From:	madel51353@aol.com
To:	Sargent, Bethany
Cc:	LaFlamme, Pete
Subject:	Formal Comment on the new Water Quality Standards/Rules for Vermont
Date:	Wednesday, July 13, 2022 3:00:18 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to presence of bio-accumulative toxins, such as PFAS. This **2014 EPA document** urges AGAINST mixing zones when bio-accumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the EPA document linked above is from 2014, this new standard should be a wake up call that PFAS as a bio-accumlative toxin should **NEVER** be mixed into or added to our water.

Please do the right thing and stop mixing bio-accumulative toxins in our water.

Sincerely,

Marguerite Adelman
VT PFAS/Military Poisons Coalition Coordinator
100 West Canal Street, Unit 4
Winooski, VT 05404

Dear Ms. Sargent:

As a person of faith and a Vermonter I am concerned about our environment. Water is a precious source for human life as well as all creation, I making the water less healthy. am writing with a formal comment on the Draft Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to presence of bio-accumulative toxins, such as PFAS. This **2014 EPA document** urges AGAINST mixing zones when bio-accumulative toxins are involved; you need to pay attention to it. I also assume with the drought and near drought conditions we are experiencing that PFOA and PFOS concentrations may increased

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the EPA document linked above is from 2014, this new standard should be a wake up call that PFAS as a bio-accumulative toxin should **NEVER** be mixed into or added to our water.

Your department has issued a report in 2021 indicating the presence of PFAS in Vermont waters and in fish tissue, and groundwater in some Vermont communities has been contaminated with PFAS.

Please protect water for all people, all life, for all time. Stop mixing bio-accumulative toxins in our water.

Sincerely,

The Venerable Catherine Cooke
500 south Union Street
Burlington, VT 05401

address

DUMP, LLC
"Don't Undermine Memphremagog's Purity"
PO Box 1402
Newport, Vermont 05855

July 22, 2022

Bethany Sargent
Program Manager, Vermont Department of Environmental Conservation
Watershed Management Division
Monitoring and Assessment Program
1 National Life Drive, Davis 3
Montpelier, VT 05620-3522

Dear Ms. Sargent,

We write as a subcommittee of DUMP LLC (Don't Undermine Memphremagog's Purity) who have read and reviewed the Vermont Agency of Natural Resources' revisions and updates of Vermont Water Quality Standards. We commend much of the new wording which clarifies intent.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2014.. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that are near and below zero. Your proposed revisions of Vermont Water Quality Standards are now already out of date, - ie 20ppt for five PFAS for drinking water, - and must be revised to recognize the new EPA advisory levels, which conclude there is virtually no safe exposure level to PFAS which persist and bioaccumulate. In light of these new EPA advisories, we request the public comment period and process be extended to enable the public to review ANR's updated Water Quality Standards.

The class of PFAS compounds, as you know, are well researched as are the harmful effects on human health. These negative health effects are many and include hormone disruption, certain cancers, developmental and behavioral effects, diabetes, obesity, decreased fertility and others. Importantly, it must be recognized that it is insufficient to consider concentrations of individual chemicals within the PFAS class. The effect is additive and test results for hundreds of individual PFAS must be considered in aggregate since individual PFAS chemicals rarely occur alone, but are found in combination with others.

For example, the recently published ANR study of PFAS in fish tissue samples in Lake Memphremagog reports individual PFAS analytes in ppb instead of ppt and does not aggregate results. Samples of PFAS concentrations in Lake Trout only include seven of the 36 PFAS analytes, all of which provides the misleading impression that our PFAS levels in Memphremagog fish are safe for human consumption. The (unnamed) ANR

author's use of concentration units for PFAS for lake water samples (ppt), different from units used for fish tissue samples (ppb), serve to cloud and confuse the public's understanding of exactly what constitutes "safe exposure" and intends to lessen the real magnitude of PFAS, bioaccumulated in fish flesh. The methodology and conclusions reached in the ANR report obfuscate rather than enlighten and clarify.

This concern relates to several sections of the revised Vermont WQS, and requires further revision in order to accommodate the new EPA exposure limits to PFAS. Foremost is the reference to "mixing zones" and "waste management zones". This **2014 EPA document**[1] recommends that the term mixing zones be abolished when bio-accumulative toxins are involved. Sixty years ago this year, in her book *Silent Spring*, Rachel Carson spoke of bioaccumulation of chemicals (i.e. DDT) - the build-up of absorbed chemicals in an organism. She also used the term "biomagnification" - the increase in concentration of these chemicals in each organism up the food chain. Were she alive today, Carson would warn strongly against permitting toxic effluent with PFAS to be dumped into "mixing zones", due to their persistence and incapability to be "diluted" as the solution to pollution. Mixing zones in rivers or streams in the era of "forever" PFAS chemicals, does not a clean river make. Recognize that dilution of PFAS toxics in mixing zones is a false assumption. Please heed the science of Rachel Carson and the EPA; Abolish the term Mixing Zones.

DUMP is also concerned with the language regarding Waste Management Zones. As the Memphremagog watershed, and as the Black River being the main tributary to Lake Memphremaog, together are vital to the purity of this drinking water reservoir for 175,000 Canadian citizens, it is imperative that under the VWQS that no technicalities be allowed to lower the quality of incoming waters to the international potable reservoir. We argue that under the Definitions section for "Waste Management Zone" and in Section 29A-204 Special Zones (b), language enabling the direct discharge of "properly treated wastes" into Class B(1) and B(2) waters should be eliminated; or in the case of the Black River, Orleans County, should be exempted due to inability to "properly treat" landfill leachate of a myriad of toxic chemicals, including those within the PFAS family, prior to discharge into the primary tributary to an international drinking water reservoir, potentially affecting thousands of humans. Is it too much to ask that a watershed from which 175,000 humans take their drinking water be treated equally to a river such as the Battenkill, with A classification, for preservation of a fisherman's habitat? We note that the term "properly treated" waste is not defined in your revised standards. To our knowledge, proper treatment of PFAS from landfill leachate on a large scale is still technologically unproven. Have you evidence demonstrating otherwise?

1."Additionally, states and tribes should carefully consider whether mixing zones are appropriate where a discharge contains bioaccumulative, pathogenic, persistent, carcinogenic, mutagenic, or teratogenic pollutants or where a discharge containing toxic pollutants may attract aquatic life. Bioaccumlative pollutants are one example of a pollutant for which mixing zones may not be appropriate because they may cause significant human health risks such that the designated use of the waterbody as a whole may not be protected. 5 Therefore, the EPA recommends that state and tribal mixing zone policies do not allow mixing zones for discharges of bioaccumulative pollutants. The EPA adopted this approach in 2000 when it amended its 1995 Final Water Quality Guidance for the Great Lakes System at 40 CFR Part 132 to phase out mixing zones for existing discharges of bioaccumulative pollutants within the Great Lakes Basin and ban such mixing zones for new discharges within the Basin."

These terms, Mixing Zones, and Waste Management Zones, should be removed from the revised VWQS due to the known presence of bio-accumulative PFAS compounds in Vermont's waterbodies, including Lake Memphremagog.

Further, the fact that:

- landfill leachate generated at the NEWSVT landfill in Coventry has been disposed of unfiltered for PFAS (and the countless other landfill toxins found in leachate) in several Vermont water bodies including Memphremagog;
- that leachate is proven to "break out", as found in numerous annual inspection reports, from the Coventry landfill and thus runoff from the landfill which contaminates ground water, wetlands and surface waters; Under your revised rules and standards, simply regarding wetlands, the siting of the Coventry landfill adjacent to extensive wetlands, would never be permitted today.
- that ANR permit consideration is being given presently to applications from the landfill owner to permit leachate and groundwater PFAS treatment facilities on site at the landfill- for UD3 effluent and for an experimental "Pilot Project" of the owner's design to "treat" on-site the entire amount of leachate generated by the landfill (millions of gallons per month), with leachate effluent, according to the head NEWSVT engineer, being delivered, directly, end-of-pipe into the Black River
- that all proposed filtration and residual materials, such as GAC, filters, membranes, etc. contaminated with PFAS toxins, are then to be re-dumped into the landfill to result in an increasingly toxic stew from which leachate re-emerges, only to be re-treated
- that the effluent from UD3 would be permitted to be discharged into the bordering wetlands, then the Black River, which flows immediately to the South Bay of Memphremagog

All of the above have direct relationship to language in the revised Vermont WQS regarding "toxic substances" "point source" and "non-point source" discharges that must now be reconsidered in light of the newest EPA advisories.

It is the sole responsibility of the state to identify and manage any and all sources of pollution and to develop the technologies and management plans and practices, including monitoring for compliance, systems and facilities designed to eliminate toxic contamination of Vermont's ground and surface waters. This is too important a societal responsibility to be left solely to private industry to own and to operate. To allow the landfill owner to conduct these public health activities on its own leachate waste is a gross conflict of interest.

Prevention is better than cure. Focus should be placed, not on end-of-pipe standards, but on prevention of toxins from happening in wetland and riparian zones. In the case of the Coventry landfill, a significant start could be made by the State requiring chemical

lab inspections of all incoming loads, where no inspections occur now, other than "eyeball" by compactor operator.

Mixing zones, based on the false assumption that dilution reduces concentrations of forever persistent chemicals such as PFAS, fails to acknowledge bioaccumulation and biomagnification of contaminants in species and upwards along the food chain. Retention of mixing zones is poor science and poor public policy. It does not result in a cleaner river.

Every effort must be taken to ensure the protection of public waters from degradation. The preservation of Vermont's waters takes precedence over any other enterprise, for the sake of the health and safety of Vermont's environment and the public health of Vermonters, international neighbors, and fish and wildlife species within the Memphremagog watershed.

We stand ready to offer more specific suggestions for revisions to the Vermont Water Quality Standards upon your request.

Respectfully submitted,

Henry Coe
Teresa Gerade
Ed Stanak
Peggy Stevens
Members, DUMP LLC.
Subcommittee on Review of Permits and Standards.
Newport, Vermont

13 Claire Pointe Rd.
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sknightinvt73@gmail.com
July 18, 2022

Bethany Sargent
Program Manager Supervision & Coordination of Monitoring & Assessment Program
National Life Bldg 3rd Floor
Montpelier VT 05620

SUBJECT: Comments on DRAFT WATER QUALITY STANDARDS 2022

Dear Bethany:

In the last nine months my awareness of combined, accumulating contaminants in Vermont waters and their toxicity has increased to the level of alarm:

> Over 900,000 pounds of pesticides used in Vermont in 2020, of which an undetermined amount enters surface and groundwater;[1]

> Hundreds of thousands of gallons of untreated sewage, containing per-and polyfluoroalkyl substances (PFAS), discharged from wastewater treatment facilities (WWTFs) and Combined Sewage Overflows (CSOs) –128,900 gallons from Rutland on July 18 alone -- in the Champlain Basin;[2]

> Thousands of gallons of untreated toxic leachate from Vermont's sole landfill and from neighboring states discharged to WWTFs unable to process the heavy metals, PFAS or priority pollutants, which are released to the waters we all depend upon for life;[3]

> Water and fish in the Winooski River, Otter Creek and Lake Memphramagog contaminated with PFAS, bioaccumulative and persistent toxins;[4]

> EPA's revised notices about the toxicity of PFAS, lowering health advisory levels to near 0 for PFOA.[5]

It is doubly disturbing that Vermont laws and regulations allow this state of affairs to continue without questioning basic tenets of the Water Quality Standards such as assimilation and mixing zones.

The revision of these standards must now be based on the scientific realities of bioaccumulative toxins and their impacts on human health, on revised policies at the federal level regarding mixing zones, and on the fact that Earth and its hydrological cycle is a living, finite, and intimately inter-related system.

Comments on the Draft Water Quality Standards 2022.

§29A – 102 Definitions

p.5: #6. "Assimilative Capacity." This concept is questionable. It is directly related to mixing zones, and is a dangerous concept in the presence of PFAS and other endocrine disrupting compounds in waters.

p.6: #26. "Mixing zone." Given the presence of bioaccumulative toxins including PFAS, mixing zones must be *eliminated as soon as possible* from the Water Quality

Standards and Rules, in accordance with EPA's 2014 document.[6] *I urge your attention to the EPA 2014 document quoted below under §29A-204, Special Zones.*

p.9: #50. "Waste management zone." Has this mechanism been approved by EPA? Again, this term is dependent upon an outmoded concept of dilution as the solution to pollution. It supports the outmoded and wrongful practice of designating streams to carry off wastes, degrading "Waters of the State". See discussion below on Special Zones, §29A-204.

§29A-103 General Policies p. 9 ff.

Our largest lakes are international waters. Once toxins are released into water, we cannot control where they go. Toxins can cause adverse health effects at very small concentrations (parts per trillion) as present in "dilution," causing immune dysfunction and endocrine disruption.

Many more people depend on the water now and suffer from more complex diseases including the current pandemic. The potential link between toxins and current illnesses cannot be dismissed. The burden of proof is intolerable without employing the Precautionary Principle.

The Clean Water Act was enacted to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters". Vermont's Water Quality Standards are developed "to protect and enhance the quality, character, and usefulness of its surface waters and to assure the public health".

These goals cannot be achieved under the current assumptions and policies.
As long as you allow discharge of toxic wastes to waters, you will NOT "prevent degradation of high quality waters, [or] prevent, abate, or control all activities harmful to water quality; [or] provide clear, consistent, and enforceable standards for the permitting and management of discharges.

(b) 1: The goal to protect and enhance the quality, character, and usefulness of surface waters and to assure the public health is undermined by the serious disconnect from your policy of allowing discharge of essentially untreated landfill leachate and industrial wastes to municipal wastewater treatment facilities (WWTFs).

(b) 2: (2) (b) The goal to maintain the purity of drinking water Is *ENDANGERED* by
> allowing discharge of leachate to WWTFs;
> allowing application of toxic sludge to farm fields;
> continued discharges of untreated sewage from WWTFs contaminated with PFAS and pesticides;
> failure to limit pesticide uses on farms and rights-of-way;
> use of PFAS-contaminated pesticides to control mosquitos and aquatic nuisances.

In May 2021, Conservation Law Foundation (CLF) and Public Employees for Environmental Responsibility (PEER) wrote to ANR Sec. Julie Moore and VAAFM Sec.

Anson Tebbetts requesting that pesticides contaminated with PFAS not be used in mosquito control districts until an analysis assures the agencies that they are free of such contamination. They also requested that major pesticides used in Vermont be tested for PFAS contamination as soon as possible, due to their persistence, bioaccumulation and dangers to human and ecological health.[7]

How will DEC work with VAAFM to protect human health from PFAS hidden in pesticides used in Vermont?

p.11. § 29A-104. Classification of Water Uses

If the waters of the hydrological cycle are all inter-related and Earth's life processes are inter-related, how can we allow some waters to be more toxic than others?

Thank you for including wetlands in these rules. It is high time they were included, as they are essential for guarding water quality, biological diversity and integrity.

The protection of wetlands must extend to establishing the permit process for use of herbicides at electric substations. See my comments to Misha Cetner on this issue regarding the NPDES PGP.

p.12. § 29A-105. Anti-degradation Policy

p. 13: (2) "A limited reduction in the existing higher quality of such waters may be allowed … "

Here begins the degradation of waters. Permits allow degradation.

p. 13: (c) 3: "The analysis of alternatives required under subdivision (c)(2)(B) of this subsection shall evaluate a range of alternatives that would prevent or lessen the degradation associated with the proposed activity. *When the analysis identifies one or more practicable alternatives, the Secretary shall only find that a lowering is necessary if one such practicable alternative is selected for implementation.* For purposes of this section, "practicable" means technologically possible, able to be put into practice, and economically viable."

This paragraph, especially the text in italics, reveals that the *State is all too willing to allow degradation of water quality, to surrender water quality to economic and political pressures.* I find this paragraph a troubling piece of legal license to pollute the waters of life in Vermont. Is not the purpose of an anti-degradation policy to maintain water quality now and for the future?

Why doesn't this policy agree with § 29A – 206, regarding permits under the Clean Water Act?

§ 29A-106 Discharge Policy

p.13. Clean Water Act. Appendix 5. Cumulative Effects - Abstract
The 404(b)(1) Guidelines, 40 CFR 230.1(c), address cumulative effects of each discharge of dredged or fill material on the aquatic ecosystem.[8]

What rules require consideration of cumulative effects of multiple discharges in surface waters including drugs; sewage effluent containing PFAS; pesticides used in cooling towers, agriculture, landscaping, highway and railroad rights-of-way, electric utility substations, aquatic nuisance, lamprey, and mosquito control?

How do these regulations enable us to ascertain the accumulation of toxins in waters in order to prevent degradation of waters?

p.17. § 29A-204 Special Zones.

Mixing zones. In 2014 EPA advised *against* using "mixing zones" in the presence of *bioaccumulative toxins.* I quote from EPA's document [6]:

*"While **mixing zones serve to dilute concentrations of pollutants** in effluent discharges, they also allow increases in the mass loading of the pollutant to the waterbody (more so than would occur if no mixing zone were allowed). Therefore, if not applied appropriately, a mixing zone could adversely affect mobile species passing through the mixing zone as well as less mobile species (e.g., benthic communities) in the immediate vicinity of the discharge. Because of these and other factors, mixing zones should be applied carefully so that they do not result in impairment of the designated use of the waterbody as a whole or impede progress toward the CWA goals of restoring and maintaining the physical, chemical, and biological integrity of the Nation's waters.*

"States and tribes should conclude that mixing zones are not appropriate in the following situations:
• Where they may impair the designated use of the waterbody as a whole.
• Where they contain pollutant concentrations that may be lethal to passing organisms.
• Where they contain pollutant concentrations that may cause significant human health risks considering likely pathways of exposure.
• Where they may endanger critical areas such as breeding and spawning grounds, habitat for threatened or endangered species, areas with sensitive biota, shellfish beds, fisheries, drinking water intakes and sources, and recreational areas.

"*Bioaccumulative pollutants are one example of a pollutant for which mixing zones may not be appropriate because they may cause significant human health risks such that the designated use of the waterbody as a whole may not be protected.* ***Therefore, the EPA recommends that state and tribal mixing zone policies do not allow mixing zones for discharges of bioaccumulative pollutants.*** *The EPA adopted this approach in **2000** when it amended its 1995 Final Water Quality Guidance for the Great Lakes System at 40 CFR Part 132 to **phase out** mixing zones for existing discharges of bioaccumulative pollutants within the Great Lakes Basin and **ban such mixing zones** for new discharges within the Basin." (emphasis added).*

Have you seen this document? Please acknowledge receipt of this information.

EPA recognizes the physical connection between mixing zones and dilution, and cautions *against* their use in the presence of bioaccumulative toxins. (See EPA's new health advisory for PFOA, in drinking water as close to 0 ppt.[9])

The number of mixing zones and waste management zones permitted in Vermont may approach 340, depending on how they are counted. The majority empty to Lake Champlain; approximately 100 to Connecticut River, approximately 10 to Lake Memphramagog and 10 to Hudson River.[10]

Your own report states that PFAS have been found in fish at levels of concern in the mouths of the Otter Creek and of the Winooski River. Since the water in the Main section of Lake Champlain (downstream of Otter Creek) is retained there for about three years, PFAS can accumulate in the lake, in fish, and contaminate the water for those who depend upon it for drinking water.

Contaminating waters with bioaccumulative toxins means environmental injustice for current and future generations, especially of poor and BIPOC people depending on rivers for food, water and recreation!

Given the information above, DEC must carefully re-examine and curtail the practice of using mixing zones in the revision of WQS 2022, as they can no longer be universally applied in our wastewater system where PFAS are present.

P. 18 (b) (1) Designation: "the Secretary may… designate a specific portion of the receiving waters as a **waste management zone** when criteria in subdivision (2) ...are met."

Criteria C,D. & E all represent risk and danger to human and ecological health, and degradation of waters of Earth Community. Waste management zones are highly questionable, subject to the same objections as mixing zones. See comments above. I urge that they also be severely curtailed and eliminated as soon as possible.

p.20. Water Quality Criteria. §29A-302.

"The following water quality criteria shall be achieved in waters, as specified below:"

"(2) Phosphorus.

(A) "In all waters, total phosphorous loadings shall be limited so that they will not contribute to the acceleration of eutrophication or the stimulation of the growth of aquatic biota in a manner that prevents the full support of uses."

The annual budget for phosphorus (P) in VT waters must include the P contributed annually by 34,297 pounds (active ingredient) of glyphosate-based herbicides.[1] This is a potential contribution of 6276.4 lbs of P to VT waters. Glyphosate acid contains 18.3% phosphorus.[10] All contributions of P must be included in calculations of the TMDL for P and the allocation of the P budget.

p.24. §29A-303. General Criteria applicable to all waters.

(7) Toxic substances:

Questions: 1) How can this standard, "a maximum individual lifetime risk of no adverse effect to human health" be enforced or translated to the amount of toxins encountered in the water?

2) Why not change the measurement of toxins in water to Maximum Contaminant Level (MCL) in parts per billion?

p.28. § 29A-306 Use-specific Management Objectives and Criteria by Class.

While the State is willing to monitor waters more assiduously for toxins and their effects on selected biota, it is necessary for the State to *set and enforce standards, reduce* current pesticide use, and *prevent* discharges of toxins from WWTFs and CSOs, in order to protect the ecological and human health of Vermont from degradation. Monitoring is not enforcement or prevention.

p.43. Appendix B. DESCRIPTION OF LAKE CHAMPLAIN AND LAKE MEMPHREMAGOG SEGMENTS FOR APPLICATION OF PHOSPHORUS CRITERIA.

Scientists have established a causal link between the large use of glyphosate-based herbicides and excess phosphorus in surface waters.[11] It is time for state officials to include the use of glyphosate-based herbicides in the budget for P in TMDLs for our lakes. All contributions of phosphorus must be considered in the work to reduce P in VT waters. See also discussion of glyphosate-based herbicides above.

pp. 44-62. Appendix C. WATER QUALITY CRITERIA FOR THE PROTECTION OF HUMAN HEALTH AND AQUATIC BIOTA

Appendix C must include standards for the following:

* per- and polyfluoroalkyl substances (PFAS) now regulated by VT Statute;
* diquat and diuron on EPA's list of hazardous substances;
* atrazine, glyphosate, diquat, diuron, metolachlor, and neonicotinoid insecticides, several of which are endocrine disruptors.

Neonicotinoid insecticides are considered harmless to humans, but humans are exposed through increasingly contaminated water and food. Fetal exposure to food contaminants occurs through the placenta. Thiacloprid, thiamethoxam and imidacloprid interact with and change hormones in the fetus and placenta necessary for successful development, a factor that must be considered in the relationship between environmental exposure and birth outcomes.[12]

While you are not responsible for toxicological standards, I urge you to be aware of the mechanisms and challenges of endocrine disruption, updated protocols of toxicology,[13] and their relationship to the very low levels of endocrine disrupting toxins currently allowed in surface waters that are very likely affecting public health in Vermont.

We are all engaged in a profound matter of environmental justice for all people, all times, and for the Earth's biosphere.

Thank you for your consideration of my comments on the Draft Water Quality Standards.

Sincerely,
Sylvia Knight

References:

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2. VT Agency of Natural Resources. See CSO reports ID# 6187, 6188, 6189, 6190. https://anrweb.vt.gov/DEC/WWInventory/SewageOverflows.aspx

3. VT DEC (2021). Pretreatment Discharge Permit #3-1406. New England Waste Services, Inc. https://anrweb.vt.gov/Pubdocs/DEC/ENB/ENB_V2/13854-3-1406_DraftPermit.20210920.pdf

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5. EPA (2022). Technical Fact Sheet: Drinking Water Health Advisories for Four PFAS (PFOA, PFOS, GenX chemicals, and PFBS). https://www.epa.gov/system/files/documents/2022-06/technical-factsheet-four-PFAS.pdf

6. EPA. Water Quality Standards Handbook, Chap.5: General Policies (40 CFR 131.13) https://www.epa.gov/sites/default/files/2014-09/documents/handbook-chapter5.pdf

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8. Clean Water Act. Appendix 5. Cumulative Effects. https://www.epa.gov/sites/default/files/2015-05/documents/appendix_5_cumulative_effects_011311.pdf

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11. Hébert, MP, V. Fugere, and A. Gonzalez (2018). The overlooked impact of rising glyphosate use on phosphorus loading in agricultural watersheds. Front Ecol Environ 2018; doi:10.1002/fee.1985

12. Caron-Beaudoin E et al (2017). The use of a unique co-culture model of fetoplacental steroidogenesis as a screening tool for endocrine disruptors: The effects of neonicotinoids on aromatase activity and hormone production. Toxicology and Applied Pharmacology 332 (2017) 15–24. https://doi.org/10.1016/j.taap.2017.07.018

13. Birnbaum, Linda (2012). State of the Science of Endocrine Disruptors. doi:10.1289/ehp.1306695

From:	James Ehlers
To:	Sargent, Bethany
Cc:	Elizabeth Ehlers; sknightinvt73
Subject:	Comments on Draft WQS 2022
Date:	Friday, July 22, 2022 3:45:39 PM
Attachments:	DraftWQS2022-Comments-072122.pdf

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Miss Sargent,
Lake Champlain International supports the comments and questions submitted by Ms. Knight and looks forward to your response.

Thank you.

James Ehlers
Policy Director, Lake Champlain International

---------- Forwarded message ---------
From: **Sylvia Knight** <sknightinvt73@gmail.com>
Date: Fri, Jul 22, 2022 at 10:25
Subject: Comments on Draft WQS 2022
To: Sargent, Bethany <Bethany.Sargent@vermont.gov>

Dear Bethany,
My comments on the Draft WQS 2022 are attached. Please remember, as you review comments from me and others, that we live downstream from and use the water contaminated by many uses permitted by the rules your department promulgates in an unequal process.
Seeking justice for all,
Sylvia Knight
Earth Community Advocate & Researcher
Burlington, VT 05408
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pronouns: she, her

We cannot solve our problems with the same thinking we used when we created them. Albert Einstein.

"We aren't going to have peace on Earth until we recognize the basic fact of the interrelated structure of all reality."

Martin Luther King, Jr.

From: Annette Smith
To: Sargent, Bethany; LaFlamme, Pete
Subject: Vermont Water Quality Standards/Rules for Vermont
Date: Friday, July 22, 2022 11:49:36 AM

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Dear Bethany and Pete,

Vermonters for a Clean Environment supports and hereby incorporates the comments of Sylvia Knight regarding the update to Vermont's Water Quality Standards.

Thank you.

Annette

Annette Smith
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July 22, 2022

Hannah Smith
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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

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[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 Permanone[4], 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

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[4] OCWICD applied 103.7 gallons of Permanone in 2020, and an unknown proportion of Permanone in 710.7 gallons of "Permanone/Permasease" 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, PFDoA, PFTA, PFTrDA, 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

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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. Kwiatkowsi 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. <u>§ 29A-103(e) Tactical Basin Planning.</u>

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~~ <u>on</u> 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):

<u>(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</u>

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. <u>§ 29A-206 Water Quality Certifications Issued Pursuant to § 401 of the Clean Water Act.</u>

[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

Great River Hydro

MEMORANDUM

TO: Bethany Sargent, Program Manager
VT Department of Environmental Conservation
Watershed Management Division, Monitoring and Assessment Program

FROM: John Ragonese, FERC License Manager, Great River Hydro, LLC

DATE: July 22, 2022

RE: Proposed changes to the VT Water Quality Standards

Bethany,

Thank you for the opportunity to provide comments on the Proposed VT Water Quality Standards Rule. As you know I previously provided "pre-rulemaking" comments on April 23, 2021. I appreciate the VT Department of Environmental Conservation consideration of those comments and in particular the changes made to the original draft rule (04/2021) that addressed several of them, in part at least.

I wish to reiterate several important points from my April 2021 comment memo provided during the pre-rulemaking stakeholder outreach that remain unaddressed.

Again, thank you for the opportunity to provide further comment on the proposed rules and trust you will consider or re-consider them before final rule-making.

John

§ 29A-102 Definitions (33) and (43)

- Including "portion of the riparian corridor that support woody debris recruitment and temperature refuge" into the definition of Physical Habitat Structure suggests the rules will govern these "portions" of the riparian corridors, yet there is no basis for that or any suggested rulemaking to do so. So why include portions of riparian corridor in the definition?
- Physical habitat is referenced throughout the rule in terms of management objectives and criteria for determining Water Quality Classification. While I cannot find any sort of direct regulatory requirements applied to the riparian area under the rules, it suggests expansion of criteria to out of stream characteristics. It not only conflicts but confuses/complicates the application of other definitions such as Flow Characteristics (16), which refers to physical habitat structure –

where in this instance, clearly is limited to in-stream flow characterictics not riparian.

- Adding this to the definition of Physical Habitat Structure clearly expands the present spatial scope far outside of in-stream areas, streambanks, woody debris above the stream bed as live or dead vegetation within a riparian area that could add to instream debris or provide temperature moderating capability could encompass vegetation as far as 150 feet from the actual stream.
- Adding this phrase to these definitions is unnecessary, is already included within the riparian policy, creates confusion and inherently conflicts with the in-stream or jurisdictional wetlands scope of the Clean Water Act or 401 authority.

§ 29A-103(f)(2) Hydrology Policy

- By deleting the phrase, "*to the extent practicable*", it suggests that there is always a means of determining conditions which preserve the natural flow regime of waters. GRH acknowledges that is the goal but as a policy, it must recognize that cannot always be achieved and therefore we strongly recommend the phrase remain in the policy statement. Sometimes it is simply not possible to restore to natural flow regime; perhaps close but not absolute and therefore the phase "*to the extent practicable*" is necessary. Including it reflect reality, and does not create any sort of loop-hole. As stated, it acknowledges the need for flexibility when addressing complex streamflow systems that, in some cases, stray from a pure natural flow regime but benefit designated uses and maintain or expand biological integrity.
- For the same reason, GRH believes it is important to recognize there are circumstances when artificial streamflow regulation is a necessary reality that cannot be totally eliminated. The continued use of the word "*cooperating*" in the same sentence recognizes the need for a degree of case specific flexibility. Policy is not the same as a goal and it has to be grounded and reflect the landscape it applies to.

§ 29A-105(b) and (b)(6) Antidegradation Policy

- GRH is concerned about the additions to this Section.
- In reference to the proposed modified (in bold)sentence, "*In determining the existing uses to be protected and maintained under this section and all other sections of these rules, the Secretary shall consider* ***the designated uses of the water, and*** *at least the following factors:"*, GRH would like to understand the purpose and meaning behind specifying [adding], " *the designated uses of the water, and".* The factors which are already listed under § 29A-105(b)(1-5) appear to represent designated uses. If so, why the need to also add " *the designated uses of the water, and"* as if they were distinct and different.
- GRH encourages the Department to clarify the distinction between existing uses and designated uses.
    - GRH considers a water withdrawal or hydro project that exists or previously existed on or after November 28, 1975 to meet the criteria as an Existing Use and therefore the title of (b) Protection and Determination of Existing Uses is misleading. Rather this sub-section is about determining

the level or degree of protection existing uses are warranted, not determining whether they exist or not. Existence is defined by the definition and this sub-section states *"those existing uses shall be maintained and protected regardless of the water's classification"*. The changes made in subsection (b) suggest they might not be protected and therefore is counter to the first sentence. GRH suggests the language be modified to read, *"In determining the **extent to which** existing uses **will** ~~to~~ be protected and maintained under this section and all other sections of these rules, the Secretary shall consider the designated uses of the water, and at least the following factors:…"*

- GRH further recommends the last item proposed for **addition**, *"When existing uses are incompatible, or conflict with designated uses, conditions shall be imposed to attain the water quality necessary to support the highest and best use."* be modified to read, *"When existing uses **appear** ~~are~~ incompatible, or **appear to** conflict with designated uses, conditions shall be imposed to attain the water quality necessary to support **designated use without eliminating the existing use which must also be maintained and protected** ~~of the highest and best use~~*." This will maintain consistency with the first sentence in sub-section (b), eliminate the confusion and undefined term highest and best use, and provide for a realistic yet flexible approach needed in conflicting situations.

§ 29A-206(e) Water Quality Certifications Issued Pursuant to §401 of the Clean Water Act

- GRH sees value in listing potential State laws that could potentially apply to an activity requiring a Water Quality Certification.
- Regarding the language: *"Any certification issued by the State shall establish conditions necessary to ensure that the federally licensed or permitted activity will comply with these rules, as well as with any other appropriate requirement of state law, including:"*
  - Is this addition suggesting the provisions or permits necessary to comply with these state laws will be issued under a single WQC?
  - Given the fact that some of these laws might not apply, it would make sense to also add the following identified text to the proposed addition, *"Any certification issued by the State shall establish conditions necessary to ensure that the federally licensed or permitted activity will comply with these rules, as well as with any other appropriate requirement of state law, **as applicable,** including:"*
  - The WQC application should be revised so that the applicant can identify those laws and regulations that would apply, as well as those that do not.

§ 29A-305 (a) Numeric Biological Indices and Aquatic Habitat Assessments

- Adding language that requires an Applicant to obtain Secretary approval of a study in this Section is problematic.
- GRH performs, and hydro relicensing in general often requires, numerous studies under the Integrated Licensing Process as a means of having all the necessary study requirements and studies performed <u>in advance of a FERC application and therefore in advance of the 401 process</u>. Study plans are developed, agencies and stakeholders such as the Department comment and make recommendations for

changes, applicants often adjust to address those concerns and ultimately FERC determines what studies are necessary and they are performed. Results are reviewed by agencies such as the Department and comments are addressed. If the study scope was not followed studies are potentially redone or continued. All of this is done in advance of a 401 WQC application. To specify that after all of that, the Secretary may not approve those studies is very problematic for those situations. Therefore, <u>we strongly recommend not adding the sentence</u>, "*Applicants shall obtain the Secretary's approval of study plans prior to conducting an evaluation"* as the studies would have already been performed according to a study scope developed in consultation with Department staff.

- Similarly, in § 29A-304 Hydrology Criteria (c)(2) the existing sentence, *"The Secretary need not consider any flow study unless the study plans have obtained the Secretary's approval"* Is equally problematic from a timing and process standpoint given the situation described above and could result in a denial long after study scope, plans and execution have taken place.
- Replacement of the word "*may*" with "*shall*" is not a problem for GRH as long as it is clear that this is specific to determining whether or not the results of the studies provide adequate proof of "full support of aquatic habitat use" and does not pertain to whether or not the Secretary has approved the studies.

From:	Meg Berlin
To:	Sargent, Bethany
Cc:	LaFlamme, Pete
Subject:	Citizen comment - Formal Comment on the new Water Quality Standards/Rules for Vermont.
Date:	Wednesday, July 13, 2022 3:49:37 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to presence of bioaccumulative toxins, such as PFAS. This 2014 EPA document (https://www.epa.gov/.../documents/handbook-chapter5.pdf) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that are near zero. Considering that the attached document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumlative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Meg Berlin

Meg Berlin
1251 Greenbush Road
Charlotte, VT 05445

From: noreply@vermont.gov
To: Sargent, Bethany
Subject: Comments on Rule 22P009
Date: Friday, July 22, 2022 8:04:08 AM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Comments on Rule 22P009
Reply To:gzakov@vlct.org
Memorandum

To: Vermont Department of Environmental Conservation, Watershed Management Division

From: Gwynn Zakov, Municipal Policy Advocate

Date: July 21, 2022

Re: Draft Water Quality Standards, Rule Number 22P009

Please accept these comments on the Vermont Water Quality Standards, Rule Number 22P009. VLCT is submitting them on behalf of our 247 member cities and towns.

The financial impact on affected persons and parties, including municipalities with permits requiring compliance with the standards, cannot be understated. Although the agency cannot control all of the fiscal impacts on each affected person and party, it is critical for the agency to write the rules creatively and thoughtfully to lessen that burden. The following comments are submitted with this perspective in mind.

Page 9, definition of "wetland." The definition of wetland includes "potholes," however a pothole itself is never defined. If the terms is meant to include both landform and road surface potholes, VLCT objects to including potholes in the definition. We are concerned that an area such as water filled ditches, depressions, or holes in the highway exchanges and rights-of-way would qualify as a pothole. The ensuing fiscal impact to municipal public works projects would be substantial. A definition of pothole needs to be included in the definition section of the rules, and the definition must exclude road surface and associated water-filled ditches, depressions, or holes in and around road and highways systems.

Page 11, hydrology and voluntary agreements. VLCT objects to the deletion of existing language in the rules that allows the agency to join in voluntary agreements with municipalities and others relating to artificial streamflow regulations. These agreements can help all parties to work creatively and in a cost-effective manner to address any artificial streamflow regulations, and we believe they should be preserved.

Page 11, classification of water uses, "designated uses." VLCT requests that "aesthetic conditions" be defined in new subsection (3). Such an undefined term can be interpreted very broadly and the potential unintended consequences of every subjective "aesthetic condition" when interpreting and enforcing rules will be immense. The term should be clearly defined to eliminate any subjective interpretation and thereby better clarify the scope of potential designated uses that may fall under this new subsection.

From: LeClair, Jacqueline
To: Sargent, Bethany
Cc: Arsenault, Dan
Subject: Comments on Vermont Triennial Review
Date: Tuesday, July 26, 2022 2:59:25 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Hi Bethany – please find EPA's comments on the VT Triennial Review for which the public notice ended last Friday. Please let either Dan or me know if you have any question.
Thank you,
Jackie

1. **§ 29A-101 Applicability:**

   Section 29A-101(b) has been replaced with the following language.

   (b) The applicable Water Quality Standards shall be those in effect at the time of final administrative disposition of a permit or certification. The time of final administrative disposition shall be the date upon which the Agency places the proposed permit or decision on public notice. Concerning Water Quality Certification for a License, or the renewal of a License, issued by the Federal Energy Regulatory Commission (FERC), the applicable Water Quality Standards shall be those in effect at the time that the FERC issues public notice of an application for a License.

   EPA believes that the "final administrative disposition of a permit or certification" should be the date upon which a final permit or certification is issued as opposed to the date upon which the Agency places the proposed permit or decision on public notice. Further, once EPA approves water quality standards (WQS) under Section 301(c) of the Clean Water Act (CWA) the new or revised WQS would be in effect for CWA purposes. Thus, the applicable WQS should be those which are in place (and approved by EPA) at the time final permit or certification issuance. For example, when EPA issues NPDES permits in NH and MA and it knows there is a potential that a new WQS will be approved during the time period between public notice of the draft permit and issuance of the final permit, it will often include language in the draft permit noting the potential for the new WQS and commitment to implement it in the final permit should it be approved in the interim. EPA believes that it would be an infrequent occurrence where WQS would change during the public notice of a permit or certification.

2. **§ 29A-104 Classification of Water Uses:**

The order of the eight designated uses at Section 29A-104(d) changed. For example, "The use of waters for enjoyment of aesthetic conditions" was previously listed as number six in the list and is now number three. Also, "The use of waters for swimming and other primary contact recreation" was previously listed number 3 in the list but is now number six. Does the order of the designated uses in the list have any significance? All designated uses should receive equal protection under Vermont's WQS.

3. § 29A-306 Use-specific Management Objectives and Criteria by Class:

Section 29A-306(f) contains the use-specific management objectives for recreation which includes swimming and other primary contact recreation. New management objective for Class B(1) waters was created at Section 29(A)-306(f)(3). These management objectives include:

> (3) Class B(1).
>
> -
>
> (A) Management Objectives. Where sustained direct contact with the water occurs,
> waters shall be managed to achieve and maintain a level of water quality
> compatible with very good quality swimming and other primary contact
> recreation with negligible risk of illness or injury from conditions that are a result
> of human activities.
>
> -
>
> (B) Criteria. Escherichia coli – Not to exceed a geometric mean of 126
> organisms/100ml obtained over a representative period of 60 days, and no more
> than 10% of samples above 235 organisms/100 ml.

EPA notes that the public notice did not contain any waters that were being classified as B(1) for recreation. If any waters are proposed to be downgraded from Class A(1) or A(2) then a use attainability analysis pursuant to 40 C.F.R. 131.10(g) would need to be performed and submitted to EPA for final approval. Also, any waterbodies being upgraded to Class B(1) for recreation would also constitute a new or revised WQS and would need EPA approval.

Jacqueline LeClair

Chief, Water Quality and Wetlands Protection Section
USEPA
5 Post Office Sq. Mailcode 06-2
Boston, MA 02109
tel: 617-918-1549
cell: 857-243-0811

From:	ANNE CARVEY
To:	Sargent, Bethany
Cc:	LaFlamme, Pete
Subject:	formal comment on new standards/rules for water quality in Vermont
Date:	Wednesday, July 13, 2022 5:59:01 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a taxpaying citizen who is concerned about our environment, I am writing with a formal comment on the
Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove "Mixing Zones and "Waste Management Zones" from the Water Quality Standards, due to
the presence of bioaccumulative toxins such as PFAs. This 2014 EPA document
(https://www.epa.gov./handbook-Chapter 5.pdf)
urges against mixing zones when bioaccumulative toxins are involved. I urge you to heed its guidance in full.

On June 15, 2022, the EPA issued updated drinking water health advisories for PFOAs and PFOSs that replaced those
that they issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure,
indicate that some negative health effects may occur in concentrations of PFOA and PFOS that are near zero. As the
attached document is from 2014, this new standard should be a wake up call that PFOAs as a bioaccumulative toxin
should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Sincerely,

Eldon W. Carvey
68 Brookside Drive
Williston, Vermont 05495

From:	S.Christopher Jacobs
To:	Sargent, Bethany
Cc:	LaFlamme, Pete
Subject:	Formal Comment on new Water Quality Standards/Rules
Date:	Thursday, July 14, 2022 7:39:29 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

As a Vermont citizen very concerned about our environment, I want to comment on proposed Vermont Water Quality Standards Rules.

I'm hoping [insisting] that you need to remove "waste management zones" and 'mixing zones". A 2014 EPA document urges against it when bio-accumulative toxins are involved.

As you know on June15, 2022, the EPA issued interim updated drinking water health advisories for PFOS and PFOA that replace those issued 2016.

As we learn more and more about PFOS and PFOA the accumulaayting data says tthat PFAS are a bio-accumulative toxin that should never be mixed into or added to our water.

Pleas do not allow leachate or even treated bio-leachates into anyones drinking water....ours or Canadas

Sincerely

S Christopher Jacobs
!44 South Pitkin Rd
Albany, Vermont

From: Cameron Davis
To: Sargent, Bethany
Subject: Formal Comment on the new Water Quality Standards/Rules for Vermont.
Date: Wednesday, July 13, 2022 3:38:28 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove "mixing zones" and "waste management zones" from the Water Quality Standards, due to presence of bioaccumulative toxins, such as PFAS. This 2014 EPA document (https://www.epa.gov/.../documents/handbook-chapter5.pdf) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that are near zero. Considering that the attached document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumlative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Sincerely,

Cameron Davis
559 Ten Stones Circle
Charlotte, VT 05445

From:	Catherine Bock
To:	Sargent, Bethany
Subject:	Formal Comment on the new Water Quality Standards/Rules for Vermont
Date:	Wednesday, July 13, 2022 4:07:23 PM

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to the presence of bio-accumulative toxins, such as PFAS. This **2014 EPA document** urges AGAINST mixing zones when bioaccumulative toxins are involved. Please take it into consideration.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the EPA document linked above is from 2014, this new standard should be a wake up call that PFAS as a bio-accumlative toxin should **NEVER** be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Sincerely,

Catherine Bock
350 VT, Extinction Rebellion VT
175 A North Prospect St.
Burlington, VT 05401

From:	Kai Mikkel Førlie
To:	Sargent, Bethany
Cc:	LaFlamme, Pete; madel51353; sknightinvt73
Subject:	Formal Comment on the New Water Quality Standards/Rules for Vermont
Date:	Wednesday, July 13, 2022 5:41:46 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

I hereby formally submit the following comment regarding the proposed Vermont Water Quality Standards Rule (Chapter 29A):

Please remove "mixing zones" and "waste management zones" from the Water Quality Standards, due to prevelance in our environment of bioaccumulative toxins, such as PFAS.

As you are hopefully aware, the following EPA document:

https://www.epa.gov/sites/default/files/2014-09/documents/handbook-chapter5.pdf?fbclid=IwAR2dySHbj6k5f_B8MnCCtubQ9NtngaOjb8t5SlLEeJNh4ekF6y9R-zb7Ue4

...urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) which replace those it earlier issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that are near zero. Considering that the aforecited document has been around a while (it was published in 2014), this new standard should be a wake up call that PFAS as a class of bioaccumlative toxins should NEVER be mixed into or added to our water.

Please do the right thing and stop allowing the mixing of bioaccumulative toxins into our water.

Sincerely,

Kai
Burlington

[Sent from my smartphone.]

From: Jennifer Decker
To: Sargent, Bethany; LaFlamme, Pete
Subject: Formal Comment on the new Water Quality Standards/Rules for Vermont
Date: Wednesday, July 13, 2022 6:02:41 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a citizen concerned about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove "mixing zones" and "waste management zones" from the Water Quality Standards, due to presence of bio-accumulative toxins, such as PFAS. This (https://www.epa.gov/sites/default/files/2014-09/documents/handbook-chapter5.pdf) 2014 EPA document urges AGAINST mixing zones when bio-accumulative toxins are involved; we need you to act to support community health and safety.

On June 15, 2022, the EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those the EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that are near zero. Considering that the EPA document linked above is from 2014, this new standard should be a wake up call that PFAS as a bio-accumlative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bio-accumulative toxins in our water. I am speaking for myself and for many people who have developed severely impairing health issues living in Vermont. We are looking for answers and action.

Sincerely,

Jennifer Decker
Hinesburg, VT
VT PFAS/Military Poisons Coalition Member

From:	John McHugh
To:	LaFlamme, Pete; Sargent, Bethany
Subject:	Formal Comment on the new Water Quality Standards/Rules for Vermont
Date:	Monday, July 18, 2022 9:33:37 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent and Mr. LaFlamme:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove "mixing zones" and "waste management zones" from the Water Quality Standards, due to presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document** (**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the attached document is from 2014, this new standard should be a wakeup call that PFAS as a bioaccumlative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Sincerely,

--

John P. McHugh

131 Shore Road

Franklin, VT 05457

(802)272-1173

john.p.mchugh@gmail.com

"Land was created to provide a place for boats to visit."

~Brooks Atkinson

From:	Emily Lanxner
To:	Sargent, Bethany; LaFlamme, Pete
Subject:	Formal Comment on the new Water Quality Standards/Rules for Vermont
Date:	Thursday, July 14, 2022 7:38:11 AM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to presence of bio-accumulative toxins, such as PFAS. This **2014 EPA document** urges AGAINST mixing zones when bio-accumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the EPA document linked above is from 2014, this new standard should be a wake up call that PFAS as a bio-accumlative toxin should **NEVER** be mixed into or added to our water.

Please do the right thing and stop mixing bio-accumulative toxins in our water.

Sincerely,

Emily Lanxner
Mobilization for Pollinator Survival
PO Box 289
Hardwick Vermont 05843

From: Ted Montgomery
To: Sargent, Bethany
Subject: Formal Comment on the new Water Quality Standards/Rules for Vermont
Date: Thursday, July 14, 2022 10:20:34 AM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove "mixing zones" and "waste management zones" from the Water Quality Standards, due to presence of bioaccumulative toxins, such as PFAS. This 2014 EPA document

(https://www.epa.gov/.../documents/handbook-chapter5.pdf)

urges AGAINST mixing zones when bioaccumulative toxins are involved—please pay attention to it.

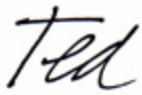
On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016.

The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that are near zero.

Considering that the attached document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumlative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Keep Your Home to the Sun,



Ted Montgomery

GroundSwell Architects
477 Ten Stones Circle
Charlotte VT 05445
802-425-7717

ted@groundswellarchitects.com
www.groundswellarchitects.com

From:	steph muzzy
To:	Sargent, Bethany
Subject:	Formal Comment on the new Water Quality Standards/Rules for Vermont
Date:	Tuesday, July 19, 2022 7:32:39 AM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document** (**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the attached document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumlative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Sincerely,
Stephanie Muzzy
168 Cumberland Rd
Burlingtn, vt 05408

From:	Polly Jones
To:	Sargent, Bethany
Cc:	LaFlamme, Pete
Subject:	Formal Comment on the new Water Quality Standards/Rules for Vermont
Date:	Tuesday, July 19, 2022 12:33:42 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

This is a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those that EPA issued in 2016. Based on the 2021 Vermont Per- and Polyfluoroalkyl Substances (PFAS) Surface Water, Fish Tissue, and Wastewater Treatment Facility Effluent Monitoring Report of April 4, 2022, the "low or very low" designations can no longer be considered low. These bio-accumulative toxins are not rendered harmless through the practice of dilution.

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards. This **2014 EPA document** urges AGAINST mixing zones when bio-accumulative toxins are involved: "Bio accumulative pollutants are one example of a pollutant for which mixing zones may not be appropriate because they may cause significant human health risks such that the designated use of the waterbody as a whole may not be protected. Therefore, the EPA recommends that state and tribal mixing zone policies do not allow mixing zones for discharges of bio accumulative pollutants".

The updated EPA advisory levels consider lifetime exposure and indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Because the EPA document linked above is from 2014, this new standard should be a wake-up call that PFAS as a class of bio-accumulative toxins should **NEVER** be mixed into or added to Vermont waterbodies. For all our environmentally progressive hype, Vermont has a long way to go to catch up to it. Let’s make some Water Quality Standards that we can all live with, including our children and grandchildren.

Respectfully yours,

Polly S. Jones

Manchester

From:	nick gray
To:	Sargent, Bethany
Cc:	LaFlamme, Pete
Subject:	Formal Comment on the new Water Quality Standards/Rules for Vermont
Date:	Wednesday, July 20, 2022 8:09:29 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document** (**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved; check it out if you haven't.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that **the above linked document** is from 2014, this new standard should be a wake up call that PFAS as a bioaccumlative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Sincerely,

Nicholas Gray
37 Hawthorne St.
Winooski,VT 05404

From:	Maho Takahashi
To:	Sargent, Bethany
Cc:	LaFlamme, Pete
Subject:	Formal Comment on the new Water Quality Standards/Rules for Vermont
Date:	Thursday, July 14, 2022 2:45:25 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a concerned resident about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to the presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document** (**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the attached document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumulative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Sincerely,

Maho Takahashi
Burlington, VT

From:	Laurie Gagne
To:	Sargent, Bethany; LaFlamme, Pete
Subject:	Formal Comment on the new Water Quality Standards for Vermont
Date:	Thursday, July 14, 2022 2:57:04 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document** (**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the attached document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumlative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Sincerely,

Laurie Gagne
74 Lilac Lane
South Burlington, VT 05403

From:	Teresa Gerade
To:	Sargent, Bethany
Cc:	LaFlamme, Pete
Subject:	Formal Comment on the new Water Quality Standards/Rules for Vermont
Date:	Friday, July 15, 2022 9:43:03 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

I am writing to you today with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

Having reviewed the Annotated Draft of the new rules for 2022, I am shocked to see that the new rules still allow mixing zones and waste management zones. As you are well aware, there are numerous chemicals that bioaccumulate (as in the class of PFAS chemicals) in living organisms. There are also numerous chemicals that are known endocrine disruptors, and little is known about how these chemicals interact with each other. Why on earth would our own Agency of Natural Resources allow harmful pollutants that can bioaccumulate or that may cause endocrine disruption, to be discharged into our waterways at levels above the regulatory level for health and safety? Please remove "mixing zones" and "waste management zones" from the Water Quality Standards. In their 2014 Water Quality Standards Handbook, the EPA provided this strong warning:

> *Additionally, states and tribes should carefully consider whether mixing zones are appropriate where a discharge contains bioaccumulative, pathogenic, persistent, carcinogenic, mutagenic, or teratogenic pollutants or where a discharge containing toxic pollutants may attract aquatic life.*

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the EPA document linked above is from 2014, this new standard should be a wake up call that PFAS as a bioaccumulative toxin should **NEVER** be mixed into or added to our water.

Please remove the "mixing zones" and the "waste management zones" from our water quality standards. Water is a precious resource, and it is not renewable.

Sincerely,
Teresa Gerade
89 Blake Street
Newport, VT

From: PamLadds
To: Sargent, Bethany; LaFlamme, Pete
Subject: Formal Comment on the new Water Quality Standards/Rules for Vermont
Date: Thursday, July 14, 2022 4:48:23 PM

Dear Ms Sargent.

I am a Newport, VT citizen and extremely concerned about our environment. Water is our scarcest resource and unless it is clean, clear and non-polluted our grandchildren will not survive! It is far too late in the game to risk any water source.

This is my formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

Phrases such as "Mixing Zones" and "waste management zones" should never be in the Water Quality Standards. Bio-accumulative toxins such as those in the pfas family, pharmaceutical products and other chemicals that interact with each other are risking catastrophe. Even the EPA, hardly the beacon of forward thinking, in **2014** said this was a risky proposition. "Dilution as a solution to pollution" is archaic and harmful thought and one that Vermont should not be encouraging. EPA 2014

The recent EPA interim (6/15/22) Drinking Water Health Advisory for PFOA, PFOS replaces the one issued in 2016. The updated advisory levels, based on new science, recognize that lifetime exposure has an impact. It is clear that negative health effects occur with concentrations of PFAS chemicals in water that are **near zero.** There is no safe exposure level. PFAS and other bioaccumulative toxins should **never** be mixed into, or added to, our water. To do so risks jeopardizing the health of current and future generations, livestock and aquatic life.

Please remove "mixing zones" and "waste management zones" from Water Quality Standards, these high risk practices have no place in regulating water standards. This points out the dangers inherent in this practice.
Please take the opportunity to do the right thing, and be

supporters of health and environmental justice.

Sincerely
Pam Ladds
29 Stagecoach Drive,
Newport, VT 05855

Water is Life!

You cannot begin to preserve any species of animal unless you preserve the habitat in which it dwells. Disturb or destroy that habitat and you will exterminate the species as surely as if you had shot it. So conservation means that you have to preserve forest and grassland, river and lake, even the sea itself. This is not only vital for the preservation of animal life generally, but for the future existence of man himself -- a point that seems to escape many people. -Gerald Durrell, naturalist and author (7 Jan 1925-1995)

Pam Ladds

From:	Anita Rapone
To:	Sargent, Bethany
Cc:	LaFlamme, Pete
Subject:	Formal Comment on the new Water Quality Standards/Rules for Vermont
Date:	Thursday, July 14, 2022 11:59:08 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As someone who is very concerned about the quality of our drinking water as well as the environment, I am writing to make a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to the presence of bioaccumulative toxins, such as PFAS. In its 2014 publication on water standards, the EPA warned against mixing zones when bioaccumulative toxins are involved. See:
https://www.epa.gov/sites/default/files/2014-09/documents/handbook-chapter5.pdf

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued earlier. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that are near zero. Considering that the document I referenced is from 2014, this new standard should be a wake up call that PFAS as a bioaccumulative toxin should never be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Sincerely,
Anita Rapone
83 Summit Ridge
Burlington VT 05401

From:	Jenna Linn Thayer
To:	Sargent, Bethany
Cc:	LaFlamme, Pete
Subject:	Formal Comment on the new Water Quality Standards/Rules for Vermont
Date:	Friday, July 15, 2022 8:06:04 AM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to the presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document** (**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the attached document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumlative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Sincerely,
Jennifer Thayer
12 Volz Street
Burlington, VT 05401

Jenna Thayer (she/her)
BIPOC, LGBTQA & Planet ally

From:	Hadley Priebe
To:	Sargent, Bethany
Cc:	LaFlamme, Pete
Subject:	Formal Comment on the new Water Quality Standards/Rules for Vermont
Date:	Friday, July 15, 2022 8:18:38 AM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to the presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document** (**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the attached document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumulative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Sincerely,

Hadley Priebe
2046 Highgate Rd
St Albans, VT 05478

From: Karen Sturtevant
To: Sargent, Bethany
Cc: LaFlamme, Pete
Subject: Formal Comment on the new Water Quality Standards/Rules for Vermont
Date: Friday, July 15, 2022 11:48:26 AM

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document** (**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the attached document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumlative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Sincerely,
Karen Sturevant
Williston, VT

From: Nina Miller
To: Sargent, Bethany; LaFlamme, Pete
Subject: Formal Comment on the new Water Quality Standards/Rules for Vermont
Date: Friday, July 15, 2022 2:28:12 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document** (**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the attached document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumlative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Sincerely,
Nancy Miller-DeMercurio
100 W. Canal St. #43
Winooski Vt 05404

From: Nicole Comanducci
To: Sargent, Bethany
Cc: LaFlamme, Pete
Subject: Formal Comment on the new Water Quality Standards/Rules for Vermont
Date: Friday, July 15, 2022 7:46:39 PM

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to the presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document** (**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the attached document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumulative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water. Thank you for your time.

Sincerely,

Nicole Comanducci
Cornwall, VT

From:	William Peery
To:	Sargent, Bethany
Cc:	LaFlamme, Pete
Subject:	Formal Comment on the new Water Quality Standards/Rules for Vermont
Date:	Sunday, July 17, 2022 9:32:38 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document** (**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the attached document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumlative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Sincerely, William Peery
2105 Notch Road
Jericho VT 05465

From:	John Barrows
To:	Sargent, Bethany
Cc:	LaFlamme, Pete
Subject:	Formal Comment on the new Water Quality Standards/Rules for Vermont
Date:	Monday, July 18, 2022 10:23:51 AM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Send to: bethany.sargent@vermont.gov and copy Pete.LaFlamme@vermont.gov

Subject: Formal Comment on the new Water Quality Standards/Rules for Vermont

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document** (**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the attached document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumlative toxin should NEVER be mixed into or added to our water.

Regards,
--
John Barrows
802-363-3503

From:	Daniela Michaels
To:	Sargent, Bethany
Cc:	LaFlamme, Pete
Subject:	Formal Comment on the new Water Quality Standards/Rules for Vermont
Date:	Monday, July 18, 2022 11:09:12 AM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document** (**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the attached document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumlative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Sincerely,

Daniela Michaels
1628 Button Bay Road
Vergennes VT 05491

From:	Diane Dubuque
To:	Sargent, Bethany
Cc:	LaFlamme, Pete
Subject:	Formal Comment on the new Water Quality Standards/Rules for Vermont
Date:	Monday, July 18, 2022 8:03:29 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:
I am very concerned about our environment and I am writing a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document** (**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the attached document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumlative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Sincerely, Diane

Diane E. Dubuque
In The Ferns Stained Glass and Hand Etching
1746 Main St. Fairfax, VT 05454
802-370-5926
http://www.intheferns.webs.com

From: See Lions
To: Sargent, Bethany; Kamman, Neil; LaFlamme, Pete
Subject: Formal Comment on the VT Water Quality Standards
Date: Monday, July 18, 2022 1:05:42 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear PM Sargent, Director LaFlamme, Director Kamman and pertinent ANR folks,

As a VT resident, child of multiple generations of military service members, God-parent to seven young Vermonters, and with siblings & aging family members residing throughout the state, I am moved to send a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

While I realize the challenges for managing such a diverse watershed are myriad, I urge you to remove "mixing zones" and "waste management zones" from the Water Quality Standards, due to the presence of bioaccumulative toxins, such as PFAS. This 2014 EPA document (2014 EPA document) urges *against* mixing zones when bioaccumulative toxins are involved: please heed this guidance.

On June 15, 2022, the EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those the EPA issued in 2016. The updated advisory levels, which are based on more recent scientific analysis considering lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that are *near zero*.

Considering that the linked document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumulative toxin should *never* be mixed into or added to our water.

Please ensure the health of current and future generations of Vermonters and commit to no mixing of bioaccumulative toxins into our water.

Thank you for all you do to help maintain and improve the quality of life in our state.

Wishing you all good health & a wonderful summer!

Casey Lyon
23 Derway Dr
Burlington, VT 05408

From:	ralph259
To:	Sargent, Bethany
Subject:	From Ralph Corbo - Wallingford VT
Date:	Monday, July 18, 2022 9:26:03 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Subject: Formal Comment on the new Water Quality Standards/Rules for Vermont

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove "mixing zones" and "waste management zones" from the Water Quality Standards, due to presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document** (**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the attached document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumlative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

From: Henry Coe
To: Sargent, Bethany
Subject: Fwd: Comment on Proposed Water Quality Standards/Rules for Vermont
Date: Wednesday, July 20, 2022 4:02:22 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

On Wed, Jul 20, 2022 at 3:54 PM Henry Coe <henrycoevt@gmail.com> wrote:

> Hello,
>
> As a former town planning commission member, I went long ago to tour a small Vermont municipal waste water treatment facility to try to understand its functioning,. I remember the operator explained that the WWTF was designed to treat organic residential sewage through a combination of aerobic and anaerobic bacterial "farming", allowing the bacteria to break down the solids, as well as physical screening, compression squeezing, and settling functions. At the end of the process, those solids which remain are separated as sludge and sludge cake. The liquid effluent becomes clear and relatively benign such that it can be spilled into the nearest surface water body. The facility does a good job with traditional household sewage. The operator went on to explain that a municipal facility is not designed to screen out, and treat for chemicals from prescription drugs, and other household cleaning chemicals. These he explained pass through the system, as do heavy metals, and "we hope" they are diluted in the river below. My visit was in the seventies, prior to the ubiquitous use of the so-called "forever chemicals" which came to light in Vermont in Bennington in from industrial contamination by PFAS of water systems in the late two thousand teens..
>
> I was appreciative for the time the waste treatment operator spent with me but felt a disconnect upon leaving. I remembered reading Silent Spring in the sixties. Besides her point of bioaccumulation upward of poisons through the food chain of birds, Rachel Carson made the point, in the age of DDT, that DDT-related and derived newer chemical compounds, when combined with other chemical compounds resulted in new compounds whose toxic danger was greater than the sum of its parts.. Carson courageously warned against the manufacture and use of such DDT and related chemical compounds.in our water and atmospheric environment. Progressive laws were enacted. Shell thicknesses of bird species then recovered, allowing hatchlings to be born and live.
>
> The same principal is present today, sixty years later. We have only to follow to where the great majority of Vermont's solid waste is privately hauled and stored, - the Coventry landfill. In this publicly permitted, temporarily contained, private landfill facility, sited inappropriately adjacent to wetlands and within a mile of an international drinking water source for 175,000 residents, household and industrial chemical solid waste is dumped, without inspection, other than occasionally by eyeball. Who knows what new toxic chemical compounds combine and form even more toxic compounds? Open to precipitation, leachate trickles through this toxic mass and is collected and hauled, up to 60,000 gallons per day, everyday, to waste water treatment facilities, permitted by the State to accept it. While better than disposing it, end-of pipe, directly into the Black River, due to the effective action by the WWTF upon the organic sewage residual component, the practice of relying upon the WWTF to treat leachate of the myriad of toxic chemicals is a fiction. The proposed new water standards refer to " mixing zones" a certain number of feet

downstream from WWTFs. Mixing zones in rivers or streams, in the era of persistent PFAS chemicals, does not a clean river make. Such zones, based on the false assumption that dilution reduces concentrations of forever persistent chemicals, fails to understand the bioaccumulative process of contaminants in aquatic species, especially fish. This is poor scientific and public policy.

Prevention is better than cure. One kills a snake, not from cutting off its tail, but by cutting off its head. (Apologies to snakes.). Please focus your revised standards and rules on water quality, not at end-of-pipe standards, but with strong and overt emphasis to prevent ground and surface water from being polluted in the first place..

Sincerely, Henry Coe, Danville, Vermont

From: Karl Novak
To: Sargent, Bethany
Subject: Fwd: Important: PFAS Action
Date: Thursday, July 14, 2022 3:52:18 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Subject: Formal Comment on the new Water Quality Standards/Rules for Vermont

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove "mixing zones" and "waste management zones" from the Water Quality Standards, due to presence of bio-accumulative toxins, such as PFAS. This **2014 EPA document** urges AGAINST mixing zones when bio-accumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the EPA document linked above is from 2014, this new standard should be a wake up call that PFAS as a bio-accumlative toxin should **NEVER** be mixed into or added to our water.

Please do the right thing and stop mixing bio-accumulative toxins in our water.

Sincerely,

Karl and Patricia Novak
VT PFAS/Military Poisons Coalition Member
90 Red Truck Lane
Hinesburg, VT 05461

From:	Robert Ackland
To:	Sargent, Bethany
Cc:	LaFlamme, Pete
Subject:	New Water Quality Standards/Rules for Vermont (formal comment)
Date:	Tuesday, July 19, 2022 10:56:37 AM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:
I am adding my voice to others you have already received.

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document** (**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the attached document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumlative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Sincerely,
Robert T. Ackland, Ph.D.
100 W. Canal St., Apt. 4
Winooski, VT 05404

From: jhendley
To: Sargent, Bethany
Cc: LaFlamme, Pete
Subject: Proposed new water quality standards
Date: Monday, July 18, 2022 4:00:44 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a concerned citizen, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove "mixing zones" and "waste management zones" in Section 29A-204 Special Zones from the Water Quality Standards, due to presence of bio-accumulative toxins, such as PFAS. The 2014 EPA document Water Quality Standards Handbook urges against mixing zones when bio-accumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that are near zero. Considering that the EPA document linked above is from 2014, this new standard should be a wake up call that PFAS as a bio-accumlative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bio-accumulative toxins in our water. Thank you!

Sincerely,

Jane Hendley
VT PFAS/Military Poisons Coalition Member

From:	CHRIS & SUE RACANELLI
To:	Sargent, Bethany
Cc:	LaFlamme, Pete
Subject:	Proposed Vermont Water Quality Standards Rule
Date:	Monday, July 18, 2022 12:00:37 AM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to the presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document** (**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the attached document is from 2014, this new standard should be a wake-up call that PFAS as a bioaccumlative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Sincerely,

Sue Racanelli
270 Brazier Road
East Montpelier, VT 05651

From: mike bald
To: LaFlamme, Pete; Sargent, Bethany
Subject: Proposed VT water quality standards
Date: Thursday, July 21, 2022 8:50:43 AM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Greetings.
Thank you for accepting my input regarding the proposed rule for water quality standards.
As with so many land managers, I have to ask about your drought awareness.
In such dry conditions, we need to modify our behaviors. The presence or absence of water alters biological processes and concentrations of toxins. We simply cannot be as careless about toxins as your agency wishes to be.
Not only are we in the fourth consecutive year (spring, summer) of unusual DRY, but on those occasions when we DO get rain, it tends to be heavy and problematic. There is no longer a set of "normal conditions" to accommodate your planned mixing zones, etc.
Your planning simply does not address current conditions, and toxins such as PFAS are not to be taken lightly.
Please evolve your agency mindset to protect water quality and public health.

Thank you,
Michael Bald
Royalton

From: Wall-Bull Family
To: Sargent, Bethany
Cc: Moore, Julie; Pete.LaFlamme@vermont.govp
Subject: Public Comment on Revised Vermont Water Quality Standards
Date: Wednesday, July 20, 2022 12:07:55 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Ms. Sargent,
It is in my resolute opinion that the proposed revision below could result in a serious discrepancy that would impede the protection of our surface waters.

Subchapter 1. APPLICABILITY, DEFINITIONS, AND POLICIES
§ 29A-101 Applicability
(b) The applicable Water Quality Standards shall be those in effect at the time of final administrative disposition of a permit or certification. The time of final administrative disposition shall be the date upon which the Agency places the proposed permit or decision on public notice.
In order to address this inadequacy, the current applicability standards should remain in place, those being: (b) Concerning any application, the Water Quality Standards in effect at the time of the filing shall apply.

Not all revisions are necessary or practical to the VT Water Quality Standards. Just as some of the current Water Quality Standards are necessary and practical to protect our surface waters such as: *§ 29A-101 Applicability*
(a) Pursuant to 10 V.S.A. Chapter 47, after the use classification of any water has been established, that water shall be managed by the Secretary in order to obtain and maintain the classification for that use. The Secretary may enforce a classification and these rules against any person affected thereby who, with notice of the classification, has failed to comply.
This Standard must be enacted now to correctly classify all the B(2) lakes that meet the A(1) criteria. By not enacting this Standard, we risk degradation of these lakes and losing the healthiest, cleanest, and most pristine surface waters in the nation.

Thank you for your time and consideration.
Respectfully,
Holly B. Bull

From:	Dave and Lindy Sargent
To:	Sargent, Bethany
Cc:	LaFlamme, Pete; Moore, Julie
Subject:	Public Comment to Proposed Water Quality Standards Rule Chapter 29A
Date:	Friday, July 22, 2022 1:39:05 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent,

Please accept into the record my comments on the Proposed Water Quality Standards Rule Chapter 29A.

As stated in 29A-103 these Rules are written to achieve water quality according to Vermont standards and the Federal Clean Water Act, maintaining the integrity of the water and controlling discharges which will assure both the health of the public and the aquatic communities. I have questions and concerns about sections of the Antidegredation Policy (29A-105) because they contain possible loopholes which will negate the main purpose of the rules. In the former, condition 105(c)(2)(B) allows for "lower water quality is necessary to prevent substantial adverse economic or social impacts on the people of the State." Yes, regulatory standards must be achieved (C) but aren't these standards potentially going to be revised? I'm speaking about the current standards for PFAS, a very significant marker for public health and water. Since the EPA has recently (June 2022) released a new advisory that, close to zero, is far lower standard than Vermont's 20 ppt it makes me wonder if Vermont is considering the same. And which is more important, public health (including fish health) or adverse economic or social impacts to Vermonters? Clean water is clean water.

Another area of the Water Quality Standards Rule, Section 29A-204 regarding Mixing Zones, disturbs me, which I hope you will revise by disallowing Mixing Zones. Despite any needs, again, perhaps economically for the State of Vermont, or a corporation, any discharge into mixing zones represents a threat to public health. Canoeists and kayakers, fisher-people, fish and other aquatic life use the rivers where these discharges might be allowed. Efforts by lobbyists in other parts of the country have created pressure to dilute the Federal Clean Water Act. Please, protectors of Vermont's clean waters, do not create possible avenues for the State's water quality standards to be violated. We look to you to uphold the leadership of Vermont in being stewards of the environment and the people.

Thank you.

Sincerely,
Lindy Sargent, Barton

From: Teresa Mills
To: Sargent, Bethany; LaFlamme, Pete
Subject: Public comment
Date: Wednesday, July 13, 2022 6:43:15 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to presence of bio-accumulative toxins, such as PFAS. This **2014 EPA document** urges AGAINST mixing zones when bio-accumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the EPA document linked above is from 2014, this new standard should be a wake up call that PFAS as a bio-accumlative toxin should **NEVER** be mixed into or added to our water.

Please do the right thing and stop mixing bio-accumulative toxins in our water.

Sincerely,

Teresa B Mills
Center for Health, Environment and Justice
Falls Church, VA

From:	Peggy Stevens
To:	Sargent, Bethany
Cc:	Moore, Julie; LaFlamme, Pete
Subject:	Re: Public Comment on Revised Vermont Water Quality Standards
Date:	Tuesday, July 19, 2022 6:32:40 AM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

To: bethany.sargent@vermont.gov cc: Pete.LaFlamme@vermont.gov , julie.moore@vermont.gov

Re: Public Comment on Revised Vermont Water Quality Standards

Dear Ms. Sargent,

I have read the proposed revisions for Vermont's Water Quality Standards closely. While I see that some language changes have been made to make the intention of these Standards clearer, which I applaud, there are concerns raised for example, in this section:

§ 29A-101 Applicability

(a) Pursuant to 10 V.S.A. Chapter 47, after the use classification of any water has been established, that water shall be managed by the Secretary in order to obtain and maintain the classification for that use. The Secretary may enforce a classification and these rules against any person affected thereby who, with notice of the classification, has failed to comply. This language is relevant in the case of the eight lakes in the state that currently are eligible and under consideration to be reclassified as A(1) lakes. It is right and good for the Secretary to have authority over these incredibly rare and valuable water bodies. In that the Secretary has the authority to grant the A(1) classification right now, it would seem not only appropriate but morally imperative to do so immediately.

(b) Concerning any application, the Water Quality Standards in effect at the time of the filing shall apply. These Water Quality Standards shall apply to those applications, including applications for the renewal of existing approvals, that are filed on or after the date upon which the amended standards become effective, and to all other activities that occur after that date.

(b) *The applicable Water Quality Standards shall be those in effect at the time of final administrative disposition of a permit or certification. The time of final administrative disposition shall be the date upon which the Agency places the proposed permit or decision on public notice.* This language appears to allow a loophole even in the case of an A(1) eligible lake that is awaiting reclassification but has not yet received it. For example, as of this date, currently four of these lakes have petitioned for reclassification, had been granted a hearing and then had it postponed. This language leaves those four lakes, as well as the other four that have not yet petitioned for reclassification, potentially vulnerable to any development that may be proposed and permit applied for before the reclassification to A(1) is approved. For this reason, I propose this language be changed in order to ensure that all of our A(1) eligible water bodies are preserved and protected in perpetuity. For example, **"With the exception of all water bodies currently eligible for reclassification as A(1) water bodies, and in order to ensure their protection,"** *The applicable Water Quality Standards shall be those in effect at the time of final administrative disposition of a permit or certification. The time of final administrative disposition shall be the date upon which the Agency places the proposed permit or decision on public notice.*

Another concern relates to Definitions "(26) mixing zone", in particular because of recently

reported guidance from the US EPA re: PFAS exposure limits. This concern relates to several sections of the revised Vermont WQS, and requires further revision in order to accommodate the new exposure limits to PFAS. Foremost is the reference to "mixing zones" and "waste management zones". This **2014 EPA document** recommends that the term mixing zones be abolished when bio-accumulative toxins are involved.
This excerpt (p.9)
"Additionally, states and tribes should carefully consider whether mixing zones are appropriate where a discharge contains bioaccumulative, pathogenic, persistent, carcinogenic, mutagenic, or teratogenic pollutants or where a discharge containing toxic pollutants may attract aquatic life. Bioaccumlative pollutants are one example of a pollutant for which mixing zones may not be appropriate because they may cause significant human health risks such that the designated use of the waterbody as a whole may not be protected. 5 Therefore, the EPA recommends that state and tribal mixing zone policies do not allow mixing zones for discharges of bioaccumulative pollutants. The EPA adopted this approach in 2000 when it amended its 1995 Final Water Quality Guidance for the Great Lakes System at 40 CFR Part 132 to phase out mixing zones for existing discharges of bioaccumulative pollutants within the Great Lakes Basin and ban such mixing zones for new discharges within the Basin."
and this from https://www.earthisland.org/journal/index.php/magazine/entry/the_solution_to_pollution_is_still_dilution/
"The passage of the Clean Water Act intended to end the idea that "dilution is the solution to pollution. But pressure from the nation's biggest polluters prompted the creation of a loophole called "mixing zones" from the nation's biggest polluters prompted the creation of a loophole called "mixing zones".

These terms should be removed from the revised WQS due to the known presence of bio-accumulative PFAS compounds in Vermont's waterbodies, including Lake Memphremagog which, among all of its uses, also is a drinking water source for well more than a hundred thousand humans as well as habitat for innumerable wildlife species.

On June 15, 2022, EPA issued interim updated drinking water health advisories for bioaccumulative PFAS compounds, including perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that are near and below zero. There is literally no safe exposure level for these compounds.

The class of PFAS compounds, as you know, are well researched as are the harmful effects on human health. These negative health effects are many and include hormone disruption, certain cancers, developmental and behavioral effects, diabetes, obesity, and many others. Importantly, it must also be recognized that the aggregate amounts of individual PFAS chemicals must also be considered, since individual PFAS chemicals rarely occur alone, but most often in combination with others.

For example, the recently published Vermont ANR study of PFAS in fish tissue samples in Lake Memphremagog reports individual PFAS analytes in ppb instead of ppt; does not aggregate results for total individual PFAS compounds, and in Lake Trout only includes seven of the 36 PFAS analytes, all of which provides the misleading impression that our PFAS levels in Memphremagog fish are safe for human consumption. Efforts to explain that PFAS standards for drinking water are different than for fish tissue also cloud the public's understanding of exactly what constitutes "safe exposure".

While Vermont had set drinking water standards at 20ppt, which exceeded the previous EPA standard of 70 ppt, the new EPA guidance- based on scientific research specific to PFAS exposure- now makes clear that there is virtually no safe exposure level to PFAS chemicals. These new standards for exposure to PFAS chemicals have been drastically downgraded due to the bio-accumulative effects of PFAS. Vermont's action level for end-of-pipe discharge is 2 ppt, which now must be revisited.

Further, the fact that:

- landfill leachate generated at the NEWSVT landfill in Coventry has been disposed of unfiltered for PFAS (and the countless other landfill toxins found in leachate) in several Vermont water bodies including Memphremagog;
- that leachate is proven to "break out" in Coventry and thus runoff from the landfill, contaminating ground water, wetlands and surface waters;
- that consideration is being given to permitting leachate and groundwater PFAS treatment facilities- for UD3 effluent and for the entire amount of leachate generated by the landfill in the millions of gallons per month, and
- that the effluent would be permitted to be discharged into the bordering wetlands, then the Black River, which flows immediately to the South Bay of Memphremagog

all have direct relationship to language in the revised Vermont WQS regarding "toxic substances" "point source" and "non-point source" discharges that must be reconsidered as plans to confront the crisis of leachate contamination of Vermont's water bodies.

It is the sole responsibility of the state to identify and manage any and all sources of pollution and to develop and oversee the technologies and management plans and practices designed to prohibit toxic contamination of Vermont's ground and surface waters.

Every effort must be taken to ensure that the protection from degradation and the preservation of Vermont's waters takes precedence over any other enterprise, for the sake of the health and safety of Vermont's environment and the public health of Vermonters, international neighbors, and the fish and wildlife species.

Sincerely,
Peggy Stevens
Charleston, Vermont

From: Mary Ellen Tamulonis
To: Sargent, Bethany
Cc: LaFlamme, Pete
Subject: Stop Mixing Bioaccumulative Toxins in Our Water
Date: Friday, July 15, 2022 2:28:06 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove "mixing zones" and "waste management zones" from the Water Quality Standards, due to presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document** (**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the attached document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumlative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Sincerely,

Mary Ellen Tamulonis
226 Cobbleview Dr.
Colchester, VT 05447

From: Sally Millichamp
To: Sargent, Bethany
Cc: Pete.Flamme@vermont.gov
Subject: Toxins in our water
Date: Monday, July 18, 2022 11:53:20 AM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms Sargent,
Please do the right thing, and stop mixing bioaccumulative toxins in our water.

Sincerely,
Sally Millichamp

Sent from my iPhone

From: andrea marion
To: Sargent, Bethany
Subject: Vermont Water quality standards rule
Date: Thursday, July 14, 2022 1:12:50 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove "mixing zones" and "waste management zones" from the Water Quality Standards, due to presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document** (**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the attached document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumlative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Sincerely,

andrea oconnor
28 germain st
burlington vt 05401

"Nevertheless, she persisted."

..it's really about every woman who really had to use her tenacity and courage to accomplish whatever she set out to accomplish. It's universal," said Molly Murphy MacGregor, executive director and co-founder of the National Women's History Project.

www.andreamarion.com
802-233-1161

From: Liz Furkay
To: Sargent, Bethany
Subject: Vermont Water Quality Standards
Date: Thursday, July 14, 2022 11:02:15 AM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to presence of bio-accumulative toxins, such as PFAS. This **2014 EPA document** urges AGAINST mixing zones when bio-accumulative toxins are involved; please pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the EPA document linked above is from 2014, this new standard should be a wake up call that PFAS as a bio-accumlative toxin should **NEVER** be mixed into or added to our water.

Please do the right thing and stop mixing bio-accumulativetoxins in our water.

Sincerely,

Elisabeth Furkay
VT PFAS/Military Poisons Coalition Member

Sent from Yahoo Mail for iPhone

From: Betsy Nolan
To: Sargent, Bethany
Subject: Vermont Water Quality Standards
Date: Thursday, July 14, 2022 4:23:38 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a citizen concerned about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document**(**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the attached document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumlative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Sincerely,

Betsy Nolan
9 Anita Ct
Winooski, VT 05404

From: Lizzy Sheehan
To: Sargent, Bethany
Cc: LaFlamme, Pete
Subject: VT water quality standards
Date: Thursday, July 14, 2022 11:40:11 AM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove "mixing zones" and "waste management zones" from the Water Quality Standards, due to presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document** (**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the attached document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumlative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Lizzy Sheehan
37 Bright Street #105
Burlington Vermont
--
Shifts Happen

Elizabeth A Sheehan (AKA Liz/zy)

From: Carolyn Smiles
To: Sargent, Bethany
Subject: Water Quality and PFAS
Date: Saturday, July 16, 2022 7:25:58 AM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Bethany Sargent:

As a concerned citizen regarding our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to the presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document** (**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved. Please note this and make this removal. I kindly ask you to email me back once this removal has happened. Thanks.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the attached document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumlative toxin should NEVER be mixed into or added to our water.

Please act to stop mixing bioaccumulative toxins in our water. ,
We need to rid Vermont waters of PFAS.
Thank you very much.

Sincerely,
Carolyn Smiles
Essex Junction, VT

From:	Charles Thorpe
To:	Sargent, Bethany
Cc:	PeteLaFlamme@vermont.com
Subject:	Water quality standards rule
Date:	Thursday, July 21, 2022 1:29:53 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document** (**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**. Considering that the attached document is from 2014, this new standard should be a wake up call that PFAS as a bioaccumlative toxin should NEVER be mixed into or added to our water.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Sincerely,
Charles Thorpe
PS
I drink tap water, so this is important to me.
151 Hyde St
Burlington VT

From:	Kate Brewer
To:	Sargent, Bethany; LaFlamme, Pete
Subject:	Water Quality Standards
Date:	Monday, July 18, 2022 12:39:40 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a concerned citizen about our environment, I am writing with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards, due to presence of bioaccumulative toxins, such as PFAS. This **2014 EPA document** (**2014 EPA document**) urges AGAINST mixing zones when bioaccumulative toxins are involved; you need to pay attention to it.

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that some negative health effects may occur with concentrations of PFOA or PFOS in water that **are near zero**.

Please do the right thing and stop mixing bioaccumulative toxins in our water.

Sincerely,
Katherine Brewer

590 Arnold Bay Road
Vergennes, VT 05491

From: Carole O"Connell
To: Sargent, Bethany
Subject: Water Quality Standards
Date: Tuesday, July 19, 2022 12:47:49 PM

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Dear Ms. Sargent:

As a concerned Vermonter, I am providing you with a formal comment on the proposed Vermont Water Quality Standards Rule (Chapter 29A).

I urge you to remove “mixing zones” and “waste management zones” from the Water Quality Standards. Bio-accumulative toxins, such as PFAS which persist in the environment, will continue to accumulate when dilution is used as a method of reducing water pollution.

On June 15, 2022, the EPA issued updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace those the EPA issued in 2016. The updated advisory levels, which are based on new science and consider lifetime exposure, indicate that negative health effects could occur with concentrations of PFOA or PFOS in water that **are near zero**.

Dilution will do little to prevent the negative effects that water pollution causes in the environment. It is not a solution to this problem, which must be addressed at the source.

Sincerely yours,

Carole O'Connell
Member, Newport Planning Commission
Newport, Vermont