

# News Release



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**State Officials Announce Additional Aerial Spraying for EEE in Critical and High Risk Communities**

*Residents urged to continue to protect themselves against mosquito bites*

**BOSTON** (September 10, 2019) -The Massachusetts Department of Public Health (DPH) and the Massachusetts Department of Agricultural Resources (MDAR) are urging residents throughout the Commonwealth to continue to take personal precautions to prevent mosquito bites as they announced additional aerial spraying for mosquitoes in areas of the state at critical and high risk for the Eastern Equine Encephalitis (EEE) virus.

MDAR is scheduled to begin aerial spraying this evening and continue into next week in parts of Middlesex, Worcester, and Norfolk counties. While aerial spraying is weather and equipment dependent, above-average evening temperatures this week are likely to permit the application.

Communities that are scheduled to be partially or fully sprayed over the next week include:

- *Norfolk County:* Bellingham, Franklin, Medway, Millis, Norfolk, Medfield, Walpole, Wrentham, Foxborough, Sharon, Norwood, Westwood, Dover, Needham, Wellesley
- *Middlesex County:* Ashland, Hopkinton, Holliston, Sherborn, Framingham, Natick, Wayland, Sudbury, Maynard, Stow, Hudson, Marlborough, Weston
- *Worcester County:* Berlin, Boylston, Northborough, Westborough, Shrewsbury, Grafton, Upton, Milford, Hopedale, Mendon, Blackstone, Millville, Uxbridge, Douglas, Northbridge, Sutton, Millbury, Auburn, Oxford, Webster, Southborough, Bolton, Clinton, West Boylston, Worcester, Charlton, Dudley, Leicester, Harvard

As weather, temperature, and equipment conditions permit, plans for subsequent rounds of spraying will include critical and high-risk communities in the counties of Bristol, Essex, Franklin, Hampden, Hampshire and Plymouth. Residents are encouraged to visit the DPH website at <https://www.mass.gov/eee> for the latest updates on spraying in their communities.

So far this season, Massachusetts has had seven human cases of EEE. One person has died. There have also been nine confirmed cases of EEE this year in animals, including eight horses and a goat.

There are 36 communities now at critical risk, 42 at high risk, and 115 at moderate risk for the EEE virus in Massachusetts. A map of the state's current EEE risk levels can be found [here](#).

“Even as temperatures cool, it’s vitally important for us to remember that mosquito season is not over and that we all need to continue to take steps to prevent mosquito bites,” said **Public Health Commissioner Monica Bharel**, MD, MPH. “Use bug spray, wear long sleeves and pants to reduce exposed skin, and stay indoors from dusk to dawn when mosquitoes are most active.”

“We continue to urge the public to protect themselves from this disease by using mosquito repellent and taking other precautions, and for those in high and critical risk areas, by rescheduling outdoor activities during evening hours,” said **MDAR Commissioner John Lebeaux**. “In addition to these precautions, we will be conducting additional aerial spraying and supporting the use of truck-based ground spraying to reduce the numbers of infected adult mosquitoes left flying at this point in the season.”

Additionally, MDAR reminds horse owners to promptly vaccinate their horses to ensure proper protection from EEE. If your horse was already vaccinated this year, MDAR advises checking with your veterinarian about a booster. Previously vaccinated horses may quickly respond to a booster vaccine and readily develop protective antibody. Horses of unknown vaccination status should receive two vaccines the first year. Foals should be vaccinated as soon as they are old enough (3-4 months of age) and need a second booster vaccine for adequate protection.

Last month, MDAR conducted aerial mosquito spraying in parts of Bristol, Plymouth, Middlesex, and Worcester counties to help reduce the public health risk. Meanwhile local communities are continuing truck-mounted ground spraying for mosquitoes. Spraying for mosquitoes does not eliminate the risk of EEE transmission and the public is asked to continue to follow personal protection practices.

Residents can learn more about EEE and ways to protect themselves on DPH’s website [here](#).

EEE is a rare but serious and potentially fatal disease that can affect people of all ages. EEE occurs sporadically in Massachusetts with the most recent outbreak years occurring from 2004-2006 and 2010-2012. There were 22 human cases of EEE infection during those two outbreak periods with 14 cases occurring among residents of Bristol and Plymouth counties.

EEE virus has been found in 400 mosquito samples this year, many of them from species of mosquitoes capable of spreading the virus to people.

People have an important role to play in protecting themselves and their loved ones from illnesses caused by mosquitoes:

### **Avoid Mosquito Bites**

Apply Insect Repellent when Outdoors. Use a repellent with an EPA-registered ingredient (DEET (N, N-diethyl-m-toluamide), permethrin, picaridin (KBR 3023), oil of lemon eucalyptus [p-methane 3, 8-diol (PMD)] or IR3535) according to the instructions on the product label. DEET products should not be used

on infants under two months of age and should be used in concentrations of 30% or less on older children. Oil of lemon eucalyptus should not be used on children under three years of age.

### **Be Aware of Peak Mosquito Hours**

The hours from dusk to dawn are peak biting times for many mosquitoes. Consider rescheduling outdoor activities that occur during evening or early morning in areas of high risk.

### **Clothing Can Help Reduce Mosquito Bites**

Wearing long-sleeves, long pants and socks when outdoors will help keep mosquitoes away from your skin.

### **Mosquito-Proof Your Home**

**Drain Standing Water.** Mosquitoes lay their eggs in standing water. Limit the number of places around your home for mosquitoes to breed by draining or discarding items that hold water. Check rain gutters and drains. Empty unused flowerpots and wading pools and change the water in birdbaths frequently. **Install or Repair Screens.** Keep mosquitoes outside by having tightly-fitting screens on all of your windows and doors.

### **Protect Your Animals**

Animal owners should reduce potential mosquito breeding sites on their property by eliminating standing water from containers such as buckets, tires, and wading pools – especially after heavy rains. Water troughs should be flushed out at least once a week during the summer months to reduce mosquitoes near paddock areas. Horse owners should keep horses in indoor stalls at night to reduce their risk of exposure to mosquitoes. Owners should also speak with their veterinarian about mosquito repellents approved for use in animals and vaccinations to prevent WNV and EEE. If an animal is suspected of having WNV or EEE, owners are required to report to DAR, Division of Animal Health by calling 617-626-1795 and to the Department of Public Health (DPH) by calling 617-983-6800.

For the most up-to-date information, Q&As, and downloadable fact sheets about EEE in multiple languages visit the DPH webpage <https://www.mass.gov/eee>.

**For questions about aerial spraying,** contact the MDAR Crop and Pest Services at (617) 626-1700.

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## RECOMMENDED CANCELLATION TIMES FOR OUTDOOR ACTIVITIES IN AREAS OF HIGH RISK FOR EASTERN EQUINE ENCEPHALITIS (EEE)<sup>1</sup>

The types of mosquitoes most likely to transmit EEE infection are likely to be out searching for food (an animal to bite) at dusk, the time period between when the sun sets and it gets completely dark. **The exact timing of this increased activity is influenced by many factors including temperature, cloud cover, wind and precipitation and cannot be predicted precisely for any given day.** Here, the approximate time of sunset and sunrise were used to establish standardized recommendations for cancellation and morning start times of outdoor activities during periods of high EEE risk.

**This does not eliminate risk nor does it alleviate the need for the use of repellants or clothing for protection from mosquitoes.**

Week of	Time of Dusk	Time of Dawn
August 25, 2019	7:30 PM	5:45 AM
September 1, 2019	7:30 PM	5:45 AM
September 8, 2019	7:15 PM	5:45 AM
September 15, 2019	7:00 PM	6:00 AM
September 22, 2019	6:45 PM	6:00 AM
September 29, 2019	6:30 PM	6:15 AM
October 6, 2019	6:30 PM	6:15 AM
October 13, 2019	6:15 PM	6:30 AM
October 20, 2019	6:00 PM	6:30 AM
October 27, 2019	6:00 PM	6:45 AM

<sup>1</sup> Adapted from 2019 *Arbovirus Surveillance and Response Plan* at <https://www.mass.gov/lists/arbovirus-surveillance-plan-and-historical-data>



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## **Aerial Mosquito Control to Reduce Risk of Eastern Equine Encephalitis (EEE)**

**Summer 2019  
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### **What is Eastern equine encephalitis (EEE)?**

Eastern equine encephalitis (EEE) is a rare but serious disease caused by a virus that can affect people of all ages. EEE is generally spread to humans through the bite of a mosquito infected with the virus. EEE can cause severe illness and possibly lead to death in any age group; however, people under age 15 are at particular risk. EEE does not occur every year, but based on mosquito sampling, a high risk of occurrence of human cases currently exists.

### **When is aerial spraying of insecticides considered?**

Truck-mounted ground spraying is already taking place in some communities in Massachusetts. In situations where there is a high risk of human disease, the state's response plan recommends consideration of the use of an aerial pesticide spray in the evening and overnight hours to reduce the number of infected, adult mosquitoes in the specific areas of high risk. Many breeding areas of high concern are not accessible by truck-mounted ground sprayers.

### **How is aerial spraying conducted?**

Aerial spraying is conducted by aircraft in areas of concern beginning in the early evening up until 4:30am the next morning.

### **What pesticide product would be used in the aerial spraying?**

The pesticide used is called Anvil 10+10, a product extensively tested and used in both ground-level and aerial spraying in the U.S. to control mosquitoes. Anvil 10+10 contains two ingredients: Sumithrin and Piperonyl butoxide. Sumithrin is an ingredient similar to the natural components of the chrysanthemum flower which is also found in other pesticide products used indoors, in pet shampoos, and tick control treatments. Sumithrin is rapidly inactivated and decomposes with exposure to light and air, with a half-life of less than one day in the air and on plants. In soil, it degrades rapidly. Sumithrin has proven to be extremely effective in killing mosquitoes worldwide for over 20 years. Piperonyl butoxide (PBO) serves to increase the ability of Sumithrin to kill mosquitoes. The product is registered by EPA and in Massachusetts for this use. It was used in

previous aerial applications for mosquito control (2006, 2010, 2012). It is also used by some of the Mosquito Control Projects for ground applications.

### **Are there precautions I should take if spraying will occur in my area?**

No special precautions are recommended; however, residents can reduce exposure by staying indoors during spraying. Aerial spraying is conducted at night and the active ingredients of the pesticide product used for aerial application for mosquito control generally break down quickly and leave no residue.

Although aerial spraying is considered necessary to reduce human risk, it will not eliminate risk. It is critical that residents protect themselves from mosquito bites by staying indoors during peak mosquito hours from dusk to dawn, applying insect repellent when outdoors, draining standing water where mosquitoes breed, and repairing screens in doors and windows. Residents should also take steps to protect their pets from mosquito bites.

### **Are there any health impacts associated with exposure to Anvil 10+10?**

There are no health risks expected during or after spraying. There is no evidence that aerial spraying of Anvil 10+10 will exacerbate certain health conditions, such as asthma or chemical sensitivity.

### **Can these targeted ground and aerial sprays harm other insects or wildlife?**

Aerial spraying will be conducted in the nighttime hours, when fish are less likely to be at the surface feeding and honeybees are most likely to be in their hives. Owners should cover small ornamental fishponds during the night of spraying. These fishponds can be uncovered in the morning after spraying has been completed.

### **If I am a beekeeper, should I take special precautions to protect the bees before or after aerial spraying?**

We do not anticipate negative impacts on honey bee colonies since the aerial spraying will take place at night. If bees are congregating outside the hive box(es), consider applying a cover to the hive entrance or over the entire hive box(es) using a loose wet cloth (burlap, sheet, etc.) to prevent bees from exiting, thus not allowing for direct contact during the application.

If miticides have been applied and there is concern about ventilation during covering, consider adding an additional empty box on top to increase ventilation within the hive during the application. Remove covers and additional boxes placed on hives as soon as possible the morning following application.

To report signs of acute honey bee mortality defined as larger than normal quantities of dead or dying bees at the entrance or inside hives post application, contact the Apiary Program Message Line ASAP by calling 617-626-1801

### **Is there a risk to drinking water sources?**

No. Aerial spraying is not expected to have any impacts on surface water or drinking water.

## **Who do I contact to learn more about aerial spraying in my area?**

Your local health department will be aware of any plans for aerial spraying. Updates will be provided via local media outlets, social media, and other channels.

For questions about aerial spraying, contact MDAR Crop and Pest Services at (617) 626-1700. For the most updated information on EEE risk and aerial spraying, contact the DPH Division of Epidemiology (617) 983-6800 or visit the DPH website at [www.mass.gov/guides/aerial-mosquito-control-summer-2019](http://www.mass.gov/guides/aerial-mosquito-control-summer-2019) for updated mosquito results, maps and incidence of positive mosquito samples.

For general information on mosquito control, contact the State Reclamation and Mosquito Control Board within MDAR at (617) 626-1723.

# WNV and EEE in Animals

## Can West Nile virus (WNV) or eastern equine encephalitis (EEE) virus cause illness in dogs or cats?

Yes, but these infections are very rare. WNV infection has occasionally been identified in dogs and cats. Most cats or dogs infected with these viruses fully recover from the infection. A few cases of EEE have been found in very young dogs housed exclusively outdoors in the southeastern part of the United States.

## What other domestic animals have been found to be infected with West Nile or EEE virus?

Horses, llamas and alpacas are all known to be susceptible to both WNV and EEE. In addition, emus, ostriches and some non-native species of game birds (such as pheasants and quail) are also susceptible to EEE. Since 2008, 17 horses, and three and alpacas have been found to have EEE, and six horses have been found to have WNV infection in Massachusetts.

## How do animals become infected with WNV or EEE virus?

Animals become infected the same way humans become infected: by the bite of an infected mosquito.

## What are the signs of WNV infection and EEE in animals?

In most susceptible animals, these viruses can cause encephalitis (inflammation of the brain tissue). Signs may include one or more of the following: fever, depression, loss of appetite, weakness, uncoordinated movement, head pressing, circling, convulsions, irritability, blindness, or coma. Animals with severe disease may die. However, not all animals with signs of encephalitis have WNV infection or EEE. A definitive diagnosis requires ruling out other important diseases – especially rabies.

Emus and other related bird species do not develop encephalitis; instead they develop severe bleeding in the stomach and intestines. Sudden death and bloody diarrhea are the most common signs.

## Can humans contract WNV infection or EEE directly from animals?

No. These viruses are not passed from most animals to humans by contact with body fluids or in other ways. Furthermore, they are not spread from animal to animal either. Veterinarians should take normal infection control precautions when caring for an animal suspected of having these or any other viral infection.

Emus, which develop bloody diarrhea from EEE, may be able to spread the disease to other animals or humans that have direct contact with infected blood or feces. Owners and veterinarians should be particularly careful to protect themselves when dealing with an emu that might have EEE.

## How can I confirm that an animal is infected with WNV or EEE virus?

Veterinarians can test for WNV and EEE by submitting blood or tissue from an animal. Testing is available at the Massachusetts Department of Public Health during the mosquito season. Testing is rarely required for dogs and cats; horses, llamas and alpacas are the most commonly tested animals

## Should an animal infected with WNV or EEE virus be destroyed?

There is no reason to destroy an animal just because it has been infected with WNV or EEE virus. They do not increase the risk that anyone else will get sick. However, some animals, especially horses, llamas and alpacas, may become so severely ill that they cannot recover. Talk to your veterinarian to get medical advice for your particular animal.



## How are WNV infection and EEE treated?

To date, no specific treatment for either WNV infection or EEE exists. Supportive treatment should be directed at the signs of illness, and focused on reducing the severity of the disease.

## Is there a vaccine against WNV and EEE virus?

Yes, there is a vaccine that is approved for use in horses only. The vaccine has been used successfully in some other species, such as llamas and alpacas. Timing of vaccination is important and should be planned for April or May in Massachusetts. Contact your veterinarian for further information.

## Can I use insect repellent on my pets?

Repellents recommended for humans are **not** approved for veterinary use. Talk with your veterinarian for advice about the appropriate product for use on your pet.

## What can I do to keep my animal from becoming infected with WNV or EEE?

- Talk to your veterinarian about vaccination.
- Eliminate stagnant or standing water, for instance by avoiding water overflow from troughs, reducing run-off and pooling of irrigation water, eliminating accumulated water in flower pots, and removing old tires and other containers in which water can collect.
- Eliminate piles of decaying organic matter such as leaves, lawn clippings, and manure.
- Keep animals indoors during peak periods of mosquito activity (dusk and dawn).
- Keep screens repaired and free of holes.
- Avoid turning on lights inside barns during the evening and overnight. Mosquitoes are attracted to light.
- Apply mosquito repellents approved for use in animals. Read the product label before using, and follow all instructions carefully.

## Where can I get more information?

- **For questions about your animal's health:** call your veterinarian.
- **For general questions about domestic animals:** Massachusetts Department of Agricultural Resources at [www.mass.gov/agr](http://www.mass.gov/agr) or by calling 617-626-1795.
- **For information on mosquito control:** The State Reclamation and Mosquito Control Board (SRMCB) within the Massachusetts Department of Agricultural Resources oversees mosquito control in Massachusetts (<https://www.mass.gov/state-reclamation-and-mosquito-control-board-srmcb>). The SRMCB can be contacted at 617-626-1777. Information on established mosquito control district can be found at <https://www.mass.gov/service-details/srmcb-mosquito-control-projects-and-districts-information>.
- **For information on WNV and EEE:** The Massachusetts Department of Public Health (MDPH), Division of Epidemiology and Immunization at (617) 983-6800, the MDPH Mosquito-borne Disease website at [www.mass.gov/dph/mosquito](http://www.mass.gov/dph/mosquito), or your local board of health (listed in the telephone directory under local government).

*Developed by the Massachusetts Department of Public Health in conjunction with the Massachusetts Department of Agricultural Resources.*

