



AQUATIC PESTICIDE APPLICATIONS FOR MOSQUITO CONTROL

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.

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 state 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 (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 (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.

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*, var. *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 effect 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.

Department rules (Ch. 514) provide the 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 USEPA and the Maine Department of Agriculture, Board of Pesticides Control.
- B. The applicant or agent must be licensed as a commercial applicator in the Biting Fly and other Arthropod Vectors subcategory by the Board of Pesticide Control.
- C. The applicant must provide adequate protection for non-target species.
- D. The applicant must demonstrate a significant need to control the target species and that the pesticide offers the only reasonable and effective means.
- 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 Department is concerned about the greater environmental effects of mosquito treatments. The Department's mission is to protect the quality, habitat, and designated uses of all waters of the State, thus WDL applications for mosquito control will be stringently scrutinized. Pesticide applications for mosquito control in Maine's highest classified waters, Class GPA, AA, A, and SA, can not be approved.

According to the Board of Pesticide Control, a commercial Pesticide Applicator's License is required if:

1. The work involves a contract (fee for services) to apply a pesticide.
2. It involves an area open to the public.
3. It will be applied by a government employee at any level including water districts, school employees, etc.

The MEDEP 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. To discuss requirements for mosquito treatment projects or obtain application materials, contact DEP's Division of Water Resource Regulation at (207) 287-3901 or 1-800-452-1942. Visit www.state.me.us/dep/blwq/docstand/wastepage.htm to view Ch. 514, *Regulations Concerning the Use of Aquatic Pesticides* (General Materials) or permit application materials (Municipal/Industrial, Applications: General Application, Aquatic Pesticides).

For more information on pesticides and their regulation and use, contact the Board of Pesticides Control at (207) 287-2731 or visit their website at: www.state.me.us/agriculture/pesticides.

