

## **West Nile Virus**

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Mosquitos are annoying to most people because of their biting. They are also very important as carriers of diseases. The World Health Organization reports that the mosquito is the deadliest animal in the world, responsible for 725,000 human deaths per year worldwide. There are 3,520 species of mosquitos worldwide, 182 species in North America, 62 species in Pennsylvania, and 29 species in Franklin County, Pennsylvania. The female mosquitos feed on blood and nectar, and live only two to three weeks. Blood is necessary to produce eggs. The males only feed on nectar and die shortly after mating. Mosquitos complete their lifecycle in almost any aquatic environment, such as ponds, woodland pools, ditches, artificial containers, old tires, or anything that will hold water for four days. The larvae of mosquitos live in stagnant water and feed on organic debris. The best defense to prevent mosquito borne illness is to not attract them. Many mosquitos are not strong flyers and stay within a few hundred yards of their breeding container.

Don't invite mosquitos to your backyard; remove standing water from your property. Dump water from buckets, flower pots, kiddie pools, old tires, tarps, recycling containers, planters and trash cans, and other containers. Clean gutters, storm drains and window wells. Dump birdbaths daily. Even one cup of water in one of these containers can breed thousands of mosquitos. Ornamental ponds, rain barrels, ditches and areas where standing water can't be removed can be treated with Bti, a naturally occurring bacterium that kills the mosquito larvae. The State DEP and Franklin County West Nile Surveillance and Control programs have used Bti products for years to control mosquito larvae. Homeowners can purchase products containing Bti- *Bacillus thuringiensis israelensis* in many lawn and garden, outdoor supply, and home improvement stores. It is sold in small, donut shaped form, often called "mosquito dunks." A granular form of Bti is also sold to cover larger areas of standing water called "mosquito bites." Make sure to follow all label instructions if you use a Bti product at home.

Don't invite mosquitos into your house. Make sure that all door and window screens are in good repair. Mosquitos also need an area to rest and will congregate in overgrown vegetation. Many homeowners use corrugated drain pipe attached to downspouts to move storm water from their homes. The corrugations hold water and are a breeding spot for mosquitos. To avoid this problem use smooth drain pipe, or cover the ends of the corrugated pipe with a fine mesh material such as panty hose. This will keep female mosquitos from entry.

Protect yourself when outdoors, use insect repellent. The Environmental Protection Agency (EPA) tests insect repellants for safety and effectiveness. Look for registered EPA insect repellants with one of these active ingredients DEET, Picardin, Bayrepel, icardin or oil of lemon eucalyptus. The American Academy of Pediatrics recommends that insect repellents containing a 10 percent concentration of DEET are safe to use on children two years of age and older.

Clothing and gear can also be treated with Permethrin. The treatment is only applied to the gear and never to skin. Follow the package directions and the protection should last through multiple washings. This spray can be found in the outdoor, camping, or hunting department of many stores. One bottle will treat many items of gear. This product is also effective in repelling ticks.

Several species of mosquitos found in Franklin County are capable of transmitting the West Nile Virus. Franklin County has a West Nile Virus Surveillance and Control Program that runs from April through October. Since 2000 this program has been working under the guidance of the Pennsylvania Department of Environmental Protection to identify areas where mosquitos capable of transmitting the West Nile Virus live and breed in Franklin County.

Throughout the season traps are set at predetermined sites across the county and the specimens collected are sent to the DEP lab for testing. The program uses three types of traps to collect adult mosquitos. Two attract mosquitos looking for a meal. They use dry ice to lure mosquitos into the traps. The other uses

nutrient rich, smelly water to lure females looking to lay eggs. The team also collects larvae by dipping in standing water sources. The team has an aggressive larval treatment plan, when larvae are found treatment is applied, usually a Bti product.

The West Nile Virus Surveillance and Control program also provides educational talks to community groups throughout the year and will send information to interested homeowners about mosquitos. The program does not have any regulatory authority and cannot demand that a homeowner or a business clean up an area that produces mosquitos. The code enforcement officers and the Department of Environmental Protection have that authority.

As the summer progresses adult mosquitos will be collected that are infected with the West Nile virus. Depending on the concentration of the virus treatment may need to be applied. The program uses a Permethrin product that is applied at night with a truck mounted sprayer. The active ingredient is the same as the flea dip treatments for pets and lice shampoo for children. The rate of application is .75 ounces of product per acre. This has a quick effect on the adult mosquito population. Any residual spray from a night time spray is broken down by sun light. Spraying is the last line of defense against mosquitos.

The public can help the program by reducing any mosquito habitat on their property. More information regarding the DEP WNV program can be found on the website: [westnile.state.pa.us](http://westnile.state.pa.us)