

WEST NILE VIRUS

West Nile (WN) virus is a mosquito-borne virus that was first detected in the United States (U.S.) in 1999. The majority of people and animals that are infected with the virus have a mild illness or no symptoms. In rare cases, the virus can cause a more serious condition called encephalitis, an inflammation of the brain.

The elderly are at a higher risk for disease caused by WN virus.

WHAT IS THE ARIZONA WEST NILE VIRUS SURVEILLANCE PROGRAM?

The Arizona Department of Health Services (ADHS) has overseen a statewide mosquito-borne encephalitis surveillance program since 1974 for Western Equine Encephalitis (WEE), St. Louis Encephalitis (SLE), and other viruses.

In 2000, ADHS and other agencies expanded the program to enhance the ability to detect WN virus. A protocol to report and test dead birds was added to the existing surveillance system.

ENCEPHALITIS CASE SURVEILLANCE

ADHS and local health departments track cases of human and horse encephalitis. Human and animal encephalitis cases are routinely tested for WN, WEE, and SLE viruses.

MOSQUITO TESTING

Mosquitoes throughout the state are sampled for the presence of WN, WEE, and SLE viruses. Local mosquito and vector control agencies also monitor the abundance and type of mosquitoes.

SENTINEL CHICKEN TESTING

Approximately 15 chicken flocks are strategically placed throughout the state and are tested routinely during the mosquito season to detect evidence of infection from WN, WEE, or SLE viruses.



DEAD BIRD SURVEILLANCE

Arizona began to test dead crows and related birds for WN virus in 2000. State agencies, private organizations, and individuals participate in the surveillance program by reporting dead bird sightings.

For general information on West Nile Virus, call the State Public Health Hotline at:
602-364-4500 - Metro Phoenix
800-314-9243 - Statewide
Website: www.azdhs.gov/phs/oids/westnile/

Arizona Department of Health Services
150 North 18th Avenue
Phoenix, AZ 85007

Mosquito-eating Gambusia fish are available free of charge from Maricopa County - Vector Control (602) 506-0700.

For general information or assistance in specific locations, please contact



Town of Queen Creek
Community Development Department
Neighborhood Preservation Division

22350 S. Ellsworth Road
Queen Creek, AZ 85242
Phone: (480) 358-3000
Fax: (480) 358-3189
www.queencreek.org

Rev. 06-06

THE MOSQUITO PROBLEM



FACTS ABOUT MOSQUITOES

Mosquitoes have a serious impact on the health, comfort, and economic welfare of people. Some species transmit diseases to man and animals. In Maricopa County, there is particular concern with mosquito-borne encephalitis (sleeping sickness). Large numbers of mosquitoes interfere with outdoor work and recreation, cause livestock to lose weight, and lower property values.

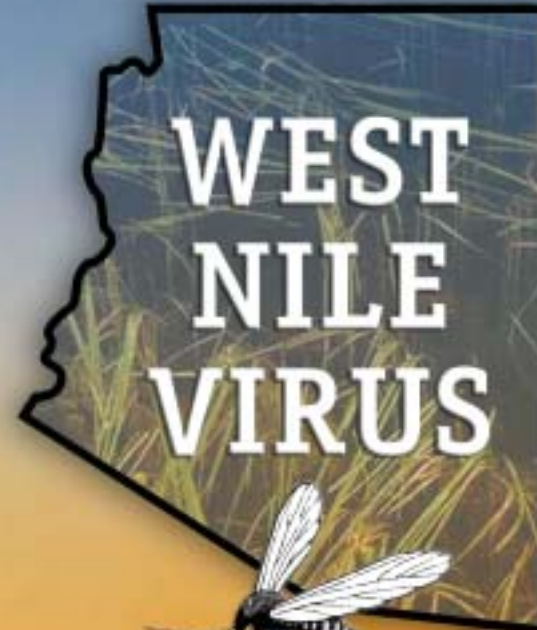
THE RESPONSIBILITY FOR MOSQUITO CONTROL

Everyone is responsible for eliminating and preventing mosquito breeding on their property, according to the Maricopa County Health Code. Violation of the Health Code is a misdemeanor, punishable as provided by law.

MOSQUITO CONTROL: WHAT YOU CAN DO

The best way to eliminate mosquitoes is to eliminate their breeding sites.

- 1. Get rid of all standing water on your premises.** Discard unnecessary containers, including old tires, that may catch and hold water. Drain horse troughs, bird baths, small ponds, etc., weekly or add mosquito fish (available free from Maricopa County Vector Control) to any permanent body of water. Repair any water leak, hose, sprinkler system, or cooler, that may cause water to pond.
- 2. Control your irrigation.** Fill low spots and level your yard or pasture. Don't over-irrigate. Water should never stand more than three days, even in tree wells. Ditches and culverts should be designed to drain out when not in use. Ditch banks and tailwater ponds should be kept free of vegetation and floating debris. If underground irrigation system does not drain, prevent mosquito entrance by closing valves and providing tight covers or screens on standpipes between irrigations.
- 3. Miscellaneous.** Close septic tanks tightly. Be sure that the cleanout plug or inspection hatch is not open even a crack. Drain unused coolers, water closets, wading pools, or any unused equipment that may be holding water accessible to mosquitoes.



Mosquito Control



THE MOSQUITO PROBLEM

THERE ARE TWO MAIN TYPES OF MOSQUITOES IN MARICOPA COUNTY

1. STAGNANT WATER MOSQUITOES

The encephalitis carrying Culex mosquitoes are in this group.

Typical Breeding Sites

Tin cans, old tires, decorative ponds, bird baths, horse troughs, overgrown ditches, unmaintained swimming pools, open septic tanks, sewage and industrial waste ponds.

Breeding Site Selection

Eggs are laid in cluster directly on the surface of standing water. Continuous reproduction cycles as long as water stands and conditions remain favorable.

Adult Habits

Seldom seen in daytime, rests in shrubbery and other cool sheltered places. Active and biting during nighttime hours, indoors and out.

2. INTERMITTENT WATER MOSQUITOES

Importance

Vicious biters, responsible for most mosquito nuisance complaints.

Irrigation or rainwater that ponds and stands for more than three days, such as over-irrigated or poorly leveled yards and pastures, tail-water ponds, desert ponds, stock tanks, backed up washes and flood control drainage areas.

Eggs are laid on soil in areas where water has ponded, where they will lay dormant until flooded by water from the next rain or irrigation. Only one generation is produced per flooding.

Rests in open weeds and grass during daytime, but will rise up and bite if disturbed. Most active at sundown when they attack man and animals in swarms.

TREATMENT OF BREEDING SITE

Source reduction is generally preferred, however, treatment may be needed on a temporary problem or on a site that cannot be eliminated.

1. Vegetable Oil. A vegetable oil film on the water surface has been the traditional method of controlling mosquito larva and pupa. Commercial larviciding oil is available. A light film of vegetable oil sprayed over water gives much better coverage than just pouring the oil in. Retreatment may be needed each week in permanent water. Don't just treat it once and forget it.

2. Chemical larvicide. With the development of safe, effective chemical and bacterial larvicides, the popularity of the more environmentally damaging oil larvicides has been decreasing. Trade names of some of the products now available from chemical suppliers include Altosid, Bactimos, and Vectobac. These come in various formulations suitable for a wide range of applications.

IMPORTANT: Whenever you apply any pesticide, be sure that the material you choose is labeled for the intended use, and that you read and follow all the instructions on the label. Do not use products that are not labeled as pesticides just because they are handy and you think they might work.

TREATMENT FOR ADULT MOSQUITOES

Killing adult mosquitoes is not as effective a method of control as elimination or treatment of the breeding site. When an outbreak occurs, however, several things can be done to make life more comfortable.

1. Screens. Be sure that window and door screens are tight and in good repair.

2. Sprays. Flying insect aerosols are effective indoors, but have a very limited effect outdoors. (Be sure to read entire label and use accordingly.) Small power foggers or mist sprayers will provide temporary relief outdoors but will require daily use if the source of mosquitoes is not eliminated.

3. Traps. Insect traps or electrocuters may help if properly placed. However, they may attract more insects to your yard or patio from other areas and add to the problem.

4. Repellents. Insect repellents will help if you must spend time outdoors when mosquitoes are present. Use these only according to label instructions, and remember that they can be washed off by swimming or heavy perspiration. Repellents containing DEET are most effective.

WEST NILE VIRUS

PROTECT YOURSELF AND YOUR FAMILY

To decrease exposure to mosquitoes and the infections they may carry:

- Avoid outside activity at dawn and dusk during the mosquito season (May through October). This is particularly important for the elderly and small children. Wear protective clothing (long pants and sleeves) and apply insect repellent when outside.
- Make sure that doors and windows have tight fitting screens. Repair or replace screens that have tears or holes in them.
- Drain all standing water on private property and stock permanent ponds with fish that eat mosquito larvae.
- Change water in flower pots, bird baths and pet dishes located outdoors at least twice per week.

WHAT DO I DO IF I SEE A DEAD BIRD?

If you find a dead bird, please call your local health department promptly. Do not touch the bird. Health officials will provide additional instructions on how to submit birds for WN virus testing when appropriate.

HOW DO PEOPLE AND ANIMALS GET WEST NILE VIRUS?

WN virus is transmitted to people and animals by infected mosquitoes. Only certain species of mosquitoes carry the virus and very few mosquitoes are actually infected. A mosquito first acquires the infection by feeding on a bird with virus in its blood. The virus lives in the mosquito and is transmitted through the mosquito's saliva when it bites a person or animal.

Humans and horses are accidental hosts for WN virus. Human-to-human transmission does not occur. The virus is most prevalent from May through October when mosquitoes are most abundant.

The chance of getting encephalitis is very rare. It is estimated that fewer than 1% of all mosquitoes will carry the virus, and fewer than 1% of the people who are bitten by an infected mosquito will develop encephalitis.

WHAT ARE THE SYMPTOMS OF WEST NILE VIRUS IN PEOPLE?

Most people who are infected with WN virus have no symptoms whatsoever. However, of those who become ill, symptoms can include fever, headache, nausea, body aches, mild skin rash. In a few cases, the disease will progress to encephalitis (inflammation of the brain).

The time between the mosquito bite and the onset of illness, known as the incubation period, ranges from 3-15 days in humans. It is estimated that 1 in 150 people who are infected with WN virus will require hospitalization. There is a 3% to 15% death rate in humans who develop encephalitis. The elderly are particularly susceptible to clinical illness caused by WN virus. There is no specific treatment for infection with WN virus, although supportive care is important.

WEST NILE VIRUS IN ANIMALS

An infected mosquito can bite any animal, but not all animals will become infected. The disease most often affects birds, horses and humans.

BIRDS

Wild birds are the animals from which the mosquito primarily acquires the virus. Infection has been reported in more than 70 bird species. Although many birds that are infected with WN virus will not appear ill, WN virus infection can cause serious illness and death in some birds. The most severe illnesses are seen among the corvid birds, which include crows, jays, ravens, and magpies. American crows constitute the majority of birds reported dead in the Eastern U.S. due to WN virus.



HORSES

Horses are also susceptible to WN virus. The disease does not seem to be specific to a particular breed or age of horse. Clinical signs of disease consist of central nervous system abnormalities similar to those caused by infection with eastern equine encephalitis (EEE) and western equine encephalitis (WEE). EEE and WEE vaccines are available for horses and are recommended for use in the spring. An equine WN virus vaccine recently became available for horses. Contact your large animal veterinarian for vaccine recommendations.

