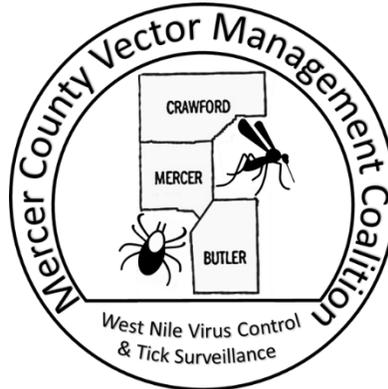


Mercer County Vector Management Coalition



Mosquito-Borne Disease Control Program

The Mercer County Vector Management Coalition (MCVMC), under the guidance of the Pennsylvania Department of Environmental Protection (PA DEP), administers the Mosquito-borne Disease Control Program in Butler, Crawford, and Mercer counties. Our mission is to protect the public health of residents in the tri-county area using Integrated Mosquito Management to reduce the population of disease-carrying mosquitoes.

Integrated Mosquito Management (IMM) is a surveillance-based mosquito prevention and control strategy that utilizes all available mosquito control methods to reduce mosquito populations, while minimizing potential effects on people, wildlife, and the environment. The core principles of IMM include:

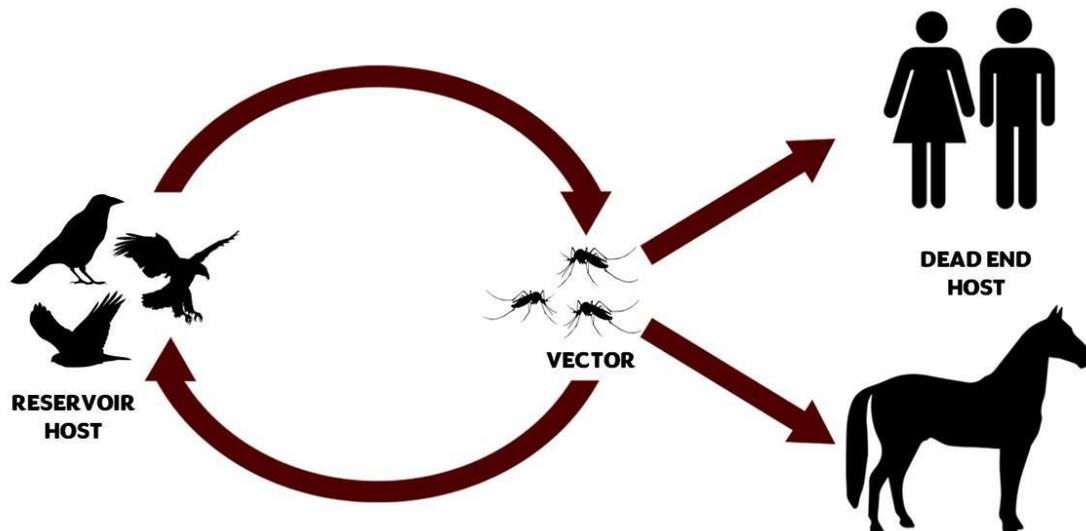
- Community Engagement
- Surveillance
- Source Reduction
- Mosquito Control
- Evaluation

West Nile Virus

West Nile Virus (WNV) is a mosquito-borne disease that is typically spread to birds, humans, horses, and other animals through the bite of a mosquito. WNV was first detected in Pennsylvania in 2000, and the Commonwealth has provided funding to monitor and control the virus in more than 60 counties across PA.

WNV exists in nature by cycling between mosquitoes and certain species of birds. Mosquitoes become infected when they feed on infected birds. The mosquitoes then spread WNV to people and other animals by biting them. Humans and horses are

considered to be 'Dead End' hosts, which means they will not build up high levels of the virus in their bloodstreams and cannot pass the virus onto other mosquitoes.



Four out of five individuals who contract the virus will not show any symptoms. People with mild infections may experience flu-like symptoms such as fever, headache, body aches, and swollen lymph glands. These symptoms typically only last a few days, and generally do not cause long-term health effects. A severe infection can cause encephalitis, meningitis, or meningoencephalitis. Recovery can take much longer and can result in permanent damage to the central nervous system or, in some cases, death. Individuals with compromised immune systems are at a greater risk for contracting WNV and should take extra precautions to avoid being bitten by mosquitoes.

Reduce Your Risk

Mosquitoes can lay eggs in a bottle cap of standing water, so it is important to be aware of water-holding containers in your area. Remove mosquito habitat by dumping out and flipping containers such as:

- | | |
|--------------|-----------|
| Buckets | Birdbaths |
| Flowerpots | Gutters |
| Tires | Pools |
| Garbage Cans | Dog Bowls |

Wear shoes, socks, long pants, and a long-sleeved shirt when outdoors for long periods, or when mosquitoes are most active. Most mosquitoes are highly active at dusk and

dawn. Consider the use of mosquito repellents. Always follow the instructions on the label. Natural plant oils like lemongrass, cedar oil, and peppermint can cause skin irritations. Many natural plant oil products have not been properly tested for preventing mosquito bites and only prevent mosquito bites for a short amount of time. Instead, use EPA-registered products, which are tested for effectiveness. These effective products contain either DEET, Picaridin, IR3535, Permethrin, and Oil of Lemon Eucalyptus (OLE).



MOSQUITO BITES CAN MAKE YOU SICK
Mosquitoes spread germs



Mosquitoes bite day and night.
Mosquitoes that spread viruses bite during the day and night and live indoors and outdoors.



Use insect repellent. It works!
Look for the following active ingredients: DEET, picaridin, IR3535, oil of lemon eucalyptus, para-menthane-diol, or 2-undecanone.



Wear long-sleeved shirts and long pants.
For extra protection, treat clothing with permethrin.



Mosquito-proof your home.
Use screens on windows and doors. Use air conditioning if available. Keep mosquitoes from laying eggs in or near standing water.



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

For more information: www.cdc.gov/mosquitoes

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Tick Surveillance

In addition to mosquito monitoring, the Mercer County Vector Management Coalition conducts tick surveillance in tri-county area. The goal of this program is to determine the distribution, prevalence, and expansion of tick populations throughout the Commonwealth. In addition, the Vector Management Laboratory identifies, enumerates, and prepares ticks for pathogen testing. After the ticks are prepared, they are tested for pathogens that can impact human health such as *Borrelia burgdorferi* (causative agent of Lyme Disease), *Anaplasma phagocytophilum* (causative agent of Anaplasmosis), *Babesia microti* (causative agent of Babesiosis), and Deer Tick Virus (Powassan Virus Lineage II).

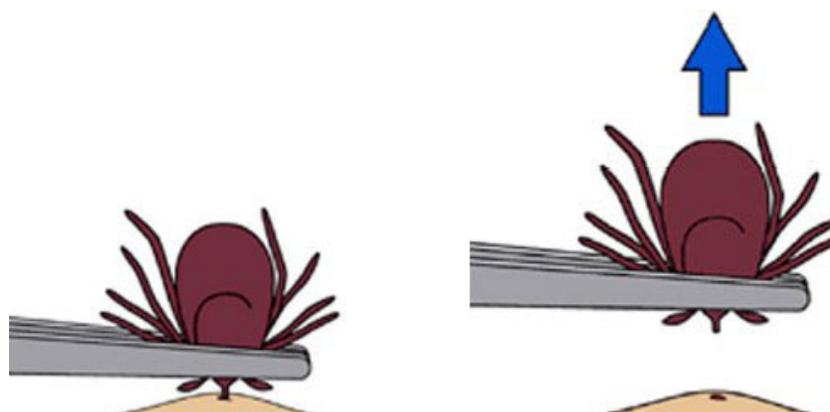
Due to their high prevalence and ability to transmit Lyme Disease, the program focuses mainly on the blacklegged tick (*Ixodes scapularis*). Tick surveillance is conducted biweekly starting in April and ending in August. A piece of white cloth is dragged for 100 meters in ideal tick habitat such as tall grasses or forest understory, and ticks are collected and placed in ethanol for identification and testing.

Lyme disease is the most common vector-borne disease in the United States. It is transmitted to humans through the bite of infected Blacklegged ticks. Typical symptoms include fever, headache, fatigue, and a characteristic skin rash called erythema migrans. If left untreated, infection can spread to joints, the heart, and the nervous system.

When outdoors it is important to protect yourself from ticks. Wearing light colored clothing and tucking your shirt into your pants and your pants into your socks can help keep ticks on top of your clothing and off your skin, this will increase the likelihood of you seeing the tick before it can attach. Stay on a trail or path and avoid tall grasses or brush. Using repellents that can be sprayed onto your clothing, like permethrin, will repel and kill any ticks that you come into contact with. The heat from a dryer can also kill ticks that may be crawling on your outdoor clothes. If you are outside often or find yourself in tick habitats, perform tick checks regularly.



If you find a tick attached, use tweezers to remove it. Grab as close to the skin as possible and pull upward with steady pressure. Do not use household remedies such as burning, Vaseline, soap, or alcohol to remove the tick. Always remove the tick as soon as possible to reduce the risk of getting a tickborne disease.



Links

PA DEP Vector Management

<https://www.dep.pa.gov/Business/ProgramIntegration/Vector-Management/Pages/default.aspx>

CDC: Mosquitoes

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

Insect Repellents

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

PA DOH: Tickborne Diseases

<https://www.health.pa.gov/topics/disease/Vectorborne%20Diseases/Pages/Tick%20Diseases.aspx>

CDC: Ticks

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