permethrin-based adulticide which in 2021 was found to be contaminated with PFAS.⁵

Importantly here, PFAS is merely one of many harmful contaminants in pesticides, which have the potential to negatively impact the State’s surface waters—supporting our recommendation that the Department perform sampling, monitoring, and testing for pesticides in surface waters. To this end, we fully understand that water quality sampling and analysis for pesticides in surface waters across the entire State is likely cost prohibitive. In response, however, we recommend that the Department develop a prioritization methodology to assess which pesticides applied in Vermont are likely to appear in the State’s waters at potentially harmful levels, based on use patterns, chemistry, fate, transport, etc. With this, by example, the Department could monitor for the most heavily applied pesticides, like glyphosate-related products, in the surface waters of large agricultural regions, for example, Otter Creek and Lewis Creek in Addison County and the Missisquoi River in Franklin County. Akin to PEER’s research on the presence of PFAS in pesticides, the U.S Geological Survey’s (USGS) recent surface water sampling analysis and results performed in Chittenden and Franklin Counties revealing a host of alarming levels of pesticide compounds further underscores the urgency for the Department to perform sampling and testing.⁶

B. Taking Bold Action on PFAS

Over the past few decades per- and polyfluoroalkyl substance contamination has risen into a global health crisis. Indeed, the ongoing research reveals that PFAS is toxic to humans in very small concentrations—in the *parts per trillion*.⁷ Alarmingly, we know that humans are exposed to numerous PFAS chemicals on a daily basis ranging from drinking water, air, food, dust, carpets, furniture, personal care products, clothing, and more.⁸ PFAS chemicals are a public

⁴ OCWICD applied 103.7 gallons of Permanone in 2020, and an unknown proportion of Permanone in 710.7 gallons of “Permanone/Permasene” in 2021 according to their annual reports published with each town in the District. See TOWN OF SALISBURY ANNUAL REPORT, FISCAL YEAR ENDING JUNE 30, 2021 38–39 (February 2022), https://www.townofsalisbury.org/vertical/sites/%7B59D8C83C-9968-4A65-BB2B-00DE19899066%7D/uploads/FY_2021_Town_Report.pdf; see also TOWN OF SALISBURY ANNUAL REPORT FISCAL YEAR ENDING JUNE 30, 2020 32 (February 2021), https://www.townofsalisbury.org/vertical/sites/%7B59D8C83C-9968-4A65-BB2B-00DE19899066%7D/uploads/FY20_Salisbury_Town_Rpt_v4.pdf.

⁵ See e.g., Press Release, March 24, 2021, Public Employees for Environmental Responsibility, PFAS Found in Widely Used Insecticide, <https://peer.org/pfas-found-in-widely-used-insecticide/>.

⁶ See SERENA MATT, U.S. GEOLOGICAL SURVEY, SYNOPTIC STUDY OF GLYPHOSATE, NEONICOTINOIDS, AND SELECTED OTHER PESTICIDES IN STREAMS DRAINING TO LAKE CHAMPLAIN FROM URBAN AGRICULTURAL SOURCES NEAR BURLINGTON, VERMONT, 2021 (JUNE 10, 2022), <https://www.sciencebase.gov/catalog/item/627954a8d34e8d45aa6e3c0a> (highlighting results from a study designed to measure concentrations of glyphosate, aminomethylphosphonic acid (AMPA, a product of glyphosate degradation in the environment), and several neonicotinoids in selected urban and agricultural streams located in the Lake Champlain Basin of Vermont that was conducted in the spring, summer, and fall of 2021).

⁷ *Per- and Polyfluoroalkyl Substances (PFAS) and Your Health*, AGENCY FOR TOXIC SUBSTANCES & DISEASE REGISTRY (last accessed June 20, 2022), <https://www.atsdr.cdc.gov/pfas/health-effects.html>; U.S. DEP’T HEALTH & WUMAN SERV. AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, TOXICOLOGICAL PROFILE FOR PERFLUOROALKYLS 5–6 (May 2021), <https://www.atsdr.cdc.gov/toxprofiles/tp200.pdf>.

⁸ ANNA READE AND KATHERINE PELCH, NATURAL RESOURCES DEFENSE COUNCIL, TECHNICAL COMMENTS TO VERMONT AGENCY OF NATURAL RESOURCES RE: ADVANCE NOTICE ON THE REGULATION OF PERFLUOROALKYL,

health perfect storm because they are (1) toxic in small concentrations; (2) persistent in the environment; (3) bioaccumulative; (4) highly mobile in water; (5) used in hundreds of different industrial and commercial processes and found in a wide variety of consumer products; and (4) there are over 9,000 different kinds of these dangerous chemicals.⁹

Moreover, PFAS have been found at unsafe levels in the environment throughout Vermont, including in more than 100 public water supplies, private drinking water wells, groundwater, and surface waters. In addition to the Vermont-regulated PFAS (PFOA, PFOS, PFHxS, PFHpA, PFNA), at least the following PFAS are present in Vermont: PFBA, PFPeA, PFHxA, PFDA, PFUnA, PFDaA, PFTA, PFTTrDA, PFBS, PFPeS, PFHpS, PFDS, PFDoS, PFOSA, HFPO-DA or GenX, PFNS, NEtFOSAA, NMeFOSSA; 4:2 FTS, 6:2 FTS, and 8:2 FTS.¹⁰ This most likely does not reflect all PFAS present in the State due to limited testing.

Although PFOA and PFOS have now been phased out of production in the United States,¹¹ these compounds will remain in our drinking water, groundwater, and surface waters, as well as our bodies, for decades. In addition, manufacturers have rushed to produce thousands of alternative PFAS that are likely to pose comparable health risks given the similarities in chemical structure.¹²

Our organizations commend ANR and the Department for their hard work to-date on working to tackle the PFAS crisis. Indeed, significant steps forward have been taken to identify, enforce, and clean up contaminated PFAS sites, in addition to thoughtfully considering necessary regulatory actions to address the significant risks posed by PFAS. However, a lot of work remains, and time is of the essence—especially regarding the impacts of PFAS on Vermont’s surface waters and water quality.

To this end, we believe it is critical that the Agency and Department take action now to address PFAS in surface waters because EPA has failed to protect the public from these dangerous chemicals for decades and has still not committed to take meaningful action despite widespread contamination of drinking water, groundwater, and surface water. For instance, after becoming aware of contamination of drinking water supplies and the significant health risks posed by these dangerous chemicals, EPA gave manufacturers nearly a decade to phase out production and use of PFOA and PFOS through a voluntary program.¹³ And even though EPA issued a PFAS Action

POLYFLUOROALKYL SUBSTANCES (PFAS) AS A CLASS 1 (November 16, 2020) [hereinafter NRDC Technical Comments].

⁹ See *Per- and Polyfluoroalkyl Substances (PFAS) and Your Health*, AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, <https://www.atsdr.cdc.gov/pfas/overview.html>.

¹⁰ NRDC Technical Comments, *supra* note 8, at 3.

¹¹ *Assessing and Managing Chemicals under TSCA, Fact Sheet: 2010/2015 PFOA Stewardship Program*, U. S. ENVTL. PROTECTION AGENCY, <https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/fact-sheet-20102015-pfoa-stewardship-program#what>.

¹² See, e.g., NRDC Technical Comments, *supra* note 8, at 1, 5–6; Carol F. Kwiatkowski et al., *Scientific Basis for Managing PFAS as a Chemical Class*; Stephen Brendel et al., *Short-chain perfluoroalkyl acids: environmental concerns and a regulatory strategy under REACH*, 30 ENVTL. SCI. EUR. 1, 3–4 (2018), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5834591/pdf/12302_2018_Article_134.pdf.

¹³ See, e.g., Consent Order, *In the matter of: Dupont Company*, (Nos. P-08-508 and P-08-509, U.S. E.P.A. Office of Pollution Prevention and Toxics, April 9, 2009), available at <https://assets.documentcloud.org/documents/2746607/Sanitized-Consent-Order-P08-0508-and-P08-0509.pdf>;

Plan in 2019, the Action Plan fails to make any commitment to developing enforceable regulatory standards for PFAS. In the case of surface water standards in particular, EPA only commits to “[d]etermine if available data and research support the development of Clean Water Act Section 304(a) ambient water quality criteria for human health for PFAS” by 2022.¹⁴ If EPA only completes this data review by the end of this year, there is very little likelihood that ANR could launch and complete a regulatory process to establish standards by 2024, especially given EPA’s slow track record of standard development.

Considering EPA’s failure to act over decades to protect the public from these dangerous chemicals—and its failure to commit to creating standards in its PFAS Action Plan—states must promptly establish surface water standards for the PFAS class or subclasses. ANR has broad authority to protect surface water,¹⁵ and the legislature specifically directed the Agency to promulgate new rules to better protect Vermonters from the PFAS class of chemicals.¹⁶

We strongly urge the Agency not to wait until the legislative deadline of 2024 to develop surface water standards (even if the standards must later be updated). Indeed, there is sufficient data available now for ANR to at least establish surface water standards for PFOA and PFOS, and to establish an upper limit for the entire class of PFAS chemicals that protect human health, aquatic life and designated uses. In that same vein, we encourage ANR and the Department to require increased monitoring for PFAS—at a minimum including the PFAS listed under ANR’s drinking water standards including PFOA, PFOS, PFHxS, PFHpA, and PFNA—and required testing as part of any ANR National Pollutant Discharge Elimination System (NPDES) issued permits. In sum, we urge the Agency not to delay in adopting surface water standards and water quality criteria for PFAS chemicals where adequate data and scientifically-defensible methods from other comparable states exists. The risk to human health, aquatic life, and designated uses exists today and must be addressed.

SECTION-BY-SECTION COMMENTS

C. Subchapter 1. Applicability, Definitions, and Policies

a. § 29A-101 Applicability

§ 29A-101(b) – We support the changes proposed regarding the vesting of applications from the time an application for a permit or certification is filed to the time when the final administrative action is taken. This will ensure that all proposed permitted projects comply with the Clean Water Act and the current Vermont Water Quality Standards, rather than an outdated regulation.

Premanufacture Notification Exemption for Polymers; Amendment of Polymer Exemption Rule to Exclude Certain Perfluorinated Polymers, 75 Fed. Reg. 4295, 4296 (Jan. 27, 2010).

¹⁴ Per- and Polyfluoroalkyl Substances (PFAS) Action Plan 6, EPA (Feb. 2019), https://www.epa.gov/sites/production/files/2019-02/documents/pfas_action_plan_021319_508compliant_1.pdf#page=61.

¹⁵ 10 V.S.A. Chapter 47.

¹⁶ An Act Relating to the Regulation of Polyfluoroalkyl Substances in Drinking and Surface Waters, Act 21 (2019) [hereinafter Act 21 (2019)], § 5.

§ 29A-101(c) – Under this subsection, we also support the addition of “[t]hese rules shall apply to wetlands as articulated in Sections §§ 29A-104(e) and 29A-105(e)” to specifically protect the functions and values of Class I and II wetlands.

b. § 29A-102 Definitions

§ 29A-102(53) – While we acknowledge that the definition of “Wetland” under the Draft Rule corresponds with other Vermont regulations and statutes, we maintain our long-standing objection to the exclusion of wetlands in agricultural lands used to “grow food or crops in connection with farming activities.” All lands that show or have shown the functions and values of wetlands should be considered jurisdictional wetlands under the purview of the Department. This is especially important with the onslaught of climate change and the need to increase the State’s resiliency abilities, especially given the vital ecosystem role that wetlands play.

c. § 29A-103 General Policies

i. § 29A-103(e) Tactical Basin Planning.

We ask that the Department continue to recommend reclassification of State waters, as indicated under § 29A-103(e)(4) of the Draft Rule, in addition to also requiring the initiation of rulemaking upon completion of a Tactical Basin Plan as established under § 29A-103(e)(5).

Under § 29A-103(e)(5) of the Draft Rule, the language as written indicates that the Secretary “shall” initiate rulemaking for recommendations made in the Tactical Basin Plans. However, to our knowledge, this policy has not been historically followed. This is particularly troublesome in regard to recommendations for the reclassification of State waters from B(2) to B(1) for fishing and/or for aquatic biota, and to A(2) and A(1) waters. The failure to initiate rulemaking leaves those waters without needed protections to maintain their chosen water quality classifications.

In response, we propose the following language to clarify and simplify:

(5) Upon adoption of a tactical basin plan, the Secretary shall promptly initiate rulemaking ~~and shall give due consideration to~~ on the recommendations contained in the tactical basin plan.

Finally, in an effort to assist with climate resilience preparations in the State, we suggest adding a new subsection (6) to § 29A-103(e):

(6) So that tactical basin plans help to advance Vermont’s goals for natural disaster-preparedness, climate resilience, and habitat management, the Secretary shall make recommendations pursuant to the State Hazard

Mitigation Plan and Vermont Conservation Design, and, shall coordinate with the following: the Director of Vermont Emergency Management; the Commissioner of the Fish and Wildlife Department; and the Commissioner of the Department of Forests, Parks, and Recreation.

ii. § 29A-103(f) Hydrology Policy.

It is important that any use of surface waters comply with the Vermont Water Quality Standards, including the use of surface waters for the generation of electricity. Like any other use, hydroelectric generation cannot degrade the waters of the State that it utilizes. Because of this, we support the removal of “to the extent practicable” in § 29A-103(f)(1) of the Draft Rule and the removal of “in achieving voluntary agreements relating to artificial streamflow regulation that” under § 29A-103(f)(2), as every effort must be made to ensure that water quality and water quantity are not degraded by power generation, even if these efforts have an economic impact on the utility.

d. § 29A-104 Classification of Water Uses

i. § 29A-103(d) Designated Uses.

We support the Department’s decision not to include hydroelectric generation as a designated use as was suggested by some stakeholder groups. The VWQS are intended to protect water quality for specific uses that rely on high quality water, such as protection of aquatic habitat and biota, and to protect public health. The generation of electric power is a commercial use that does not rely on high quality water, and in many instances degrades water quality by changing the physical, chemical, and thermal conditions of the water utilized. It is contrary to the purpose of the VWQS to protect a use that degrades water quality and thereby impairs other designated uses, particularly aquatic biota and habitat.

For this reason, we also urge the Department to remove the following under § 29A-103(d)(8): “[t]he use of water for irrigation of crops and other agricultural uses.” Akin to the generation of electric power, the growing of agricultural crops and the vague catch-all “other agricultural uses,” are commercial ventures. Like hydropower, irrigation does not necessarily rely on high quality water as other uses, such as aquatic biota and habitat, require it. Further, also resembling hydropower, agricultural uses can result in the degradation of water quality, in this case through the discharge of nutrient pollution. Accordingly, irrigation for agriculture should not be afforded the same level of protection as aquatic biota or other uses and § 29A-103(d)(8) should be removed from the list of designated uses.

e. § 29A-105 Antidegradation Policy

As we have commented throughout the discussions on the proposed changes to the VWQS, we recommend that the Department make changes to the section of the Antidegradation Policy that addresses existing uses to reflect the Vermont Supreme Court’s holding in *In re Morrisville Hydroelectric Project Water Quality*, 211 Vt. 233 (2019). Specifically, the Court in *Morrisville* rejected the argument that hydroelectric facilities are protected uses under the VWQS that could degrade waters and harm water quality and aquatic habitat.¹⁷

The *Morrisville* case also highlighted the lack of clarity in § 29A-105(b), Protection and Determination of Existing Uses, under the Antidegradation Policy of the Draft Rule. Specifically, §29A-105(b)(4) which specifies that “[t]he use of water for public water source or commercial activity that depends directly on the preservation of an existing high level of water quality . . .” caused particular confusion, especially regarding what constitutes a “commercial activity that depends directly on the preservation of an existing high level of water quality.”¹⁸

In *Morrisville*, the applicant argued that hydroelectric facilities rely on high quality water and, therefore, they should be allowed to operate in a manner that degrades water quality.¹⁹ While the Court flatly rejected this argument, as long as the provision remains in the VWQS it will continue to create confusion.²⁰ Accordingly, we recommend that the Department amend that provision with the following language for § 29A-105(b)(4): “*The use of the water for public water source., or commercial activity that depends directly on the preservation of an existing high level of water quality; and . . .*”

In addition, we recommend the Department clarify the Antidegradation Policy to ensure that no activity may degrade water quality, or aquatic habitat, without complying with Antidegradation Policy—including actions to protect existing uses.

Finally, we reserve further comments on this particular section of the Draft Rule because of the current intensive stakeholder process that is taking place on this policy, as well as anticipated rulemaking later this fall.

f. Subchapter 2. Application of Standards

- i. § 29A-206 Water Quality Certifications Issued Pursuant to § 401 of the Clean Water Act.

¹⁷ *In re Morrisville Hydroelectric Project Water Quality*, 211 Vt. 233, 252 (2019).

¹⁸ *Id.* at 239; *see also* AGENCY OF NATURAL RESOURCES, VERMONT WATER QUALITY STANDARDS § 1-01(B)(18) (2014).

¹⁹ *Id.* at 252.

²⁰ *Id.* at 252–53.

We support DEC’s decision to include this clarifying language and a more structured and transparent process for noticing draft 401 water quality certificates.

g. Appendix F – Water Quality Classifications

The general reader who reviews the Draft Rule may not understand that the charts for Appendix F on pages 68 through 93 indicate changes in classification for specific designations. We suggest that the Department write a short explanatory paragraph before this chart to explicitly state that the waters in the chart(s) outline changes in those water bodies such that they do not neatly fall under section (b) or (c) of the Draft Rule’s appendix.

CONCLUSION

As we enter the era of climate change and shifting demands, it is vital that Vermont secure and implement forward thinking protective management regulations for surface water quality to ensure the safety and health of our communities, natural resources, and environment at-large. Updates to bedrock protective regulations—including the Draft Rule at issue in these comments—that are informed by the best available science and policy is imperative as we attempt to strengthen the State’s resiliency abilities. For these reasons, we appreciate the opportunity to submit these comments, and for your thoughtful attention to this matter. Our organizations remain available to discuss the issues in the comments at any time.

Respectfully submitted,

July 22, 2022

/s/ Lori Fisher
Executive Director
Lake Champlain Committee

/s/ Kathy Urffer
River Steward, Vermont/New Hampshire
Connecticut River Conservancy

/s/ Jon Groveman
Policy and Water Program Director
Vermont Natural Resources Council

/s/ Karina Dailey
Restoration Ecologist
Vermont Natural Resources Council

/s/ Mason Overstreet
Staff Attorney
Conservation Law Foundation Vermont