

## **Information from the Health Department on Mosquitoes**

### **Protecting yourself from mosquito bites and preventing mosquito breeding in your yard**

Due to the hot weather and periodic rain there will likely continue to be increased mosquito breeding and activity in the area. Please know that, depending on weather patterns, there could still be a potential concern of Eastern Equine Encephalitis virus, in areas of Massachusetts including Middlesex County. We should be prepared to protect ourselves from mosquitoes and follow news alerts regarding mosquito-borne illness. The Health Department will continue to monitor the situation in Wayland and any new data we receive from Massachusetts Department of Public Health (MDPH). **\*To prevent mosquito breeding in your yard we ask that you please check your yard for items that can collect water and harbor mosquito breeding.** Further in this memo we have provided recommendations for avoiding mosquito bites (which can lead to mosquito-borne illness) and how to help prevent your yard from becoming a mosquito breeding area.

### **Catch basins are being treated for mosquitoes**

The catch basins in town are being treated this year with FourStar Microbial larvicide briquets. The treated catch basins are being marked with a pink dot. FourStar® microbial larvicide kills mosquito larvae before they become adults by using the naturally occurring bacteria *Bacillus sphaericus* (Bsph) and *Bacillus thuringiensis israelensis* (Bti). These active ingredients are inherent in soil and contain protein crystals that when ingested rupture the gut wall of the mosquito larvae causing larval death providing residual control of mosquito populations for up to 90 days. The product is supplied by the Wayland Board of Health and distributed by the East Middlesex Mosquito Control Project. We treat the catch basins each year to control mosquito larvae and reduce mosquito-borne illness, especially mosquito species that can transmit West Nile Virus.

The Town of Wayland contracts the services of the East Middlesex Mosquito Control Project for mosquito control including helicopter spraying using BTI larvicide in the spring and catch basin treatments in the early summer. Our program during mosquito season also includes mosquito trapping, identifying populations and surveillance for diseases and species.

### **Mosquito habitats and mosquito-borne illness**

The “Culex” mosquito species is common in suburban communities such as Wayland. This mosquito species prefers to breed/lay eggs in small artificial containers such as birdbaths, old tires, buckets, clogged gutters, and other standing water sources which can be found in people’s backyards and other similar areas of the suburbs (including catch basins).

Culex mosquitoes are the primary vectors of West Nile Virus. West Nile Virus (WNV) is a mosquito-carried virus that can cause illness in people ranging from a mild fever to more serious disease like encephalitis or meningitis. WNV is most commonly spread to people through the bite of an infected mosquito. The Culex species are also known as “bridge” vectors that will feed on birds and people. As the summer continues to progress, birds could be infected with West Nile Virus and the virus could be transmitted to a human when a mosquito bites a bird carrying the WNV virus and then subsequently bites a person.

The catch basin treatments using BTI Briquets will reduce the population of Culex mosquito larvae (and other species of mosquito larvae) that could be growing in catch basins (standing water environment), decreasing the risk of West Nile Virus infection and potentially other mosquito-borne diseases in humans (i.e. newly emerging species and diseases).

To prevent a yard from becoming a source for Culex mosquitoes and potentially invasive mosquito species, homeowners should make a thorough inspection of their property and remove, empty, cover or treat water-holding containers. During the summer, mosquito larvae can complete their development in water within a week.

Although Wayland is not known for habitat areas where mosquito species that can carry the EEE virus (Eastern Equine Encephalitis virus) would be breeding, our town borders are adjacent to breeding areas in other

towns as well as potential transmission with other mosquito species and birds can that can carry the disease. We will be actively monitoring new information and updates from the state on EEE disease in mosquitoes this season.

### **What to do in your yard to prevent mosquito breeding, West Nile Virus (WNV) and other Arboviral Diseases:**

- Mosquito proof your home and drain standing water in your yard
- Containers where mosquitoes commonly lay eggs include neglected swimming pools, water in loose-fitting pool covers or tarps, unscreened rain barrels, rimless tires, and plastic toys, flower pots, trash barrels/containers. Check rain gutters, including all fittings and drains.
- Tires should be disposed of properly or stored inside.
- Rubbish barrels, wheelbarrows and small boats should be covered or stored upside down.
- The water in wading pools and birdbaths should be changed weekly.
- Infrequently used pools should be covered or properly maintained.
- Some mosquitoes like to come indoors. Keep them outside by having tightly-fitting screens on all of your windows and doors. Fix any holes in screens and screen doors and replace worn weather stripping.
- Keep the grass in your yard cut short and shrubs trimmed.
- Once a week empty and scrub, turn over, cover or throw out any items that hold water.
- Rainwater or rain/collection barrels tips:
  - Always use a mosquito-proof screen to seal and cover the rain barrel or other water-saving container. Mosquito-proof screen is a very fine mesh, usually 1/16 of an inch. If the barrel is covered, this will reduce the likelihood of mosquitoes becoming a problem.
  - If the barrel is holding a lot of water consider mosquitofish, or consider treating with products containing Bti (always read the product label and use according to the instructions).
  - Keep the rain barrel lid and connectors sealed to help keep bugs out.
  - Be sure to always remove the water that pools at the top of the barrel at least once or twice a week.
  - If possible, place your barrel on a surface that will soak up any water that overflows so it doesn't pool and create a mosquito habitat.
  - Regularly inspect your rain barrel system. Check for cracks or leaks. Be sure that all fittings and seals are intact and that no water accumulates on the ground around the barrel.
  - Clean the barrel on a regular basis. Drain it completely and clean it out at least twice a year.

### **What you should do to avoid mosquito bites**

At this time of year mosquito populations are on the rise and residents should take precautions to avoid mosquito bites.

*Be aware of peak mosquito hours:*

- The hours from dusk to dawn are peak biting times for many mosquitoes. Mosquitoes are more active in damp, shady areas, during cloudy humid days, and at night. Take extra care to use repellent and protective clothing, and/or avoid these areas and times of day where mosquitoes are more prevalent.
- There are some emerging mosquito species that are out and active during the day. Be sure to protect yourself and family members during the day also.

*Wear protective clothing:*

- Clothing can help reduce mosquito bites. Although it may be difficult to do when it's hot, wearing long-sleeves, long pants and socks when outdoors will help keep mosquitoes away from your skin.
- Cover up the arms and legs of children playing outdoors. Baby carriages and playpens should be covered with mosquito netting.

*Apply insect repellent when you go outdoors.*

- Use a repellent with DEET (N, N-diethyl-m-toluamide), permethrin, picaridin (KBR 3023), IR3535 (3-[N-butyl-N-acetyl]-aminopropionic acid) or oil of lemon eucalyptus [p-menthane 3, 8-diol (PMD)].
- DEET products should not be used on infants under two months of age and should be used in concentration of 30% or less on older children.
- The Center for Disease Control has recently listed Oil of lemon eucalyptus as providing protection against mosquitoes, however, it should not be used on children under three years of age.
- **Permethrin products** can be effective but are intended for use on items such as clothing, shoes, bed nets and camping gear and should not be applied to the skin.
- Protect pets and horses from mosquito bites.
- Always follow the instructions on the label of any repellent. More information on choosing and using repellents safely is listed below.

For further information on WNV or EEE, log onto the Massachusetts Department of Public Health web site at:

<https://www.mass.gov/mosquito-borne-diseases>

<https://www.mass.gov/info-details/massachusetts-arbovirus-update#eee-and-wnv-risk-level-by-city/town->

<https://www.mass.gov/lists/arbovirus-surveillance-plan-and-historical-data>

If residents have any questions about mosquitoes or how to control them: the East Middlesex Mosquito Control Project can be reached at:

<https://sudbury.ma.us/emmc/>.

Choosing and using repellents safely:

<https://www.epa.gov/insect-repellents>

<http://www.cdc.gov/westnile/faq/repellent.html>

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

The National Pesticide Information Center (NPIC) toll free at 1-800-858-7378 or online at <http://npic.orst.edu/index.html>. If you can't go online contact MDPH at (617)983-6800 for a hard copy of the fact sheet.

[www.mass.gov/mosquitoesandticks](http://www.mass.gov/mosquitoesandticks)

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