



Otter Creek Watershed Insect Control District
Mosquito Adulticide Permit
Public Comment Response Summary

Date: May 29, 2023

The Agency of Agriculture, Food & Markets (Agency) requires an approved permit for the application of mosquito adulticide for management of nuisance mosquitos using ground-based truck-mounted sprayers. Pursuant to the Vermont Rule for Control of Pesticides, CVR 20-31-12, the permit application received by the Agency from the Otter Creek Watershed Insect Control District (the District) was posted for 30 days for public review on the Agency website (<https://agriculture.vermont.gov/public-comment-opportunities>). Comments received during the 30-day posting period were compiled and evaluated by Agency staff.

This public comment response summary provides responses from the Public Health and Agricultural Resource Management (PHARM) Division to the questions and comments that were received during the public comment period on the request for a permit to apply mosquito adulticide for management of nuisance mosquitos using ground-based truck-mounted sprayers by the Otter Creek Watershed Insect Control District (the District), received March 24, 2023.

Summary of Comments / Questions

This response summary groups the comments/questions received and provides the PHARM Division's responses. Comments and questions have been tabulated, summarized, and combined into common themes. The summarized comments are in bold italics below, with the PHARM Division's response in plain text following.

A total of 24 comments were received during the comment period from March 26, 2023, to April 27, 2023. Of these, twelve of the comments could be categorized as supportive of granting the permit to manage nuisance mosquitos using ground-based truck-mounted ultra-low volume (ULV) application equipment, and twelve comments expressed opposition to the permit or raised questions and concerns about this practice.

The Agency granted the requested permit on a conditional basis on May 16, 2023, for a six-month period. The permit and the conditions established in the permit can be viewed at: <https://agriculture.vermont.gov/public-health-agricultural-resource-management-division/pesticide-programs/pesticide-permits-1>

Comments in support of granting the permit to the District

The commenters that expressed support for the granting of the permit cited a need for control of adult biting mosquitoes to allow outdoor activities and enjoyment of property in the area served by the District. Commenters expressed satisfaction with the service provided by the District, related experiences of having large numbers of biting mosquitos prevent use of their property or curtailment of

outdoor activities such as gardening, yard maintenance, or recreation. Some of the comments noted that they were long term residents who had experience of times when mosquitoes were not controlled, and they could not conduct such outdoor activities.

The Agency granted the District request for a permit on a conditional basis on May 16, 2023. This will allow the District to perform nuisance mosquito control in compliance with the permit conditions. These require documentation of populations of adult mosquitos of species that take human blood meals, allowing only permethrin to be applied, requiring public notification before treatment through several means, collecting emails of persons who wish to be notified, and notifying persons on the spray route to be treated no later than six hours before treatment of that route.

Comments opposed to the granting of the permit to the District

The comments received that expressed opposition to the granting of the permit either expressed general opposition to the use of adulticides applied in the manner requested by the District or had specific questions or concerns about this practice. The responses below include a response to general opposition to the practice, as well as responses to specific points raised by some commenters.

The request for a permit by the District should be denied. The use of adulticides is dangerous to humans and wildlife. Control of nuisance mosquitos is not necessary.

The Agency has granted the District request for a permit on a conditional basis on May 16, 2023. This will allow the District to perform nuisance mosquito control in compliance with the permit conditions. These require documentation of populations of adult mosquitos of species that take human blood meals, allow only permethrin to be applied, require public notification before treatment through several means, collection of emails of persons who wish to be notified, and notification of persons on the spray route to be treated no later than six hours before treatment of that route. These measures will reduce exposure and allow persons to take precautions if they choose to.

The use of permethrin as an adulticide has been evaluated by the United States Environmental Protection Agency (USEPA), and the risks from exposure through this use is below a level of concern for humans and wildlife that would prevent this use. The application rates used by the District equate to 0.005 lbs of permethrin per acre.

The control of nuisance mosquitoes is allowed under existing law and rules. High population levels of adult female mosquitos can disrupt human activities such as outdoor work, gardening, agriculture, and recreation. Persons who have inadequate shelter or window screens are also negatively affected. High populations are also detrimental to domestic animals and wildlife. Control of high populations of mosquitos is a function of many local governments throughout the United States. It must be done properly to be effective and with adequate oversight to avoid negative effects.

Application of adulticides is ineffective and does not prevent mosquito problems. Despite many years of treatment, mosquito problems persist.

Application of adulticides using ultra-low volume (ULV) equipment is intended to reduce the population of adult female mosquitos that are searching for a blood meal as part of their reproductive cycle. Experience and research have shown this practice to be highly effective when done properly.

This practice is not intended to remove or eliminate a mosquito population, but only to significantly reduce the number of adult mosquitos that will successfully obtain the nutrients needed to lay eggs and

increase the population for the next cycle. The applications must be timed to intercept the mosquitoes and only be used when population levels are high enough so that the material applied has a good chance of contacting mosquitos that are searching for blood meals. The permit requires monitoring of the adult female population and only allows treatment when a threshold number of adult females of the appropriate species are collected using a standardized sampling protocol.

Mosquito larvicides are a less harmful option but are not used by the District due to costs.

The Agency will be working with the District to explore ways to make the application of larvicide more cost effective. The use of larvicides is a part of the Integrated Pest Management Plan that is part of the permit granted to the District.

The District does not provide sufficient accommodation to persons who do not want to be exposed to adulticide treatment, either through the notification procedures or the no-spray zone policy. The District needs more communication and engagement with residents who do not want to be exposed to treatments.

The permit includes the following conditions:

-12. If during a spraying operation any person or pet is observed traveling along or within 150 feet of the spray route, including on any property along the route, the applicator shall immediately turn off the sprayer until the individual(s) or pet leaves the area or the applicator drives past the individual or pet with the sprayer off. The applicator shall make every effort to avoid pesticides coming into direct contact with any human and/or pet.

-15. OCWICD shall comply with the no-spray zone policy provided in Appendix C-4 of the Permit Application dated March 24, 2023.

-16. OCWICD shall notify residents as described in Appendix C-1 of its Permit Application dated March 24, 2023, and shall also notify residents along each specific planned spray route as provided in Addendum to Appendix C-1, dated May 16, 2023.

The appendices cited above are available at:

<https://agriculture.vermont.gov/public-health-agricultural-resource-management-division/pesticide-programs/pesticide-permits-1>

The Agency is interested in the comments from residents in the treatment area regarding the effectiveness of the notification requirements and the implementation of the no-spray zone policy. Information on the effectiveness of these policies can inform future permit conditions.

The District needs to treat only when thresholds are exceeded. Overapplication will lead to resistance development.

The permit includes the following conditions:

13. *The following action thresholds shall be met or exceeded before any application is authorized under this permit:*
- (a) *Forty (40) or more adult mosquitoes excluding the genera listed in subparagraph (c) obtained from a 24-hour CDC baited light trap collection; and/or*
 - (b) *Fifteen (15) or more adult mosquitoes excluding the genera listed in subparagraph (c) obtained from a maximum 3-minute hand net sweep.*
 - (c) *Genera excluded from authorized counts include Uranotaenia.*
 - (d) *No insects other than mosquitoes, including biting flies, may be used to justify treatment under this permit.*
14. *Service requests for truck-mounted spraying shall be subject to the same IPM thresholds as route treatments and include CDC trap counts or net sweeps as required in OCWICD's IPM plan to justify treatment. Records shall be kept for all service requests, including ambient conditions, mosquito counts, and e911 addresses or latitude/longitudes for every request.*

This permit condition establishes that treatment can only occur when a documented level of certain species of mosquitoes occurs.

The permit includes the following condition relative to the detection of resistance development:

5. *In the event pesticide resistance to permethrin has been documented by way of CDC Bottle Bioassay testing per CONUS Manual as <90% of adult females dead at the diagnostic time for the species tested, the OCWICD may petition the Agency for the use of other active ingredients. Permittee shall conduct pesticide resistance monitoring by participating in the Northeast Regional Center for Excellence in Vector-Borne Disease (NEVBD) Resistance Monitoring program.*

Monitoring for resistance is a part of responsible wide area mosquito control. The Agency will work with the District to monitor and manage the development of resistance to pesticide products.

The District needs to be more tightly regulated.

The permit issued per CVR 20-31-12 constitutes a set of conditions which the District must meet to apply adulticides for the control of nuisance mosquitoes. The permit also provides for a minimum of three inspections by the Agency to determine if permit conditions and pesticide label directions are being met.