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## For More Information

### State Agencies and Organizations

WSU <http://www.wnv.wsu.edu>

Health 866-788-4787

<http://www.doh.wa.gov/ehp/ts/Zoo/WNV/WNV.html>

Agriculture

Pesticides 877-301-4555

<http://agr.wa.gov/PestFert/default.htm>

Veterinarian 360-902-1878

<http://agr.wa.gov/FoodAnimal/AnimalHealth/default.htm>

Ecology 800-633-6193

[http://www.ecy.wa.gov/programs/wq/pesticides/final\\_pesticide\\_permits/mosquito/mosquito\\_index.html](http://www.ecy.wa.gov/programs/wq/pesticides/final_pesticide_permits/mosquito/mosquito_index.html)

Fish & Wildlife 360 902-2200

<http://wdfw.wa.gov/>

NW Mosquito and Vector Control Association  
406-454-6920

<http://www.nwmvca.org/>

National

Center for Disease Control 888-246-2675

<http://www.cdc.gov/ncidod/dvbid/westnile/index.htm>

Cornell University

<http://environmentalrisk.cornell.edu/WNV/>

Visit us on the WEB

<http://wnv.wsu.edu>

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## Pesticide regulations on use of mosquito larvicides: information for public entities.

**Introduction.** Pesticide use in Washington State is regulated at the federal level by the Environmental Protection Agency (EPA) and at the state level by Washington State Department of Agriculture (WSDA). In addition, Washington State Department of Ecology (DOE, not to be confused with U.S. Department of Energy) issues special permits for use of aquatic pesticides, including mosquito larvicides. All private, public, and commercial use of pesticides must comply with federal and state regulations.

Mosquito abatement is best accomplished by Integrated Pest Management (IPM) designed to disrupt mosquitoes' life cycles through various practices including monitoring, habitat reduction, and predation combined with biological, chemical, and physical control methods. Targeting adult mosquitoes, as part of IPM and based on surveillance, is an important tool when mosquito breeding sites are inaccessible because of jurisdiction or geography. However, directing mosquito abatement toward mosquito larvae is often more effective and results in less harm to non-target species. It is the preferred approach, but it is not without environmental risk. Consequently, the following discussion focuses on regulations, designed to protect the environment, regarding the appropriate use of mosquito larvicides.

Applicator certification and aquatic permits. Because mosquito larvae live in water, use of mosquito larvicides is considered an aquatic pesticide application and is regulated by WSDA and specially permitted by DOE. A recent exemption for home and garden use mosquito larvicides is discussed later.

Washington State regulations (Washington Administrative Code) WAC 16-228-1231(1)(d) restricts aquatic pesticide use to WSDA certified applicators. WSDA requires that all applicators be certified with either the Public Health Pest Control or Aquatic Pest Control endorsement in order to apply larvicides to water.

Applicator certification is only half the process. In addition, application of mosquito larvicides, other than those labeled and intended *only* for home and garden use, requires a permit issued by DOE. The permit is called a National Pollutant Discharge Elimination System (NPDES) permit, and it is required for aquatic pesticide applications. To facilitate permitting, DOE holds an Aquatic Mosquito Control NPDES general permit covering mosquito control activities that discharge insecticides directly into surface waters of the state of Washington. Washington Department of Health (DOH) joined DOE's permit on a statewide basis. Entities wishing to conduct mosquito larvae control (mosquito control districts, municipalities, school districts, counties, public agencies, home owner associations, private firms, farms, etc.) may apply for coverage under DOH's permit. Once approved for coverage under DOH's permit, entities are responsible for meeting all requirements of Integrated Pest Management (IPM) and Best Management Practices (BMP) defined in DOE's general permit. Among other things, these include mosquito habitat reduction, monitoring, record keeping, and judicious

use of pesticides. Entities seeking coverage under the DOH permit may do so online at <http://www.doh.wa.gov/ehp/ts/Zoo/WNV/Permit.html>

Washington regulation exempts people from applicator certification and NPDES permit while properly using mosquito larvicides that are labeled *only* for home and garden use WAC 16-228-1231(2)(l).

Larvicide ingredients. In Washington State, mosquito larvicides registered by WSDA and permitted by DOE contain several active ingredients: methoprene, an insect growth regulator; bacterial preparations of *Bacillus thuringiensis* and *Bacillus sphaericus*; monomolecular surface films; surface oils, and, under special circumstances (public health emergency or pesticide resistance), organophosphates malathion and temephos. Although these ingredients have relatively low toxicity to mammals, they have varying degrees of greater toxicity to fish and other aquatic life.

Mosquito Control Districts are authorized by Washington State Law under RCW 17.28. They are the best-equipped public entity to meet IPM and BMP conditions of DOE's Aquatic Mosquito Control NPDES general permit. They employ mosquito control professionals. Mosquito Control Districts are organized by and within counties. They must be approved by a vote of the county's residents falling within the proposed district's boundaries, which can be county-wide or smaller. Their operation is paid for through a special property tax levy. They have the right of "chemical trespass," meaning they can apply larvicides to private as well as public property in order to abate mosquitoes. It can take up to two years to form a mosquito control district, so counties are unlikely to create a new one for this coming mosquito season.

Information on creating mosquito control districts is available from Municipal Research and Services Center of Washington at <http://www.mrsc.org/Subjects/Governance/spd/mosquito.aspx> .

Temporary alternatives to mosquito control districts for public entities. If West Nile Virus commands enough public concern this year that public entities need to respond to public demand for mosquito control, alternatives to mosquito control districts exist. One is for the public entity to join the DOH/DOE general permit. Once permitted, the public entity may engage in, or contract for mosquito abatement, as long as that public entity assures IPM, BMP, and other conditions of the general permit are met. Alternatively, the public entity can contract for mosquito control with a private firm that has joined the NPDES permit. Unlike mosquito control districts, however, public and private entities do not have the right of “chemical trespass,” so they may only use larvicides on land they own or manage.

Adulticides. There are many pesticides registered for use on adult mosquitoes, although their use is not the preferred first line of approach to mosquito abatement. Nevertheless, use of adulticides does not require DOE permitting, because adulticides are not labeled or intended for aquatic use. Products are available for home, agricultural, and professional use. For applications of restricted use adulticides, WSDA pesticide applicator certification is required.

More information. DOE’s Aquatic Mosquito Control NPDES general permit is available for downloading on the DOH web site: <http://www.doh.wa.gov/ehp/ts/Zoo/WNV/Permit.html> where application for permit coverage also may be made.

Listing of local health districts can be found at <http://www.doh.wa.gov/LHJMap/LHJMap.htm> .

WSDA pesticide applicator certification information is available at 1-877-301-4555 and on their web site: <http://agr.wa.gov/PestFert/LicensingEd/default.htm> .

WSU’s pesticide education and applicator training program is available at county WSU Cooperative Extension Offices and at the WSU Pesticide Education Program web site: <http://pep.wsu.edu/> . For courses on certification in Public Health Pest Control or Aquatic Pest Control (license categories for applying mosquito larvicides) contact Carol Ramsay: [ramsay@wsu.edu](mailto:ramsay@wsu.edu) .

The bottom line. Application of mosquito control larvicides by public or private entities requires applicators to be certified by WSDA and permitted by Department of Ecology (via Department of Health) under federal NPDES. DOE holds a NPDES general permit for Aquatic Mosquito Control. DOH joined that permit, and public and private entities within Washington State may apply to join the DOH coverage. Because of the complexity of Best Management Practices and Integrated Pest Management required as conditions of the NPDES general permit, application of mosquito larvicides, other than those labeled and intended *only* for home and garden use, is best done by mosquito control professionals.