

## Frequently asked Questions Regarding EEE and Mosquitos And Mosquito Control

**Updated 4/19/2020**

### **Why are mosquitos a problem?**

Mosquito can spread disease. West Nile Virus (WNV) and Eastern Equine Encephalitis (EEE) are viruses that occur in Massachusetts and can cause illness ranging from a mild fever to more serious disease like encephalitis or meningitis. There are other diseases spread by mosquitoes that people may be exposed to when traveling in other regions of the world. There are 51 different mosquito species found in Massachusetts. Some are more likely to carry disease and each have their own lifecycle occurring at different times of the year.

### **What is the EMMCP?**

The East Middlesex Mosquito Control Project (EMMCP) provides mosquito control services to 26 participating communities located west and northwest of Boston, including Sudbury. EMMCP advises the Board of Health on issues regarding mosquitos. Sudbury's control program is a science-based approach managed by entomologists and other professionals. The primary role of EMMCP is to conduct mosquito surveillance through trapping, species identification, and testing for disease. Routine early season helicopter and catch basin larvicide applications and targeted truck mounted adulticide spraying are coordinated based on surveillance, historical data, and current weather and climate conditions.

### **Was the 2019 resident case of EEE contracted locally?**

Yes.

### **What areas are concerning for mosquito breeding?**

All areas are concerning but large maple swamps and cedar swamps tend to breed large volumes of concerning species.

### **Is surveillance near schools increasing?**

Critical areas and trapping sites are primarily located to detect when certain species begin to emerge and when the volume of mosquitos begins to increase. More trapping sites have been added to accomplish this. Trapping locations have been strategically placed by EMMCP. Many of these locations are near schools.

### **How do I get notified of mosquito control information and critical Sudbury events such as EEE?**

The Reverse 911 system notifies citizens and **non-citizens**, via phone, of critical information affecting the town. To sign up visit:

<https://www.smart911.com/smart911/registration/registrationLanding.action?cdnExternalPath=> To sign up for Sudbury email alerts:

[https://visitor.r20.constantcontact.com/manage/optin?v=001i6pY1oARoQIeN\\_zYNIG6NNvU99J70D\\_D](https://visitor.r20.constantcontact.com/manage/optin?v=001i6pY1oARoQIeN_zYNIG6NNvU99J70D_D)

### **Will the town's mosquito control plan be revised based on the 2019 case?**

The Board of Health, EMMCP, Massachusetts Department of Public Health (MDPH) and the Massachusetts Department of Agricultural Resources (MDAR) are continually assessing and modifying plans based on new information.

**I am concerned about mosquito spraying including larvicides and adulticides?**

Mosquito control, including applications of larvicides and adulticides, is reviewed by the Board of Health annually. Questions or concerns can be directed to either the Board of Health office 978-440-5479 [health@sudbury.ma.us](mailto:health@sudbury.ma.us) or East Middlesex Mosquito Control Project (EMMCP) at 781- 899-5730.

**Where can I get information about early season larvicide spraying? When is it being conducted? Who is conducting it and where?**

EMMCP coordinates helicopter larvicide applications. They publish a range of dates in early Spring when helicopter applications will take place. A legal notice is published in the Sudbury Town Crier. The Board of Health, upon notification from EMMCP, also posts notice on the town's website. Extra efforts are being made to use Twitter and Facebook to get the word out.

Scheduling can be difficult with changing weather conditions. Exact times are unknown.

**What larvicide is applied? Is it dangerous?**

The material to be applied Bti (*Bacillus thuringiensis var. israelensis*) is a natural bacterium found in soil. The EPA classifies Bti as a relatively non-toxic pesticide. Bti is considered a target selective and environmentally compatible pesticide that affects mosquito larvae and a few closely related aquatic insects in the fly family.

Bti will be applied in a granular formulation by a helicopter flying low directly over the wetlands. Residents do not need to take any special precautions for this application.

Once applied Bti stays suspended in water for 24 to 48 hours and then biodegrades as it settles to the bottom. The Bti product name is VectoBac GS (EPA Reg. #73049-10).

**Can I “opt out” of helicopter larvicide applications?**

There is no mechanism, or need, to opt out. The helicopter pilot is a skilled operator and only releases the larvicide when flying low, directly over wetlands. The helicopter may be flying low or banking over your property but will not be releasing the larvicide. It can be startling when unexpectedly seeing a helicopter at the tree tops near your property. Every year the Health Dept. staff and EMMCP Superintendent reviews historical resident concerns and communicates them to the pilot.

**Are there other types of larvicide applications?**

Yes, EMMCP, applies larvicide in catch basins during the mosquito season. Catch basins, being located in most residential areas, are a source of stagnant water and breeding grounds for mosquitos. Larvicide treatments in catch basins have proven to reduce mosquito populations in critical human occupied areas.

### **How is larvicide applications different from truck mounted adulticide spraying?**

Where larvicides target mosquito larvae and have a significant impact on early breeding mosquitos and mosquitos that have lifecycles throughout the year, adulticide truck mounted spraying targets adult mosquitos.

### **I have many concerns regarding adulticide truck mounted and adulticide aerial spraying. Where can I find more information?**

The most comprehensive information page regarding adulticide spraying can be found at the Massachusetts Department of Public Health website:

<https://www.mass.gov/service-details/mosquito-control-and-spraying> EMMCP

781-899-5730 can answer any other questions you may have.

### **Can I opt out of truck mounted adulticide spraying?**

Yes. This could take up to two weeks to get to EMMCP so plan accordingly.

If you like to be excluded from truck mounted adulticide spraying: <https://www.mass.gov/how-to/how-to-request-exclusion-from-wide-area-pesticide-applications> **Is truck mounted spraying effective?**

The Board of Health and MDPH continues to review current data and studies regarding the effectiveness of truck mounted adulticide spraying. Studies show that this method is effective in reducing mosquito populations. Spraying is not done arbitrarily and is conducted and based on a comprehensive control plan.

### **How far from the truck is spraying effective?**

Approximately 300 ft.

### **Should air conditioners be turned off when the truck drives by?**

Yes.

### **Should I supplement private spraying?**

Homeowners should make their own decisions but are strongly advised to review products based on effectiveness and safety data.

### **Where can I get information about the State's emergency aerial adulticide spraying?**

The Massachusetts Department of Public Health (MDPH) in conjunction with the Massachusetts Department of Agricultural Resources (MDAR) has the authority to conduct aerial spraying during a public health emergency, such as last year's EEE emergency. Spraying schedules are not released. Aerial spraying can be postponed because of weather constraints, such as wind or precipitation. For concerns or inquiries call 617-626-1700 and 617-983-6800.

### **Can I opt out of emergency MDPH/MDAR aerial spraying?**

No. The MDPH typically posts the mapped treated area within 24 hours after application.

### **What adulticide is used for emergency aerial spraying?**

Those similar to truck mounted adulticides. Visit the Massachusetts Department of Public Health website for more information:

<https://www.mass.gov/service-details/mosquito-control-and-spraying>

### **When are the time periods that we should limit our outdoor exposure?**

The mosquito season typically runs from April to the first frost in late fall. The types of mosquitos most likely to transmit EEE infection are likely to be out searching for food (targeting animals) 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. Minimizing time out after dusk does not eliminate risk nor does it alleviate the need for the use of repellants or clothing for protection from mosquitos. **Personal protection is critical!**

Please make your own decisions regarding dusk to dawn protection based on the environmental conditions stated above and mosquito activity in your area. **Applying appropriate insect repellent at all times is advised when spending time outdoors!**

The MDPH will soon be publishing more detailed dusk times.

### **How can I protect myself and loved ones?**

Prevent mosquito bites. There is no vaccine or preventive drug for EEE or WNV.

- Use insect repellent containing DEET, picaridin, IR3535 or oil of lemon eucalyptus on exposed skin and/or clothing. The repellent/insecticide permethrin can be used on clothing to protect through several washes. Always follow the directions on the package.
- Avoid spending time outdoors between dusk and dawn when mosquitoes are most active.
- Wear long sleeves and pants when weather permits.
- Have secure, intact screens on windows and doors to keep mosquitoes out.
- Eliminate mosquito breeding sites by emptying standing water from flower pots, buckets, gutters, barrels, and other containers. Drill holes in tire swings so water drains out. Keep children's wading pools empty and on their sides when they aren't being used.
- Personal protection is critical.

### **Which Mosquito repellent should I use?**

- Repellents that contain **DEET** (N, N-diethyl-m-toluamide), **permethrin**, **IR3535** (3-[Nbutyl-N-acetyl]-aminopropionic acid) or **picaridin** (KBR 3023) provide protection against mosquitoes. In addition, **oil of lemon eucalyptus** [p-menthane 3, 8-diol (PMD)] has been found to provide as much protection as low concentrations of DEET when tested against mosquitoes found in the United States.

- **DEET** products should not be used on infants under 2 months of age. Children older than two months should use products with DEET concentrations of 30% or less. DEET products are available in formulations up to 100% DEET, so always read the product label to determine the percentage of DEET included. Products with DEET concentrations higher than 30% do not provide much additional protection, but do last longer.

### **What is Eastern Equine Encephalitis (EEE) virus?**

Eastern Equine Encephalitis (EEE) is a rare but serious disease caused by a virus. EEE is a rare disease that is caused by a virus spread by infected mosquitoes. EEE virus (EEEV) is one of a group of mosquito-transmitted viruses that can cause inflammation of the brain (encephalitis). In the United States, approximately 5-10 EEE cases are reported annually. Diagnosis is based on tests of blood or spinal fluid. These tests typically look for antibodies that the body makes against the viral infection.

### **How does the EEE virus spread to humans?**

EEE transmission can occur (through a “bridge vector”) when certain mammal biting mosquito species bite a bird that is ill with the virus, and after the mosquito is infected with the virus it could bite a human or animal and transmit the EEE virus. Disease transmission does not occur directly from person to person.

### **What is the treatment for EEE?**

There is no specific treatment for EEE. Antibiotics are not effective against viruses, and no effective anti-viral drugs have been discovered. Severe illnesses are treated by supportive therapy which may include hospitalization, respiratory support, IV fluids, and prevention of other infections.

### **What are the symptoms of EEE?**

It takes 4 to 10 days after the bite of an infected mosquito to develop symptoms of EEE. Severe cases of EEEV infection (EEE, involving encephalitis, an inflammation of the brain) begin with the sudden onset of headache, high fever, chills, and vomiting. The illness may then progress into disorientation, seizures, and coma. Approximately a third of patients who develop EEE die, and many of those who survive have mild to severe brain damage. Consult your health care provider immediately if you develop any of these symptoms.

### **What population is most at risk?**

Anyone in an area where the virus is circulating can get infected with EEEV. The risk is highest for people who live in or visit woodland habitats, and people who work outside or participate in outdoor recreational activities, because of greater exposure to potentially infected mosquitoes. Persons over age 50 and under age 15 and people with compromised immune systems seem to be at greatest risk for developing severe disease when infected with EEE. Overall, only about 4-5% of human EEE infections result in EEE illness.

**Are your pets at risk for EEE?**

Although very rare, dog and cats are susceptible to EEE virus. Most dogs and cats recover fully. Horses, llamas and alpacas are all known to be susceptible to EEE. Animals become infected the same way humans become infected: by the bite of an infected mosquito. Treatment, diagnosis and symptoms are the similar to human cases. Call your veterinarian immediately if your pet exhibits any of these symptoms.

**Can dead mosquitos be tested?**

No.

**Is there a natural decline in mosquito later in the season?**

Yes, and according to recent surveillance the numbers are trending downward with decreasing temperatures.

**What percentages of mosquitos have EEE?**

This is unknown but presumed to be very low.

**Links & References**

<https://www.mass.gov/service-details/eee-eastern-equine-encephalitis>

<https://www.cdc.gov/easternequineencephalitis/index.html>

<https://www.mass.gov/service-details/wnv-and-eee-in-animals>