



DEP FACT SHEET

Aquatic Pesticide Applications for Mosquito Control

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Background

Mosquitoes and other biting insects are unarguably a nuisance in Maine. However, they also occupy an important part of the ecosystem, providing a hard-to-replace food item for other insects, amphibians, fish, and birds. Efforts to chemically control insects have the potential to cause far reaching environmental effects. Therefore, when considering using pesticides, you must proceed cautiously to avoid causing adverse impacts to aquatic life and habitats.

Maine state law governs aquatic pesticide applications. If the area to be treated is a water of the State or if the treatment will potentially result in a discharge to a water of the State, you must first obtain a Maine Waste Discharge License (WDL).

Applicable definitions and citations from rule and law

▶ Aquatic pesticide is defined as any substance applied in, on or over waters of the State or in such a way as to enter those waters for the purpose of inhibiting the growth or controlling the existence of any plant or animal in those waters (Department rule 06-096 CMR Chapter 514).

▶ No person may directly or indirectly discharge or cause to be discharged any pollutant to a water of the State without first obtaining a license from the Department of Environmental Protection (DEP) (State law 38 MRSA, §413(1)).

▶ “Waters of the State means any and all surface and subsurface waters that are contained within, flow through, or under or border upon this state or any portion of the State...except such waters as are confined and retained completely upon the property of one person and do not drain into or connect with any other waters of the state....” (38 MRSA, §361-A(7)). By definition, waters of the State include streams, rivers, lakes, ponds, marine waters, wetlands, and groundwater. In Maine, almost all wetlands are connected to either surface or ground waters, and some are connected to both.

Chemical and biological agents

Various chemical and biological agents are marketed for control of mosquitoes. Chemical pesticides are not selective and have the potential to impact other species. Bacterial pesticides are developed to impact species with specific properties, but may still impact more species than desired if improperly used. For example, the bacterial pesticides Bti (*Bacillus thuringiensis*, subspecies *israelensis*) and Bs (*B. sphaericus*) work on alkaline pH guts, which are found in mosquitoes, black flies, and some non-biting midges. Other bacterial agents may also affect butterflies and moths. Application of either type of pesticide to a water of the State requires a WDL. Pesticide applications to dry land with the potential to reach waters of the State during the time the pesticide is active will also require a WDL pursuant to DEP Rules, Chapter 514.

Waste discharge license (WDL) rule criteria

The Chapter 514 rules provide the following criteria for receiving a WDL to apply a pesticide to a water of the State:

- A. The pesticide must be registered for the intended use by the U.S. Environmental Protection Agency (EPA) and the Maine Department of Agriculture, Food and Rural Resources' Board of Pesticides Control (BPC).
- B. The applicant or agent must be licensed as a commercial applicator in the 'Biting Fly and other Arthropod Vectors' subcategory by the BPC.
- C. The applicant must provide adequate protection for non-target species.
- D. The applicant must demonstrate (1) a significant need to control the target species and (2) that the pesticide offers the only reasonable and effective means of control.
- E. The application must not result in violations of State water quality laws (such as impairing a waterbody so that it does not attain its designated classification).

Items C, D, and E require SIGNIFICANT attention, as the DEP is concerned about the greater environmental effects of mosquito treatments. The DEP's mission is to protect the quality, habitat, and designated uses of all waters of the State, therefore WDL applications for mosquito control will be stringently scrutinized. Some activities, however, can be conducted without DEP approval, as noted below.

Activities that do not require DEP approval

The DEP has determined that treatments using granular or solid forms of Bti or Bs under specific conditions in high elevation (extreme tide) salt marsh pools, constructed ponds, and isolated freshwater wetlands do not require a WDL. In each of these resources, there must be a presence of mosquitoes and an absence of fish or other predators that can control them. In the salt marsh pools, the Bti or Bs must be placed immediately after pool flooding to enable its dissipation prior to the next flood event. The ponds and isolated wetlands must be contained on one person's property and have no connection to other surface waterbodies. As an additional regulatory option, the DEP has developed a General Permit for Aquatic Pesticides for the Control of Mosquito-Borne Diseases. Coverage under the General Permit requires qualified projects to meet the criteria of Chapter 514 above as well as specific conditions related to the title, but provides a more expedited process.

Other information

To discuss requirements for mosquito treatment projects or obtain application materials, contact DEP's Division of Water Quality Management at (207) 287-3901 or toll free 1-800-452-1942. Also, visit www.maine.gov/dep/blwq/docstand/wastepage.htm to view applicable rules or permit application materials (click on *General Materials* for rules; *General Permits*; or *Municipal/Industrial*, then *Applications*, then *Aquatic Pesticides* for forms). See also the DEP's website www.maine.gov/dep/special_topics.htm and click on *West Nile Virus* for additional information and links to other sources, including the DEP Fact Sheet on Mosquito Control, West Nile Virus, and EEE.

For more information on pesticides and their regulation and use, including requirements for Commercial Pesticide Applicator's licenses and variance requirements near waters of the State, contact the Board of Pesticides Control at (207) 287-2731 or visit their website at: www.maine.gov/agriculture/pesticides.

