

Cary Giguere, Director
Agency of Agriculture, Food and Markets
116 State Street
Montpelier, VT 05620
cary.giguere@vermont.gov

June 23, 2022

David Huber, Esq., Deputy Director
Agency of Agriculture, Food and Markets
116 State Street
Montpelier, VT 05620
david.huber@vermont.gov

by e-mail: david.huber@vermont.gov; cary.giguere@vermont.gov;
PHARMRules@vermont.gov

Re: Comments on the Draft Rule for Vermont's Regulations for Control of Pesticides

Dear Cary and David:

Lake Champlain Committee, Rural Vermont, Northeast Organic Farming Association of Vermont, Audubon Vermont, Conservation Law Foundation, Moosalamoo Woods & Waters, Beyond Pesticides, Vermont Public Interest Research Group, Vermont Natural Resources Council, and the Vermont Chapter of the Sierra Club appreciate the opportunity to submit the following comments regarding the draft rule (hereinafter Draft Rule) of Vermont's Regulations for Control of Pesticides. Collectively, the memberships and supporters of our organizations comprise over 80,000 constituent-members across Vermont.

It is no secret that we are living in unprecedented times. Vermont can serve as a leader and beacon of hope, but we must decide whether and how best we will carry on that role. With the onslaught of climate change, there is an urgent need for visionary-proactive regulatory efforts that result in deep long-lasting change and increase the State's resiliency abilities. For Vermont to successfully confront the multitude of challenges on the horizon, it must be able to seamlessly access, navigate, and deploy all of its available tools. One of those bedrock tools—which the State will need to utilize and lean on in the future—is the Draft Rule that is the subject of these comments.

At the outset of revising the State's three-decade-old regulations is the challenge of filling the sizeable gaps left from the existing regime governing pesticide regulation at the federal level. Not unlike Vermont's current 1991 regulations, the federal system is notably outdated, inadequate, and porous—allowing the use and application of pesticides before thoughtfully deploying the full range of alternative management measures and weighing public health and ecological impacts. For this reason, the Draft Rule and revision process represent a timely opportunity to populate holes left by the federal system and simultaneously provide resilient measures to protect human health, non-target organisms, and the environment at-large in the face of climate change. It is also fitting

that we submit these comments during National Pollinator Week, especially given that pollinators, and all insects, are a foundation of ecosystems; and toxic pesticides put them at grave peril.

It is reassuring that the Agency is prioritizing this long-overdue effort. To that end, from our perspective, active and collaborative engagement from interested citizens and stakeholders is the key ingredient to the development of thoughtful and effective management regulations for substances, which have the potential to seriously impact our treasured landscape and its many inhabitants. As discussed below, our organizations broadly support many of the overarching intentions and modifications in the Draft Rule, including, but not limited to, updated definitions, new permitting regimes, attention to environmental impacts, and increased notification requirements for the public. However, despite the Draft Rule's changes compared to the 1991 regulations, generally, many of these improvements still lack impactful substance, accountability, and effective protective measures. Put another way, the Draft Rule as written maintains the status quo regarding pesticide regulation and management instead of evolving to a system where pesticides are used as a method of last resort after evaluating alternative pest management measures. For these reasons, it is our fervent hope that the Agency will take the necessary time to consider these comments and sincerely work to accommodate the suggested changes and additions.

BACKGROUND

A. The Relationship Between State and Federal Regulation of Pesticides in Vermont

After learning about the widespread use and toxicity levels of conventional pesticides, as well as the multitude of unintended adverse environmental and health effects resulting from this use, Congress enacted comprehensive federal laws regulating the use, sale, manufacture, and registration of pesticides in the 1970s. Interestingly however, the first federal law to regulate pesticides was the Insecticide Act of 1910.¹ Several decades later, Congress passed its first comprehensive law regulating pesticides, the Federal Insecticide Fungicide and Rodenticide Act (FIFRA).² This initial version of FIFRA required pesticide manufacturers to display warnings on highly toxic pesticides, provide warning statements to prevent injury to people and non-target organisms, and to register pesticides.³ In response to a public outcry over the risks of pesticides and ensuring consistency in regards to U.S. food supply safety, Congress passed significant amendments to FIFRA in 1972, 1978, and 1996.⁴

We mention this history here as a backdrop because of the important relationship between federal and state regulation of pesticides. Notably, in relation to our comments and suggestions on the Draft Rule, while FIFRA certainly confines a state's ability to regulate the sale or use of pesticides, it does allow states to implement and administer stricter pesticide laws and regulations.⁵ Federal preemption law outlines when state and federal laws conflict.⁶ Importantly here, the relevance of

¹ Insecticide Act, Pub. L. No. 61-152, 36 Stat. 331 (1910).

² Federal Insecticide, Fungicide, and Rodenticide Act, ch. 125, 61 Stat. 163 (1947) (codified as amended at 7 U.S.C. § 136).

³ *Id.*

⁴ Insert citation to FIFRA Amendments

⁵ 7 U.S.C. § 136v(a); *Wisconsin Pub. Intervenor v. Mortier*, 501 U.S. 597, 607 (1991) (explaining that statutory language of FIFRA "plainly authorizes the 'States' to regulate pesticides . . .").

⁶ U.S. CONST. art. VI, cl. 2.

the origin of federal law regulating pesticides and the evolution of FIFRA is that Vermont has the legal authority to implement stricter pesticide laws if it elects to do so. Upon a review of these comments, we hope the Agency will consider further tightening of the Draft Rule for a host of reasons mentioned including, but not limited to, the need for increased resiliency capabilities, and public health and environmental protections.

B. The Importance of Affirming the Right of Local Communities to Restrict Pesticides

Vermont pesticide regulations should affirm the ability of localities to adopt local standards that exceed, or are more stringent than, state and federal standards as a matter of protecting public health, the environment, or quality of life. Currently, it appears that the Agency has interpreted the State's pesticide regulations as preemptive of local authority to restrict pesticides under the so-called "implied preemption" theory, which runs contrary to the interpretation of similar state law language in other states that allow local regulation. This issue was litigated in Maryland, where courts plainly rejected the implied preemption theory and affirmed the rights of local jurisdictions.⁷

Relatedly, in 1991, the U.S. Supreme Court, in *Wisconsin Public Intervenor v. Mortier*, held that FIFRA does not preempt local jurisdictions from restricting the use of pesticides more stringently than the federal government.⁸ The Court specified that "FIFRA nowhere seeks to establish an affirmative permit scheme for the actual use of pesticides," and the law "does not equate registration and labeling requirements with a general approval to apply pesticides throughout the Nation without regard to regional and local factors, like climate, population, geography and water supply."⁹ In effect, the Court recognized the value of local authority in addressing pesticide use in the context of local conditions and concerns.

In *Mortier*, the applicant, who was denied a permit to use a pesticide that resulted in non-target exposure to the Town of Casey's residents, argued that the Town's permitting ordinance, "stands as an obstacle to the statute's [FIFRA] goals of promoting pesticide regulation that is coordinated solely on the federal and state levels, that rests upon some degree of technical expertise, and that does not unduly burden interstate commerce."¹⁰ The Court flatly rejected this argument.¹¹

Unfortunately, the fallout of the *Mortier* decision resulted in the pesticide industry lobby immediately forming a coalition, called the "Coalition for Sensible Pesticide Policy" (Coalition), and developing boilerplate legislative language restricting local municipalities from passing ordinances involving the use of pesticides on private property.¹² The Coalition's lobbyists descended on states across the country, seeking and passing, in most cases, preemption legislation

⁷ *Montgomery Cnty. v. Complete Lawn Care, Inc.*, 207 A.3d 695 (Md. Ct. Spec. App. 2019); *see also* Brief for Beyond Pesticides et. al. as Amici Curiae Supporting Defendants, *Complete Lawn Care, Inc. v. Montgomery Cnty.*, 2017 WL 3332362 (Md. Cir. Ct. 2017) (No. 427200V, 427253-V).

⁸ *Wisconsin Pub. Intervenor v. Mortier*, 501 U.S. 597.

⁹ *Id.*, at 559, 613–14.

¹⁰ *Id.*, at 614–15.

¹¹ *Id.*, at 615.

¹² Matthew Porter, *State Preemption Law: The Battle for Local Control of Democracy*, 33 PESTICIDES & YOU (2013), available at <https://www.beyondpesticides.org/assets/media/documents/lawn/activist/documents/StatePreemption.pdf>; *see generally* Catherine Janasie, *State and Local Regulation of Pesticides: What Does FIFRA Allow?*, NATIONAL AGRICULTURE LAW CENTER (Sept. 2019), <https://nsglc.olemiss.edu/projects/ag-food-law/files/regulation-of-pesticides.pdf>.

that was often identical to the Coalition’s initial suggested verbiage.¹³ In states where the Coalition was successful, localities can only legally address pesticide use on public property and cannot restrict toxic pesticides on private property.¹⁴

The ability of local authority to regulate pesticides is essential to sound democratic governance, especially in an age of political gridlock at the federal level, and in some instances, the state level. For these reasons, we strongly urge the Agency to ensure protections for local communities to adopt pesticide restrictions that can protect unique local resources and incentivize the adoption of land management practices that support healthy ecosystems and people. Detailed comments and suggested language are included below under section E(b)(i).

PROPOSED RULE FOR VERMONT’S REGULATIONS FOR CONTROL OF PESTICIDES

A. Environmental Impact Analysis

We agree with the Agency’s initial discussion about how the life-cycle of pesticides, ranging from manufacturing processes to application, and how those contribute to green-house gas (GHG) emissions. However, we disagree with the broad and vague assertion that the “[a]mended rule will reduce greenhouse gas emissions related to pesticide uses by imposing more stringent requirements on their use.”¹⁵ What is this assertion based on? What analysis did the Agency perform to arrive at this general conclusion? Since the passage of Act 153, Vermont’s Global Warming Solutions Act of 2020, and the subsequent December 2021 publication of its implementing Climate Action Plan, it is critical that we are careful about the use of subjective conclusions related to climate change and GHG inventories, versus assertions supported by detailed analyses and/or peer-reviewed data. Here, we encourage the Agency to revisit this conclusion and at a minimum provide a detailed explanation of its reasoning and analysis-performed.

B. Public Input Maximization Plan

Our organizations appreciate the opportunity to comment on the Draft Rule here, but express concern that the opportunity for public input was not maximized. Rather, from our perspective, the public input and outreach on the Draft Rule to-date represent the bare minimum of what is required by statute under 3 V.S.A. § 840(a). We intend to also direct our concerns to the Interagency Committee on Administrative Rules (ICAR), given their statutory directive to “work with the agency and prescribe a strategy for maximizing public input on the proposed rule.”¹⁶

A thirty-day written comment period and a single (virtual) public hearing for such a complex and multi-faceted 68-page rule that has not been updated since 1991 does not lend itself to the maximization of public input. Instead, it guarantees that the input from the majority of Vermonters

¹³ *Id.*

¹⁴ *Id.*

¹⁵ Anson B. Tebbetts, Secretary of the Agency of Agriculture, Food and Markets, Draft Rule, Vermont Regulations for Control of Pesticides, Admin. Procedures, Environmental Impact Analysis 1 (March 22, 2022).

¹⁶ VT. STAT. ANN. tit. 3 § 820(c) (2022).

and the public will be quite limited on a topic of vital importance to many. We cannot underscore the importance of this Draft Rule enough given the daunting pressures Vermont is facing now and into the future. As a result, the Agency should have conducted multiple hearings at different times of the day, and, with proper safety measures, provided the opportunity for in-person attendances at various geographic locations across the State. This would have provided more opportunities for those working on farms, with inadequate broadband technologies, or with limited ability to take time off from family obligations, or from the office, to attend a public hearing and offer comments and suggestions.

C. Incorporation by Reference

As mentioned below, we urge the Agency to incorporate Vermont's National Pollutant Discharge Elimination System (NPDES) Pesticide General Permit (PGP) by reference, which is administered by the Agency of Natural Resources–Department of Environmental Conservation. The PGP is equally as relevant and important as the other materials listed in the Incorporation by Reference section of the Draft Rule.

D. Preamble

A Preamble is noticeably absent from the Draft Rule. The current 1991 regulations feature a Preamble prior to the Table of Contents that sets both a standard and a tone for how Agency policy directs and administers the use and regulation of pesticides in Vermont. That version states the following:

The goal of these pesticide regulations is to encourage the use of the most environmentally responsible approach to effective pest management. The Department of Agriculture, Food, and Markets believes that with the knowledge and use of integrated pest management (IPM) skills and soil/water conservation techniques currently available this goal will be achieved.¹⁷

We believe it is imperative for the current Draft Rule to include a Preamble to both set a policy goal, but also one that is updated for what we now know about pesticide use, management, and impacts on the environment and non-target organisms. To this end, we propose the following draft language, which incorporates some of the previous Preamble:

“The goal of these pesticide regulations is to ~~encourage~~ reduce the use of pesticides and require the use of the most environmentally responsible approach to effective pest management in order to minimize human impacts, reduce harm to non-target species, and protect biodiversity. The ~~Department~~ Agency of Agriculture, Food and Markets believes that this goal will be achieved with the continuous advancement, knowledge, and use of Integrated Pest Management (IPM) skills and of Best Management Practices for soil/water conservation techniques currently that are currently scientifically available ~~this goal will be achieved.~~”

E. Subchapter 1

¹⁷ 2-3 VT. CODE R. § 300.

Our comments for this section of the Draft Rule include both narrative explanations and specific in-text recommended edits. Should the Agency experience any confusion regarding these comments or their organization, we remain available to discuss and clarify at any time.

a. Section 1. Definitions

- i. The formatting in the Draft Rule appears to be off for sections 1.30 and 1.31.
- ii. The definition of “use” under 1.66 should be expanded to include the use of treated article seeds, particularly those treated with neonicotinoid pesticides. Inclusion of this will more accurately reflect the use of pesticides in Vermont.
 1. We suggest adding the following: “(e) the planting of seeds treated with pesticides.”
- iii. Although “Integrated Pest Management (IPM)” is discussed throughout the Draft Rule and generally in the use and practice of pesticide application, Vermont statutes and regulations do not specifically define IPM. The lack of a definition results in different interpretations and applications of the term, which results in confusion.
 1. We propose that the Agency incorporate the following definition, which California uses and is known to be the most comprehensive: “Integrated Pest Management (IPM) is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of removing only the target organism. Pest control materials are selected and applied in a manner that minimizes risks to human health, beneficial and nontarget organisms, and the environment.”¹⁸
- iv. It is encouraging that the Agency included references in the Draft Rule to threatened and endangered species and Vermont’s Protection of Endangered Species Act, 10 V.S.A. Ch. 123. However, for clarity, we strongly recommend that the Draft Rule incorporate and explicitly define “take” as defined under 10 V.S.A. § 5401(18).¹⁹

¹⁸ *What is Integrated Pest Management (IPM)?*, UNIV. CAL. STATEWIDE INTEGRATED PEST MGMT. PROGRAM (last accessed June 23, 2022), <https://www2.ipm.ucanr.edu/what-is-IPM/?src=redirect2refresh>.

¹⁹ “Take” is defined as “(i) pursuing, shooting, hunting, killing, capturing, trapping, harming, snaring, or netting wildlife; (ii) an act that creates a risk of injury to wildlife, whether or not the injury occurs, including harassing,

- v. We urge that “Undue Hazard” be defined and propose the following definition: “A substance that harms human health and the environment based on studies prepared for pesticide registration, independent peer-reviewed studies, and other data as may be requested by the Secretary.”

Based on this proposed definition for “undue hazard,” we encourage the establishment of regular, ongoing reviews of pesticide products that may be ineffective, or pose an undue hazard to the public or state resources. To review pesticide products for undue hazards, we urge the Agency to conduct a review of existing pesticide registrations in the State. In conducting this review, the Secretary of the Agency of Agriculture, Food and Markets has the power under Section 2 of the Draft Rule to make actionable findings for any pesticide that poses undue hazards to (i) human health, including but not limited to those who are vulnerable to pesticide exposure, are disproportionately affected, and have pre-existing health conditions, including but not limited to cancer and other degenerative diseases; (ii) wildlife and ecosystems, including but not limited to effects to soil biology, pollinators, biodiversity and species decline; (iii) environmental health, including but not limited to air, water, and land; or (iv) climate, including but not limited to effects on carbon sequestration in soil.

- vi. We recommend that the Draft Rule define “Ineffective Pesticide Product” and propose the following language for a definition: “A product for which alternative practices and nontoxic products that are available to achieve pest management goals for which the pesticide under evaluation is being used.”

In reviewing whether a pesticide product is “ineffective,” we also propose a process where the Secretary must consider the range of alternatives to existing uses of a pesticide, including: (i) A determination of the necessity of a pesticide to achieve stated outcomes in light of the availability of alternative pesticides and management practices; (ii) A full assessment of less hazardous alternative pesticides and management practices available for all current or proposed specific uses of a pesticide; (iii) An assessment of the commercial availability of less hazardous alternative pesticides and management practices for each specific use of a pesticide; (iv) Any information or data which pesticide registrants must produce in order to determine whether less hazardous alternative pesticides and management practices are commercially available; and (v) An assessment of the adverse human health and environmental effects of alternative pesticides and management practices.

wounding, or placing, setting, drawing, or using any net or other device used to take animals; or (iii) attempting to engage in or assisting another to engage in an act set forth under subdivision (i) or (ii).” VT. STAT. ANN. tit. 10 § 5401(18).

The establishment of such a process would position the state of Vermont as a national leader in protecting resident and environmental health from the unnecessary use of toxic pesticides. It is incumbent, given the power and responsibility provided to the Secretary in this chapter, that a process be initiated to evaluate, and create actionable findings regarding pesticides that are ineffective or pose an undue hazard.

- vii. We recommend including “Natural” or “non-synthetic” in the definitions section and propose the following definition: “A substance that is derived from mineral, plant, or animal matter and does not undergo a ‘synthetic’ process as defined in the Organic Foods Production Act, 7 U.S.C. § 6502(21), as the same may be amended from time to time.”
- viii. We recommend including “allowed substances” in the definitions section and propose the following draft language: “(1) a pesticide the active ingredients of which are either natural and not published as the National List at 7 C.F.R §§ 205.602 or recommended by the National Organic Standards Board (NOSB) pursuant to 7 U.S.C §6518, as amended, and published as the National List at 7 C.F.R §§ 205.601 and 205.605; or (2) a pesticide designated as ‘minimum risk pesticide’ under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) §25(b) and listed in 40 C.F.R. §152.25(f).”

b. Section 2 – Powers of the Secretary

- i. While Vermont law has not adopted language explicitly prohibiting local regulation of pesticides, local authority regarding the affirmation of local rights is needed and recommended. Under 6 V.S.A. § 1103, the authority over pesticide sale, use storage, treatment, and disposal of pesticides is granted to the Secretary of the Agency of Agriculture, Food and Markets (AAFM). Importantly however, the statutory language in § 1103(a) does not specifically grant sole authority over such responsibilities to the Secretary, therefore permitting residual authority. Moreover, under section 3(6) of the current 1991 regulations, the Commissioner [of Agriculture, Food and Markets] is granted “all statutory authority . . . to enforce state pesticide laws and regulations.” This specific phrasing does not explicitly prohibit local pesticide restrictions, which we believe provides an opportunity in the Draft Rule to affirm and clarify local authority’s ability to restrict pesticides.

To this point, we propose and recommend the following language, in a new section, 2.07: “These regulations are minimum standards and do not preempt any local ordinances which may be more stringent. Nothing in these regulations shall prohibit any municipality from further restricting, by

resolution or ordinance, the distribution, sale, use, and transportation of a pesticide.”²⁰

Restrictions in Burlington, Vermont²¹, initiated to protect the unique local ecology around Lake Champlain, illuminate that there is a desire for local authority to address pesticide use in a way that best reflects the values of a community’s residents and a locality’s unique environment and ecosystems. In addition to Burlington, over 170 local pesticide reform policies have been passed across the country.²² Disappointingly, in response to these actions, the pesticide industry attempted in the recent 2018 Farm Bill to insert language that would overturn the *Mortier* decision and institute federal pesticide preemption.²³ Fortunately however, there was a broad outpouring of opposition from Congressional representatives, local decision makers, and national municipal organizations.²⁴ This robust pushback resulted in the amendment’s defeat, stopping its inclusion in the final Farm Bill agreement.²⁵

Historically, Congress has long affirmed and supported the rights and powers of localities. In 1972, the Senate Commerce Committee—which during that time had joint FIFRA jurisdiction with the Agriculture Committee—found that “[m]any local governments now regulate pesticides

²⁰ See, e.g. 01-026-24 ME. CODE R. § 8 (2022).

²¹ See City of Burlington Vermont, Pesticide-Herbicide Ordinance (April 9, 2008), <https://www2.burlingtonvt.gov/Archives/assets/0/122/318/554/659/1350/c2ebf79b-ab21-429c-8f85-dde64145f0e5.pdf> (explaining under § 17-9 that “[i]t is the policy of the city to take note of and respond to continuing concerns about health effects from toxic chemicals. Toxic chemicals classified as pesticides are designed to kill a variety of plants and animals; relatively little is known about their long-term effects upon humans and the environment. In light of this uncertainty, the city considers all pesticides detrimental to human health unless proven otherwise. In order to prevent unnecessary exposure to such chemicals, the city council, upon recommendation from the board of health, has enacted the following provisions.”)

²² INTERACTIVE GOOGLE MAP PINNED LOCATIONS OF U.S.-BASED PESTICIDE REFORM POLICIES RELEASED BY BEYOND PESTICIDES (Feb. 8, 2022), https://www.google.com/maps/d/u/0/viewer?mid=1VLpVWvifO2JOrgxf1-d1DLyDruE&hl=en_US&ll=44.957960512017806%2C-87.55738627499997&z=3.

²³ See Andy McGlashen, *Farm Bill: House Proposal Could Wipe Out Communities’ Power to Prohibit Pesticides*, ENV’T HEALTH NEWS (Sept. 5, 2018), <https://www.ehn.org/farm-bill-would-preempt-pesticide-bans-2602042695.html>.

²⁴ Letter from A. Donald McEachin, Member of Cong., et al., to Farm Bill Conf. Comm. (Aug. 27, 2018), available at <https://mceachin.house.gov/sites/mceachin.house.gov/files/documents/2018-08-27%20Farm%20Bill%20Conferees%20Conservation%20and%20Environmental%20Provisions.pdf>; Letter from Andrew Pruski, Councilman, Anne Arundel Cnty., et al., to Farm Bill Conf. Comm. (Sept. 13, 2018), available at <http://foe.org/wp-content/uploads/2018/09/City-Official-Farm-Bill-Preemption-Letter-FINAL-9.12.pdf>; Mayors Ethan Strimling & Linda Cohen, *Farm Bill Hurts Ability of Communities to Protect Health, Environment of Citizens*, THE HILL (Sept. 18, 2018), <https://thehill.com/blogs/congress-blog/energy-environment/407194-farm-bill-hurts-ability-of-communities-to-protect>; Letter from Nat’l League of Cities and Nat’l Ass’n of Reg’l Councils to Farm Bill Conf. Comm. (2018), <https://www.nlc.org/sites/default/files/users/user52189/Farm%20Bill%20Letter%20August%202018.pdf>.

²⁵ Press Release, Friends of the Earth, *Dangerous Pesticide Preemption Rider Scrapped From 2018 Farm Bill* (Dec. 11, 2018), <https://www.commondreams.org/newswire/2018/12/11/dangerous-pesticide-preemption-rider-scrapped-2018-farm-bill>.

to meet their own specific needs which they are often better able to perceive than are State and Federal regulators.”²⁶

Indeed, there are countless analogous examples to regulating pesticides at the local level, including but not limited to local ordinances governing zoning, building codes, protection of water supplies, recycling, dog waste, etc. Local communities have long adopted ordinances to respond to nuisance and matters of public health and welfare in the exercise of local police powers. In the context of pesticides, communities should be given the ability, authority, and choice to further restrict pesticide use if they so choose.

- ii. We recommend adding “Duties and . . .” to the Draft Rule’s Section 2 title.
- iii. Before 2.01, we recommend adding 2.00 “Responsible Pest Management” with the following language: “In order to promote environmentally-responsible pest management, the Secretary shall facilitate and implement Integrated Pest Management on lands within the State.”
- iv. Under section 2.03, we first suggest changing “may” in 2.03(a) to “shall.” In addition, section 2.03 affirms the authority of the Secretary to regulate any pesticide product “deemed to be ineffective, or which constitutes an undue hazard to the public or the environment.” To properly exercise this authority, we encourage the inclusion of definitions and the establishment of processes where the Secretary has the authority to evaluate whether a pesticide product or device is “ineffective” or “constitutes and undue hazard.” Such determinations should include ongoing evaluation that result in actionable findings that promote healthy, efficient agricultural systems and environmental and public health.

c. Section 3 – Licenses, Certificates, and Permits Issued by the Secretary

- i. 3.04 – Applicator Certificates: Amend 3.04(e) to read: “Any applicator who uses a federally restricted use pesticide under the provisions of FIFRA, or a state restricted-use pesticide, shall be certified under this regulation. A noncertified applicator shall not use a federally or state restricted-use pesticide unless under direct supervision.”
- ii. We encourage the Agency to include language under 3.10 (likely requiring a new subsection “(d)”), which would mimic ANR’s public participation decision-making processes, allowing for “aggrieved” persons to appeal decisions made by the Secretary to the Environmental Division of Vermont’s Superior Court.²⁷ Including such a section here provides a

²⁶ S. REP. NO. 92-970, at 27 (1972).

²⁷ See, e.g. VT. STAT. ANN. tit. 10, § 8504(a) (2022) (allowing any person aggrieved to appeal decisions of the Secretary of ANR under the provisions of law listed in 10 V.S.A. § 8503).

critical “check” on Agency decisions under the Rule. See also comments below under F(b)(i).

d. Section 4 – Classification of Pesticides and Limitations on Sale

- i. The Draft Rule should include reference to an Appendix with a list of Class “A” federal and state restricted-use pesticides mentioned in Section 4.02 of the Draft Rule. Under the State’s 1991 pesticide regulations, a list of Class “A” pesticides was included and listed in Appendix A(2), but does not appear to be part of the existing document found online for this Draft Rule.
- ii. We recommend adding a new subsection section, 4.03(e), to include the prohibition of pesticides, containing or contaminated with per- and polyfluoroalkyl substances (“PFAS”), toxic “forever chemicals.”
- iii. Related to the previous comment, we urge the Agency to add a subsection under section 4 which requires manufacturers to prove that pesticide products do not contain PFAS. Recent tests by the U.S. Environmental Protection Agency (“EPA”) and Public Employees for Environmental Responsibility (“PEER”) showed alarmingly high concentrations of PFAS in pesticide products registered and used in every New England state—Vermont included. PFAS contamination of pesticides is a widespread issue, affecting an unknown, but likely very large, number of pesticide products. In response, we encourage and recommend that the Agency screen pesticides for PFAS contamination and prohibit the usage of pesticides which contain PFAS, as cited above. See also comments related to PFAS and storage containers under G(a)(i) below.

F. Subchapter 2 – General Standards for Pesticide Use; Permitting Requirements; Notification and Posting of Pesticide Applications; Maintenance of Records by Certified Applicators, Licensed Companies, Licensed Pesticide Dealers, and Pesticide Producing

a. Section 5. General Standards for Pesticide Use.

Protection of pollinators, particularly but not exclusively managed and unmanaged bees, needs to become a priority of the Agency. As written, the Draft Rule is vague and does not go far enough to offer substantive protections for pollinators. Instead, the Draft Rule should reflect the recommendation of the 2017 Report by the Vermont Pollinator Protection Committee. This Committee was created by the Legislature to provide recommendations on how to protect pollinators from the use and overuse of pesticides. Although a few of the recommendations have been adopted, some others that received unanimous or majority support have not. While we understand that the newly created Agriculture Innovation Board may examine pollinator protection as well, the Pollinator Protection Committee’s 2017 Report was compiled by a group of experts and any additional examination will likely be

redundant and result in similar recommendations. Our recommended changes to the Draft Rule on this topic below are in line with the recommendations made in the 2017 Report.

- i. The Draft Rule should include an appendix listing the pesticides that are highly toxic to bees. To our knowledge, the Agency already has such a list.
- ii. Under 5.03(a), add “or state” after “federally.”
- iii. Under section 5.04, we recommend adding “Pollinators” to the section title to read “Protection of Pollinators.”

Further, we recommend deleting 5.04(c)(1)–(3) and replacing it with the following:

“(c) All pesticides with active ingredients that are highly toxic to bees shall be classified as restricted-use products. (See attached Appendix XX.) A person applying these pesticides shall:

(1) apply the pesticide during periods and conditions of least exposure, such as early morning, late evening and when winds are less than nine mph.

(2) include a 50-foot buffer from pollinator foraging sites, such as natural and semi-natural areas or intentional pollinator plantings or a 20-foot-wide non-pollinator-attractive vegetative barrier higher than the spray release height with an established 60% plant density; and

(3) avoid application of a fungicide to pollinator-attractive plants when in bloom.

(d) Except for research, management and treatment of invasive species, applications to ornamental plants accessible to pollinators with neonicotinoid products applied by drench, trunk injection, or foliar and basal bark sprays, are prohibited for 3 years or until such time research can demonstrate rates at which treatment can be safe for pollinators.

(e) The application of systemic pesticides that are highly toxic to bees shall be prohibited until after accessible pollinator-attractive plants have flowered.”

b. Section 6. Permitting Requirements

- i. The Public’s Ability to Appeal Permit Decisions. For each of the specific permits under Section 6 of the Draft Rule, unlike permits under the Agency of Natural Resources’ (ANR) jurisdiction, there is no explicit ability for affected and/or interested parties to appeal a permit decision. Akin to many

of ANR’s permits, we encourage the Agency to insert sections—both lodged in Section 6 and Sections 2 and 3—which provide members of the public who qualify as “aggrieved” to appeal permit approvals to Vermont’s Environmental Court.²⁸ Allowing the ability of aggrieved persons under this Draft Rule to appeal permit decisions provides a critically necessary “check” on the Agency and more opportunity for public involvement and engagement.

- ii. Coordination and Communication with the Agency of Natural Resources Staff and Incorporation of Vermont’s NPDES Pesticide General Permit into the Draft Rule. Despite the countless pesticide application practices under Section 6’s permit programs adjacent to, and or nearby waters of the State, we were surprised that there is no mention, cross-reference, incorporation by reference, or note generally, in regards to Vermont’s National Pollutant Discharge Elimination System (NPDES) Pesticide General Permit (PGP). Each permit program under Section 6 should explicitly reference the PGP and detail a process whereby Agency staff notify, communicate, and coordinate with ANR staff about any pesticide application under a permit authorized under the Draft Rule where pesticides are applied near waters of the State. To this point, while we appreciate some of the “baked-in” best management practices for pesticide applications near waters in the Draft Rule, the Agency should still take all possible precautions by coordinating with ANR to ensure and clarify that PGP jurisdiction is not triggered.
- iii. Ensuring Notification, Coordination, and Review of Permits by Vermont Fish and Wildlife Department Staff. Upon a review of each of the eight individual permits under Section 6 and the inconsistent and vague references per-permit regarding coordination with Vermont Fish and Wildlife Department staff and threatened and endangered species, we recommend the following. First, under each of Section 6’s permits, there should be explicit language ensuring that permit approvals comply with Vermont’s Protection of Endangered Species Act, 10 V.S.A. Ch. 123. Second, each of the eight permits under Section 6 should require Vermont Fish and Wildlife Department staff to review permit decisions prior to approval and issuance. Applicants for permits under Section 6 should have the burden of demonstrating that their pesticide application practices will not violate any provision under 10 V.S.A. Ch. 123. Third, in addition to notifying and coordinating with Fish and Wildlife Department Staff, the Agency should also notify Vermont’s Endangered Species Committee.

²⁸ See, e.g. VT. STAT. ANN. tit. 10, § 8504(a) (allowing any “person aggrieved by an act or decision of the Secretary . . . under the provisions of law listed in section 8503 of this title [listing ANR related decisions] [to] appeal [the decision] to the Environmental Division”); see also the ability under 10 V.S.A. Chapter 220 where “aggrieved” persons have the ability to appeal approved Notices of Intent for Coverage under Vermont’s NPDES Pesticide General Permit. VT. STAT. ANN. tit. 10, § 8504.

- iv. Creating a New State Lands Permit. Finally, we urge the creation of a new state permit regarding the application of pesticides on state lands. By establishing a process to protect state lands from the unnecessary use of toxic pesticides, these regulations will set a strong example for private land managers, local jurisdictions, and other public lands. State lands represent the most prized and sensitive environments in Vermont—home to myriad endemic wildlife and unique ecosystems that demand further protective measures.

By limiting the application of pesticides on state land to only a defined set of “allowed substances,” the State will ensure that only least-toxic, yet still effective, pest management products on the market are used, providing protection for children, pregnant mothers, and other vulnerable populations, as well as safeguarding birds, pollinators, other wildlife and local water quality. Minimum risk pesticides are of a characteristic having such low toxicity that products containing these substances can make pesticidal claims without going through the formal Environmental Protection Agency (EPA) registration process. Organic products are required to undergo another level of review as part of the organic certification process by an independent board of experts at the National Organic Standards Board, further considering health and safety. These additional safeguards are necessary in light of the availability of alternatives, and documented shortcomings by EPA to adequately review registered pesticides for their public health and environmental impacts, particularly in its consideration of vulnerable populations.

To ensure pesticide use on state lands are limited to the defined set of “allowed substances,” we propose adding the following language to Section 6:

“Section 6.09 – State Public Lands Permit

- (A) No person or state agency shall use a pesticide for land management on state public lands without a permit.
- (B) The permit shall limit pesticides and soil amendments to the following allowed and prohibited substances.²⁹

The following shall apply:

²⁹ Note: As an example of the range of products that meet the criteria listed above to manage turf and landscape systems without glyphosate, see list of allowed materials posted at <http://bit.ly/OrganicCompatible>. *Products Compatible with Organic Landscape Management*, BEYOND PESTICIDES (last accessed June 2022), <https://www.beyondpesticides.org/resources/lawns-and-landscapes/tools-for-change/products-compatible-with-organic-landscape-management>. See SOUTH PORTLAND, ME, CODE OF ORDINANCES ch. 32. Note that Maine does not preempt local jurisdictions from restricting pesticides on private property, while New York does.

- (1) Synthetic substances are prohibited unless specifically listed as “allowed” on the U.S. Department of Agriculture’s National List of Allowed and Prohibited Substances (the “National List”) 7 U.S.C §6518, as amended, and published as the National List at 7 C.F.R §§ 205.601;
- (2) Non-synthetic substances are allowed unless specifically listed as “prohibited” on the National List at 7 C.F.R §§ 205.602;
- (3) Pesticides determined to be “minimum risk pesticides” pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and listed in 40 C.F.R. § 152.25(f)(1) or (2), as may be amended from time to time, are allowed; and
- (4) The use or application of pesticides (whether natural, “non-synthetic,” synthetic, or otherwise) within 75 feet of a water body or wetland is prohibited.”

These criteria will incentivize an integrated pest management approach that embraces working with natural systems as the primary means to address pest and weed problems on state lands. This approach has precedent from nearby states. In July 2020, New York passed legislation prohibiting the use of glyphosate-based herbicides on all state property.³⁰ However, while it is possible for the elimination of one chemical to prompt a change toward natural, organic practices, a more comprehensive approach can remove the guess-work. Establishing strong protections on state land is a step that will put land managers on a path toward a truly sustainable future for pest management. Importantly, we remain available to discuss the language provided above in more detail. Moreover, if this measure is too far reaching for the Agency, we are happy to examine measures that allow for the use of toxic pesticides under a defined waiver system, too.

v. General Comments Regarding 6.06 and 6.07 (Mosquito larvicide and adulticide treatment).

1. Both the larvicide and adulticide permit requirements specify that the applicant will use a form supplied by the Secretary. The ability of the public to evaluate the Draft Rule also requires that the public should have the opportunity to evaluate those forms. If the forms are more explicit about many details of the pesticide monitoring, treatment, and reporting processes, then the Draft Rule could be less explicit (as written in the current draft). However, the logic does not match up because as written, the coinciding form for the permit is an integral part of the regulation and must be evaluated but the public doesn’t have the ability to comment on it. Ideally, the Draft Rule should include explicit detail about the pesticide monitoring, treatment, and reporting processes. Post-approved Rule reliance on the application forms is the wrong way to regulate pesticide use.

³⁰ S. B. S6502A, 2019–2020 Reg. Legis. Sess. (N.Y. 2020).

2. Larval monitoring thresholds (scientific action triggers for treatment, e.g., dip cup counts) are not mentioned in the draft. These are not specific for each permit, so should be a universal requirement. How many mosquito larvae per dip cup (average of x dips) are required to trigger treatment? What developmental stage of larvae trigger treatment? What species of mosquito trigger treatment? What potential treatment area is suggested for each larval sampling site?
3. Larval monitoring results should be posted online within 3 to 5 days of each sample. These results should be available in a digital numerical format (csv or spreadsheet).
4. Scientific action thresholds for triggering roadside spraying and manual yard spraying of adulticides are not mentioned in the Draft Rule. These thresholds must reflect nuisance mosquito density – Insect Control Districts do not have a mission to control arbovirus vectors (which might justify very low thresholds of mosquito density). Spraying of chemical pesticides is a last resort and is not to occur unless mosquito density is unusually high. Spraying of adulticides is ineffective, and a perceived need for them generally reflects ineffective management. Traps for monitoring mosquito density must be placed along every designated spray route, or within three miles of a spray route. Threshold mosquito density along one route should not trigger spraying on other routes. Complaints from residents about nuisance mosquitoes should not constitute scientific action thresholds and should not be used to trigger spraying along roads, driveways, or in yards (resident complaints are commonly used to monitor mosquito density when controlling for arbovirus vectors, but Vermont’s Insect Control Districts have a mission to control nuisance mosquitoes, not vector mosquitoes).
5. Larvicide treatments, either aerial (e.g., helicopter) or land-based (either BTi or Methoprene) should be posted online within 3 to 5 days of each treatment, including: stage of larvae at treatment date; what product was applied; how much product was used; location (GPS coordinates); area treated; area assumed to be affected by the treatment, and; these results should be available online in a digital numerical format (csv or spreadsheet).
6. An online record of larval monitoring and treatment is a requirement for later adulticide treatment per compliance with integrated pest management rules. If no attempt to monitor and treat with larvicides has been made, no adulticide application should be allowed. If a special exemption is made to apply adulticide without prior larvicide

treatment, then it is not IPM. Such exemptions should be allowed only a few times each year.

7. Post-treatment larval monitoring should be done for each treatment. This allows evaluation of larvicide application efficacy. Post-treatment larval monitoring results should be posted online within 3 to 5 days of sampling and in a manner that allows easy comparison to pre-treatment monitoring results. These results should be available online in a digital numerical format (csv or spreadsheet).
8. The Draft Rule needs to explicitly specify the trigger for the use of Methoprene instead of BTi.
 - a. Methoprene is a growth regulator, which prevents larvae from becoming adults. Unlike BTi, which is highly targeted to mosquitoes and other flies, Methoprene is harmful to many invertebrate and vertebrate animals.³¹
 - b. The Draft Rule should detail what types of habitat can be safely treated with Methoprene.
 - i. Methoprene treatment in, or around vernal pools should be prohibited.
 - c. The larval monitoring thresholds for Methoprene treatment should be detailed in the permit.
 - d. The draft rule fails to detail what other criteria must be met before Methoprene application is deployed.
 - e. The Draft Rule fails to detail how the dose of Methoprene is calculated and determined. Related, the Draft Rule does not determine how the volume of water treated with Methoprene is derived.
 - f. The Draft Rule does not distinguish whether post-treatment monitoring requirements differ for Methoprene.
9. Unlike most other pesticide spraying in Vermont, which is designed to minimize drift (lateral aerial movement of pesticide away from the sprayer), roadside ULV adulticide spraying is designed and engineered to depend on drift. This should be acknowledged, and the regulations modified to account for this difference. For example, the required 50-foot buffers in 5.02 (m) and 5.04 (c) (2) seem to ignore or discount the nominal drift of 150 feet for all ULV adulticide spraying. When residents opt out of roadside adulticide spraying, a default buffer of 150 feet at either end of the road frontage is a minimum requirement.

³¹ See e.g. A.N Walker et al., 2010. *Morphologic Effects of In Vivo Acute Exposure to the Pesticide Methoprene on the Hepatopancreas of a Non-target Organism, Homarus Americanus*, 73 ECOTOXICOLOGY AND ENVIRONMENTAL SAFETY 8, 1867–74 (2010); J.P Monteiro et al., *Toxicity of Methoprene as Assessed by the Use of a Model Microorganism*, 19 TOXICOLOGY IN VITRO 7, 951–56 (2005); A.E Hershey et al., *Effects of Methoprene and Bti (Bacillus Thuringiensis Var. Israelensis) on Non-target Insects*, 308 HYDROBIOLOGIA 219–27 (1995).

Buffers are required for the application of all pesticides. Section 5.02 (m) requires that a minimum buffer of 50 feet from any private well is required when any pesticide is applied to soil or vegetation. (The owner of the well can offer a written waiver of the buffer.) Section 5.04 (c) (2) requires a buffer of 50 feet from pollinator foraging sites. These required buffers make it burdensome if not impossible to do roadside spraying of adulticides. To overcome this burden, the draft adulticide permit [6.07 (h)] includes a blatant loophole allowing the Secretary to override the buffer requirements in 5.02 and 5.04. Instead, the Rule should be explicit that chemical adulticides sprayed along roads are subject to different buffer distances, establish what those distances are, and justify those distances.

Related, 6.07(g)(5) of the Draft Rule lacks substance and is completely vague. What does the “establishment of standards and practices” actually mean and translate to regarding application practices under the permit? Regarding pollinators, historically Agency staff have argued that pollinators are not at risk from ULV spray because it is performed at night or because the pollinators are not flying. However, roadside ULV spraying of pyrethroid adulticides kills or harms monarch butterfly larvae and adults resting up to 23 meters from the sprayed road.³² Similarly, roadside ULV spraying of malathion killed 22% to 100% of caged honeybees up to 61 meters from the sprayed road.³³

10. Reporting requirements are covered in Section 8 of the regulations. No mention is made in Section 8 of reporting (each time a pesticide is applied) for mosquito larvicide or adulticide applications. No mention is made in Section 6.06 (larvicide) or 6.07 (adulticide) of reporting requirements. All mosquito monitoring results (larval counts, adult trap counts) should be available online in a digital numerical format (csv or spreadsheet) within 3 to 5 days of the sampling. All mosquito control treatment reports (larvicide and adulticide) should be available online in a digital numerical format (csv or spreadsheet) within 3 to 5 days of the treatment.
11. In Vermont’s Insect Control Districts, roadside spraying of ULV adulticides is to occur along public or private (shared) roads. The Draft Rule should specify that individual private driveways will not be sprayed without the owner’s written permission and notification

³² Karen S. Oberhauser et al., *Impacts of Ultra-Low Volume Tescmethrin Applications on Non-Target Insects*, 25 J. AM. MOSQUITO CONTROL ASS’N 83 (2009).

³³ Frank D. Rinkevich et al., *Limited Impacts of Truck-Based Ultra-Low Volume Applications of Mosquito Adulticides on Mortality in Honey Bees (Apis mellifera)* 107 BULL. ENTOMOLOGICAL RSCH. 1 (2017).

of all abutting neighbors. Spraying driveways creates areas of double spray which can exceed the per acre application rate and violate the permit by exceeding the pesticide label limits, see 5.01 (a), 5.02 (i). Spraying driveways can also expose neighbors to pesticides above the level expected from spraying only the public roads.

12. In Vermont's Insect Control Districts, the objective of roadside spraying of chemical adulticides is to reduce the nuisance of mosquito-human encounters. Therefore, spraying along sparsely inhabited rural roads should not be allowed. Road segments should not be sprayed if they have fewer than 15 occupied dwellings per mile within 150 feet of the spray route. Such spraying does little to reduce mosquito-human encounters (because few humans are present). Such spraying impacts rural and wildland environments including pollinator foraging areas, agricultural and wild habitats, wetlands, and bat foraging areas. Bats forage for flying insects at the exact seasons and times (after dark) that roadside spraying occurs and most of Vermont's bats are now threatened or endangered species.

13. Insect Control Districts may use backpack sprayers to apply mosquito adulticide mists to private property (lawns, yards, gardens). The Draft Rule should specify that backpack spraying of private property can be done only at the property owner's request. Such spraying can be done only if scientific action thresholds have been met in the area (within three miles) of the residence, and a request to spray does not constitute an action threshold. Neighbors must be notified at least 24 hours in advance of the spraying if their property boundary is less than 150 feet from the sprayed area. All spraying of private properties must be publicly reported (online) within 24 hours after the spraying. This report must include: time of spraying, location of spraying, product used, approximate area treated, and the action threshold that was exceeded.

vi. Specific Line-by-Line Comments Regarding 6.06 (Mosquito Larvicide Permit).

1. Section 6.06(a) states that “[a]ny person who makes a mosquito larvicide application must first obtain a permit from the Secretary” Section 6.06(j) exempts from this permit requirement any “private, certified commercial, or noncommercial applicator” using BTi larvicide products on their own private property. These two sections produce confusion about permit requirements for any person purchasing BTi larvicide products at a local hardware store for use on their own private property.

2. As mentioned above, the “form” referenced under 6.06(b) should be available to the public for comments prior to the issuance and approval of this Draft Rule.
 3. The requirements of the map that the applicant must produce under 6.06(c) is vague. In regards to mapping threatened and endangered species habitat, the map should be verified and approved by Vermont Fish and Wildlife Department staff. Moreover, the map requirements should specify whether the reference to threatened and endangered species includes state listed species, federally listed species, both, plants and animals, aquatic and terrestrial, etc. As of right now, it is unclear what the applicant is required to produce.
 4. Section 6.06(d)(4) requires that the dates and area to be treated with larvicides be described. For state designated Insect Control Districts, these probably always equate to “April through September” and “the towns of the District” and therefore have little usefulness.
 5. Section 6.06(d)(5) requires that applicants “set forth a provision for an opportunity for individuals to refuse treatment of their property.” Instead, the process by which individuals can opt out of treatment should be specified by this Rule.
 6. Section 6.06(g) requires that permittees follow the “Vermont Mosquito Control Permitting Procedures.” Limits should be placed on the manner in which the “Permitting Procedures” can override sections of this Rule. These “Procedures” must be made available to the public for the comment period on the Draft Rule.
- vii. Specific Line-by-Line Comments Regarding 6.07 (Mosquito Adulticide Permit).
1. Section 6.07(a) requires a permit for “truck-mounted sprayers” but not backpack or other types of sprayers. Backpack sprayers are commonly used to apply mosquito adulticides and should be included here.
 2. Section 6.07(b) requires a permit application by February 1 of the year of treatment. This might not provide sufficient time for the Vermont Department of Fish and Wildlife to evaluate the risk to threatened and endangered species before spraying begins in May. This section also refers to an application form. This form should be made available to the public during the public comment period for the Draft Rule, otherwise the complete permitting process cannot be properly evaluated.

3. Section 6.07(c) requires a map of the proposed treatment area. For Insect Control Districts, this map should include all designated routes for truck-mounted spraying. There should be a prohibition on applying pesticides along routes not included on the map (so residents who wish to opt out can know if they live along a spray route). Roads not included on the map should not be sprayed without prior notification and ample time to opt out. The required map is to include “threatened or endangered species habitat” but this information is not available to Insect Control Districts. Therefore, this map must be made by the Vermont Department of Fish and Wildlife, not the applicant.
4. Section 6.07(d)(5) requests that the applicant “set forth the provision for an opportunity for individuals to request a no-treatment area on or abutting their property.” Instead, this provision should be specified by this Draft Rule. For example, a valid 911 street address is sufficient information for an Insect Control District to determine the road frontage for that address (using the Vermont Parcel Viewer website³⁴). Opting out of roadside spraying must be interpreted as opting out of having pesticides applied to a property. Therefore, spraying must not occur within 150 feet from the property corners to prevent drift from reaching the opted-out property (150 feet is the nominal distance from the spray truck at which ULV pesticide mist is still sufficiently concentrated to kill adult mosquitoes). This 150 foot buffer should be applied by default for each opted-out property. Extended buffers can be arranged with written permission of abutting landowners.
5. Section 6.07(f) outlines provisions for notification of residents about adulticide application. In addition to once-a-year notifications, Insect Control Districts should notify residents at least several hours in advance of roadside spraying and specify which designated routes will be sprayed with which pesticide product. This allows residents to follow EPA’s recommendations³⁵ for mosquito adulticide spraying (e.g. closing windows, covering toys and cooking equipment, etc.). These notifications could be easily posted at a public website.
6. Section 6.07(g) states that “applicants shall submit a long-term integrated pest management plan.” This section should also state that permittees are required to *follow* that plan. If the regulations do not provide for enforcement of the IPM plan, the plan is meaningless. The Draft Rule should define the minimal IPM plan

³⁴ *Parcel Viewer*, VT. CTR. GEOGRAPHIC INFO. (last accessed June 20, 2022), <https://maps.vcgi.vermont.gov/ParcelViewer/>.

³⁵ *Malathion*, U.S. ENV’T PROT. AGENCY (Nov. 17, 2021), <https://www.epa.gov/mosquitocontrol/malathion#q5>.

that all Insect Control Districts using adulticides must follow (IPM will not vary much among Vermont's Insect Control Districts).

7. Section 6.07(g)(2) calls for “a commitment to larvicide control options prior to the use of an adulticide” which is vague and confusing. If prior use of larvicides is required, then the Draft Rule should prohibit the use of an adulticide without prior use of a larvicide. If prior use of larvicides is not required, then the applicant should not be asked to make a “commitment.” This section also calls for “an evaluation of non-chemical options” which is vague and confusing. If non-chemical options are a goal, then the Draft Rule should call for the use of specific non-chemical options under specified circumstances.
8. Section 6.07(g)(5) calls for the applicant's IPM plan to include “establishment of standards and practices for: (A) endangered species protection; (B) water protection; (C) wildlife protection, including pollinators; and (D) buffer establishment and maintenance.” These four modes of environmental and health protection should be central tenets of these rules and not relegated to a condition in an integrated pest management plan that has no provision for enforcement. An IPM plan for mosquito adulticide application should be stipulated by the Agency and strictly enforced for all permittees.
9. Section 6.07(h) states that adulticide permits “shall establish buffer distances.” This suggests that the reasonable buffer distances established in Sections 502 and 504 will not apply to mosquito adulticide application. If different buffer distances are appropriate for adulticide application, then this Rule should include those distances (they are not specific to different adulticide treatment situations so can be universally applied). These buffer distances must reflect that the widely accepted drift of ULV mosquito adulticides is 150 feet from the sprayer (in concentrations sufficient to kill adult mosquitoes) and that many non-target insects will also be impacted that far from the sprayer.

G. Subchapter 3

a. Sec. 11. Transportation and Storage of Pesticides

i. Prohibiting Storage of Pesticides in Containers Known to Have PFAS.

PFAS are a public health crisis “perfect storm” because PFAS compounds are extremely persistent in the environment, highly mobile in water, bioaccumulative, toxic in very small quantities, and found in hundreds of products. PFAS compounds

are man-made substances that do not occur naturally, and they have been used in non-stick cookware, water-repellent clothing, stain resistant fabrics and carpets, cosmetics, firefighting foams, and other products that resist grease, water, and oil.³⁶ These chemicals are extremely strong and highly resistant to degradation.³⁷

PFAS are toxic to humans in very small concentrations—in the *parts per trillion*.³⁸ PFAS are suspected carcinogens and have been linked to growth, learning and behavioral problems in infants and children; fertility and pregnancy problems, including pre-eclampsia; interference with natural human hormones; increased cholesterol; immune system problems; and interference with liver, thyroid, and pancreatic function.³⁹ PFAS have been linked to increases in testicular and kidney cancer in human adults.⁴⁰ The developing fetus and newborn babies are particularly sensitive to some PFAS.⁴¹

Alarming, epidemiological studies identify the immune system as a target of PFAS toxicity. Some studies have found decreased antibody response to vaccines, and associations between blood serum PFAS levels and immune system hypersensitivity (asthma) and autoimmune disorders (ulcerative colitis).⁴² There are no medical interventions that will remove PFAS from the body.⁴³

PFAS are very resistant to breakdown, bioaccumulate, and easily migrate. PFAS are persistent in the environment and have been shown to bioaccumulate in wildlife. A study by the U.S. Centers for Disease Control and Prevention (CDC) found four PFAS (PFOS, PFOA, perfluorohexane (PFHxS), and perfluorononanoic acid (PFNA)) in the serum of nearly all of the people tested, indicating widespread exposure in the U.S. population.⁴⁴ PFOA and PFOS were found in up to 99 percent

³⁶ Seth Kerschner & Zachary Griefen, *Next Round of Water Contamination Suits May Involve CWA*, LAW 360 (October 5, 2017), <https://www.law360.com/articles/970995/next-round-of-water-contamination-suits-may-involve-cwa>.

³⁷ N.J. DEP'T OF ENV'T PROT. DIV. OF SCI., RSCH., & ENV'T HEALTH, INVESTIGATION OF LEVELS OF PERFLUORINATED COMPOUNDS IN NEW JERSEY FISH, SURFACE WATER, AND SEDIMENT (2019), <https://www.nj.gov/dep/dsr/publications/Investigation%20of%20Levels%20of%20Perfluorinated%20Compounds%20in%20New%20Jersey%20Fish,%20Surface%20Water,%20and%20Sediment.pdf>.

³⁸ *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 & HUM. SERV. AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, TOXICOLOGICAL PROFILE FOR PERFLUOROALKYLS 5–6 (May 2021), <https://www.atsdr.cdc.gov/toxprofiles/tp200.pdf>.

³⁹ *Id.*

⁴⁰ *Id.*, at 6; Vaughn Barry et al., *Perfluorooctanoic Acid (PFOA) Exposures and Incident Cancers Among Adults Living Near a Chemical Plant*, 121 ENV'T HEALTH PERSPECTIVES 1313 (2013), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3855514/pdf/ehp.1306615.pdf>.

⁴¹ U.S. ENV'T PROT. AGENCY, DRINKING WATER HEALTH ADVISORY FOR PERFLUOROCTANE SULFONATE (PFOS) 10 (May 2016), https://www.epa.gov/sites/production/files/2016-05/documents/pfoa_health_advisory_final_508.pdf.

⁴² *Id.*, at 39.

⁴³ VT. DEP'T OF HEALTH, PERFLUOROALKYL AND POLYFLUOROALKYL SUBSTANCES (PFAS) IN DRINKING WATER, (July 2018), http://www.healthvermont.gov/sites/default/files/documents/pdf/ENV_DW_PFAS.pdf.

⁴⁴ *Per- and Polyfluorinated Substances (PFAS)*, CTR. FOR DISEASE CONTROL & PREVENTION (May 2, 2022), https://www.cdc.gov/biomonitoring/PFAS_FactSheet.html.

of the U.S. general population between 1999 and 2012.⁴⁵ PFAS are found in human breast milk and umbilical cord blood.⁴⁶

While a great deal of public attention has recently been paid to PFOA and PFOS, EPA and other scientists have raised concerns that other chemicals in the PFAS class of compounds are similar in chemical structure and are likely to pose similar health risks.⁴⁷ For example, all PFAS share a strong carbon-fluorine bond and “degrade very slowly, if at all, under environmental conditions.”⁴⁸ Although some of the long-chain PFASs are being regulated or phased out, the most common replacements are short-chain PFASs with similar structures, or compounds with fluorinated segments joined by ether linkages. While some shorter-chain fluorinated alternatives seem to be less bioaccumulative, they are still as environmentally persistent as long-chain substances or have persistent degradation products.⁴⁹ In addition, because some of the shorter-chain PFASs are less effective, larger quantities may be needed to provide the same performance.⁵⁰

More recently and relevant to the Draft Rule, the 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. Prior to EPA’s notification to these industries, in response to Public Employees for Environmental Responsibility (PEER) daylighting the issue of PFAS found in pesticides aerially sprayed for mosquito control in southeastern Massachusetts, the EPA published testing results showing that PFAS likely formed from chemical reactions during the container fluorination process and subsequently leached into pesticide products stored in HDPE containers.⁵¹ In response to what is

⁴⁵ U.S. ENV’T PROT. AGENCY, DRINKING WATER HEALTH ADVISORY FOR PERFLUOROCTANOIC ACID (PFOA) 9 (May 2016), https://www.epa.gov/sites/production/files/2016-05/documents/pfoa_health_advisory_final_508.pdf.

⁴⁶ AGENCY FOR TOXIC SUBSTANCES & DISEASE REGISTRY, *supra* note 27, at 3.

⁴⁷ U.S. ENV’T PROT. AGENCY OFFICE OF POLLUTION PREVENTION & TOXICS, REGULATION OF NEW CHEMICAL SUBSTANCES PENDING DEVELOPMENT OF INFORMATION: IN THE MATTER OF DUPONT CO. (April 9, 2009), <https://assets.documentcloud.org/documents/2746607/Sanitized-Consent-Order-P08-0508-and-P08-0509.pdf>; Premanufacture Notification Exemption for Polymers; Amendment of Polymer Exemption Rule to Exclude Certain Perfluorinated Polymers, 75 Fed. Reg. 4295, 4296 (Jan. 27, 2010) (codified at 40 C.F.R. pt. 723) (stating that, with respect to “GenX” compounds (chemical substances intended to replace long-chain (C8) PFAS used in Teflon), “EPA has concerns that these PMN substances will persist in the environment, could bioaccumulate, and be toxic (‘PBT’) to people, wild mammals, and birds.”).

⁴⁸ Arlene Blum et al., *The Madrid Statement on Poly- and Perfluoroalkyl Substances (PFASs)*, 123 ENV’T HEALTH PERSPECTIVES A107 (2015), available at <https://ehp.niehs.nih.gov/doi/pdf/10.1289/ehp.1509934>.

⁴⁹ *Id.*

⁵⁰ *Id.*

⁵¹ 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>.

known about PFAS, pesticides, and pesticide storage containers, we urge the Agency to: (1) explicitly prohibit the storage of pesticides in containers known to have PFAS and/or leach PFAS, and; (2) require active sampling of pesticide products for PFAS that are stored in HDPE containers, which are suspected for PFAS to form and migrate.

CONCLUSION

Since its founding, Vermont has always stood on the forefront of pressing issues with proactive consideration of effective solutions and necessary responses. 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 pesticides to ensure the safety and health of our communities, natural resources, and environment at-large. Because of this, we cannot emphasize enough the importance and timing of getting this rule correct—especially given the antiquated character of the 1991 regulations and duration of their use.

As we mentioned at the outset, while we support the intention of some of the changes in the Draft Rule, as compared to the 1991 regulations, broadly, the Draft Rule lacks impactful substance, accountability measures, and effective-protective management measures. Our organizations offer these suggestions and conclusions not to delay or prohibit approval and implementation of the rule, but instead to build the requisite foundation of analysis and public participation so that the pesticide regulations are consistent with the resilient-strong tools that the State will need moving forward.

Thank you again for 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,

Dated: June 23, 2022

/s/ Lori Fisher
Executive Director
Lake Champlain Committee

/s/ Paul Burns
Executive Director
Vermont Public Interest Research Group

/s/ David Mears
Executive Director, Audubon Vermont
Vice President, National Audubon Society

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

/s/ Robb Kidd
Conservation Program Manager
Vermont Chapter of the Sierra Club

/s/ Graham Unangst-Rufenacht
Policy Director
Rural Vermont

/s/ Chris Fastie
Co-Founder & Representative
Moosalamoo Woods & Waters

/s/ Jay Feldman
Executive Director
Beyond Pesticides

/s/ Maddie Kempner
Policy Director
Northeast Organic Farming Association of Vermont

/s/ Mason Overstreet
Staff Attorney
Conservation Law Foundation Vermont