



Fact Sheet

Commonwealth of Pennsylvania • Department of Environmental Protection

What Wastewater Treatment Plant Operators Should Know About West Nile Virus

For more information, visit www.westnile.state.pa.us or call 1-877-PA-HEALTH

What is West Nile virus?

West Nile virus (WNV) is a mosquito-borne disease that can cause encephalitis, a brain inflammation. Infected mosquitoes pass the virus onto birds, animals and people. In 1999 WNV first appeared in New York and then spread into Pennsylvania in 2000. WNV can now be found in all 48 contiguous states. In Pennsylvania, cases of WNV usually occur in the mid-summer or early fall, although mosquito season is usually April-October.

The principle route of human infection with West Nile virus is through the bite of an infected mosquito. Other methods of transmission, which represent a very small percentage of cases; include blood transfusion, organ transplantation, and mother-to-child (ingestion of breast milk and transplacental).

Who is most at risk?

According to the Centers for Disease Control and Prevention (CDC), all residents of areas where virus activity has been identified are at risk of getting West Nile virus; persons over 50 years of age have the highest risk of severe disease.

What are the symptoms?

People with mild infections may experience fever, headaches, body aches, skin rash and swollen lymph glands. People with more severe infections may experience high fever, headaches, neck stiffness, stupor, disorientation, coma, tremors, occasional convulsions, and paralysis. If you have any of these symptoms contact your family physician.

Is there treatment?

There is no specific treatment for West Nile virus infection. While most people fully recover from the virus, in some severe cases hospitalization may be needed.

What is Pennsylvania doing to prevent mosquito production?

A multi-agency effort led by the State Departments of Health, Environmental Protection, and Agriculture has created a comprehensive, statewide plan to try to limit the impact of virus outbreak in the Commonwealth.

One of the main objectives of the program is to reduce potential mosquito production across the State. Eliminating places for mosquitoes to live is an important part of an integrated pest management program, and whenever possible is the preferred solution to mosquito control. When source reduction is not possible larval and adult mosquito control is conducted.

Could my wastewater treatment plant be a mosquito production site?

Wastewater treatment plants (WTP) could provide suitable areas for mosquito production. The nutrient-rich water found in clarifiers, sedimentation areas, and treatment basins is an ideal production area for mosquitoes, including those mosquitoes known to carry West Nile virus.

How can I prevent mosquito production?

There are many ways to eliminate mosquito-production areas at wastewater treatment facilities. Mosquito larvae breathe by extending a breathing tube to the surface of the water and remain suspended through surface tension between the tube and the water's surface. Simple techniques such as agitation, aeration and the elimination of duck weed can break the surface tension of the breathing tube and cause the larvae to drown. A good example of this is the use of a garden sprinkler to disrupt the surface tension in stagnant areas. In situations where eliminating mosquito production areas is not a practical alternative, larviciding is the most effective control technique. The primary larvicide used by wastewater treatment facilities

is *Bacillus thuriangiensis israelensis* (Bti). Bti is a naturally occurring bacteria that will not interfere with the existing bacterial process occurring at a WTP. This larvicide can only be applied by certified pesticide applicators. An applicator can help you to determine if this product would best suit your situation, and what type of control activities should be conducted. For more information contact your county WNV coordinator.

How can I protect myself?

It is not necessary to limit any outdoor activities, unless local officials advise you otherwise.

However, you can and should try to reduce your risk of being bitten by mosquitoes. In addition to reducing stagnant water in your yard, make sure all windows and doors have screens, and that all screens are in good repair. If West Nile virus is found in your area:

- Take normal steps to prevent insect bites.
- Wear shoes, socks, long pants and a long-sleeved shirt when outdoors for long periods of time, or when mosquitoes are most active.
- Consider the use of mosquito repellent, according to directions, when it is necessary to be outdoors. Wash all treated skin and clothing when returning indoors.

Remember, electromagnetic devices, ultrasound devices and Vitamin B are not effective in preventing mosquito bites.

Where can I get more information?

Visit the West Nile website at www.westnile.state.pa.us, or call 1-877-PA-HEALTH (72-432584) or contact the DEP at the appropriate regional office below.

DEP Regional Offices

Southeast Regional Office

Water Supply Management – 484-250-5613

Counties: Bucks, Chester, Delaware, Montgomery, Philadelphia

Northeast Regional Office

Water Supply Management – 610-861-2070

Counties: Carbon, Lackawanna, Lehigh, Luzerne, Monroe, Northampton, Pike, Schuylkill, Susquehanna, Wayne, Wyoming

Southcentral Regional Office

Water Supply Management – 717-705-4708

Counties: Adams, Bedford, Berks, Blair, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Mifflin, Perry, York

Northcentral Regional Office

Water Management – 570-327-3417

Counties: Bradford, Cameron, Centre, Clearfield, Clinton, Columbia, Lycoming, Montour, Northumberland, Potter, Snyder, Sullivan, Tioga, Union

Southwest Regional Office

Water Supply Management – 412-442-4301

Counties: Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland

Northwest Regional Office

Water Management – 814-332-6942

Counties: Butler, Clarion, Crawford, Elk, Erie, Forest, Jefferson, Lawrence, McKean, Mercer, Venango, Warren

For more information, visit DEP's website at www.state.pa.us, Keyword: "DEP West Nile."