DCNR *Lymantria dispar dispar* (Spongy Moth) Suppression Program Overview

March 12, 2024

2024 Program

DCNR's Bureau of Forestry will oversee the suppression of 185 sites (173 single application, 12 double application Btk), totaling 227,820 acres (222,617 single application, 5,203 double application Btk). A total of 23,040 acres (17,837 single app, 5,203 double app) will be treated with Btk (Foray 76B) and 204,780 acres will be treated with tebufenozide (Mimic 2LV). Included will be parts of 12 forest districts, 18 state parks, and 1 federal property, in 20 counties located in south central, central, north central, and north east Pennsylvania. Treatments will begin in late April/early May and will continue until the end of May or early June depending on weather conditions. Double application of Btk are designated on sites appropriate for Btk and with high and increasing LDD populations. This is the first year the PA BOF Division of Forest Health will implement a double application of Btk in select sites located in northern Pike County.

Why Suppression is Important

Lymantria dispar dispar (new common name - spongy moth; former common name – gypsy moth) is an invasive insect that can negatively impact the health of Pennsylvania's forests. The spongy moth suppression program is conducted with the goal of preventing defoliation so that trees do not become stressed and succumb to diseases, other insect pests, or drought. The state's oak stands are especially vulnerable to spongy moth infestations, often resulting in tree mortality. The loss of habitat, timber, and tree growth are considerable when spongy moth populations go untreated. The Bureau of Forestry strategically targets areas where there is a high risk for infestation and ecological damage. The bureau has treated for spongy moth to maintain forest health since 1972.

Why We Must Treat This Year

This destructive, invasive insect goes through cycles where outbreaks occur every 5 to 10 years. Populations had declined several years ago due to the spongy moth fungus disease and wet spring weather, but that was no longer is the case in 2022 and 2023. To help control spongy moth populations and promote forest health, the bureau is suppressing spongy moth populations in selected areas.

How Suppression Is Conducted

Aerial suppression is conducted by helicopter and/or fixed-wing aircraft so that a low volume of insecticide can be applied to the forest canopy. Targeted sites are determined by surveys of egg masses and other indicators across the state indicating spongy moth populations are increasing and have the potential to cause major defoliation. All potential treatment blocks are submitted to DCNR by the managing agency. The bureau determines if the request meets the guidelines for treatment.

Insecticides Used

Bacillus thuringiensis subsp. *kurstaki* (Btk) (Foray 76B) is the first choice of insecticide to be used. Btk is a naturally occurring soil bacteria and commonly used insecticide throughout the world and often in organic agriculture. Gypchek is the spongy moth virus insecticide produced by the USDA that is only used when federally listed threatened and endangered moth and butterfly caterpillars are present.

Tebufenozide (Mimic 2LV) is another insecticide the Bureau of Forestry uses, but only on the most difficult to control populations where Btk has shown a high failure rate in the past, such as on the dry upland ridges of central and eastern PA that are dominated by oak and where spongy moth populations build-up first during an outbreak cycle.

Tebufenozide (Mimic 2LV) is an EPA approved insecticide and is also an approved insecticide for use in spongy moth suppression programs by the USDA Forest Service. The bureau began using tebufenozide in 2016 on State Forests and Game Commission lands, but this insecticide has been used privately for many years by private applicators in forested residential communities. It is also used in agriculture, especially on fruit trees.

The bureau uses tebufenozide once in a 2-3 year period depending on the particular tract.

Is not used within 300 feet of open bodies of water or on non-forested wetlands

Impacts to Other Insects and Caterpillars

Both Btk and tebufenozide affect butterfly and moth (lepidopteran) caterpillars that are actively feeding at the time of application period (Late April through early June). However, susceptibility to Btk is species-specific and not all species are affected. For tebufenozide, we assume that any lepidopteran caterpillar that feeds on treated foliage will be affected.

Neither insecticide affects bees or other non-lepidopteran terrestrial insects. High doses of tebufenozide beyond what the bureau uses can impact aquatic invertebrates. As a precaution the bureau uses a 300-foot buffer around open bodies of water.

Further precautions include not using tebufenozide in areas containing threatened or endangered lepidopteran species and limiting its use to areas highly infested by spongy moth.

Environmental Review

The Bureau of Forestry's suppression program is done consistent with federal USDA program standards. Suppression methods and insecticides used by the bureau have undergone extensive environmental review along with a completed environmental analysis and biological evaluation. All proposed treatment blocks were submitted to the Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Fish and Boat Commission, Pennsylvania Game Commission, United States Fish and Wildlife Service, and Pennsylvania Historical and Museum Commission for environmental review (PNDI).

The federal supplemental environmental impact statement (SEIS) can be found on the USDA Forest Service web page USFS Lymantria dispar Digest Home (usda.gov) and the Record of Decision for this SEIS added tebufenozide as an approved treatment for spongy moth suppression.

For More Information

Check out our website at this link Lymantria dispar (Spongy Moth) or Google "DCNR Spongy Moth". On this page you can find information about the insect, insecticides, and an interactive map of treatment sites