

## What is West Nile Virus

West Nile virus (WNV) is a disease transmitted through the bite of an infected mosquito. The virus is now endemic to California. Originating in parts of Asia, Eastern Europe, Africa and the Middle East, it was first detected in the U.S. during 1999 in New York City. The disease spread rapidly across the country, and was reported in humans, mosquitoes, sentinel chickens, wild birds, and other vertebrates.

WNV debuted in California in 2003. Currently, the virus has infected thousands of people and caused hundreds of fatalities. WNV is a potentially deadly disease that will remain in California. Proper protective measures can be taken to reduce your risk of infection.

## How do people and animals get WNV?

WNV is transmitted to people and animals by infected mosquitoes. Certain species of mosquitoes are more capable vectors of the virus, and only a small percentage of mosquitoes are actually infected. A mosquito most often becomes infected by feeding on a wild bird that has the virus in its blood. The mosquito transmits WNV in its saliva when it bites another person or animal.

Humans and horses are "incidental hosts" of WNV. If infected they cannot transmit the disease to mosquitoes, humans, or other animals. The virus is most prevalent during the warmer months when mosquitoes are most abundant.

In rare instances, WNV can be transmitted through blood transfusions, organ transplants, from mothers to fetuses and breast fed infants. Consult a physician for more information.

## Which animals can get WNV?

An infected mosquito can bite any animal, but not all animals will become infected. The disease affects birds most often but occasionally causes illness in other animals. Dogs and cats rarely show symptoms if infected with WNV.

### Birds

Mosquitoes primarily acquire the virus from birds. Although many birds infected with WNV do not appear sick, WNV does cause serious illness and death in some birds. The most severe cases occur in corvids (including crows, jays, ravens, and magpies). The most common reported dead bird is the American crow.

### Horses

Horses are also susceptible to WNV. Clinical signs of the disease consist of central nervous system abnormalities similar to those cause by infection with Eastern equine encephalitis (EEE) and Western equine encephalomyelitis (WEE). WNV is fatal approximately 30% of the time in the equine population. A WNV vaccine is available for horses, and is highly recommended.

## What are the symptoms of West Nile virus?

One in five persons infected with WNV will exhibit symptoms. Symptoms may include:

- Fever
- Nausea
- Headache and body aches
- Skin rash
- Swollen lymph nodes

These symptoms can last for several weeks or months. In sever cases, WNV neurological symptoms may occur as a result of encephalitis (inflammation of the brain) and meningitis (inflammation of the membrane surrounding the brain). Sever symptoms may include:

- High fever
- Neck stiffness
- Disorientation
- Coma
- Tremors
- Paralysis
- Death

Neurological damage can be permanent. The elderly and those with weakened immune systems are at greatest risk of infection.

The time between the mosquito bite and the onset of illness ranges from 5 to 15 days in humans.

## For More Information

- WNV in California: [www.westnile.ca.gov](http://www.westnile.ca.gov)
- CDC Information: [www.cdc.gov/westnile/](http://www.cdc.gov/westnile/)
- Wildlife Information: [www.nwhc.usgs.gov/disease\\_information/west\\_nile\\_virus/](http://www.nwhc.usgs.gov/disease_information/west_nile_virus/)
- WNV in Horses: [www.cdfa.ca.gov/ahfss/animal\\_health/wnv\\_info.html](http://www.cdfa.ca.gov/ahfss/animal_health/wnv_info.html)
- To Report Dead Birds: 877-WNV-BIRD (968-2473)

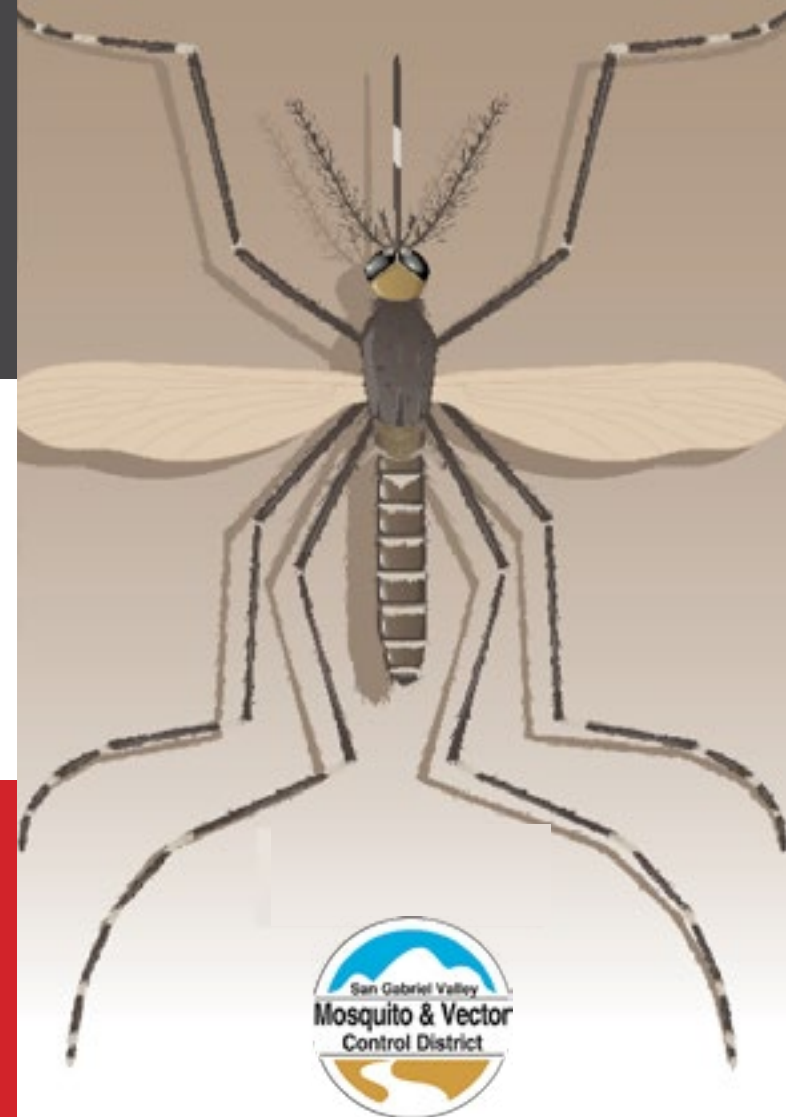
## What is your vector control district doing to prevent West Nile virus transmission?

West Nile virus is endemic in California. Reducing the mosquito population, however, may decrease the risk of WNV transmission and infection.

Mosquito and vector control districts routinely survey for vector-borne diseases and test adult mosquitoes for WNV, St. Louis encephalitis and Western equine encephalitis. Sentinel chicken flocks are strategically placed and tested twice a month for infection. Wild bird surveillance provides an opportunity to test important reservoir host for infections with WNV. Technicians regularly check for sites where mosquitoes may grow and eliminate or control them as necessary. Districts provide free home and yard inspections for mosquito sources, and provide free mosquitofish for ponds, water gardens, and watering troughs.

# West Nile Virus

Protect yourself and your family



**San Gabriel Valley Mosquito & Vector Control District**

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West Covina, CA 91790  
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# How can I protect myself and my family from West Nile Virus?

Residential yards are often the #1 source of mosquito production in a community. Anything that can hold any amount of water for more than five days can become a source of mosquitoes. This includes puddles in lawns and gardens, flower pot saucers, neglected swimming pools and spas, bird baths, clogged rain gutters, and more. To keep mosquitoes from growing on your yard maintain, manage, or eliminate all types of standing water regularly.

## A Bit about the Bite!

That itchy bump you get after a bite is a reaction to the saliva a mosquito injects when it feeds. Viruses and other pathogens like West Nile virus are transmitted through mosquito saliva.

## Find Sources!

Look for anything that can hold water for more than a few days. Buckets, dirty swimming pools, tires, trash cans, and other containers should be drained and/or cleaned weekly.

## Avoid Them!

Try to limit outdoor activity at dusk and dawn during peak mosquito season (spring through fall).

## Block 'em out!

Make sure windows and doors have tight fitting, intact screens. This will help keep other unwanted critters out too!

## Use Mosquitofish!

These small, hardy fish can eat hundreds of mosquito larvae a day in a backyard pond or other man made source of water. We provide them for free to our residents.

## Wear Repellents!

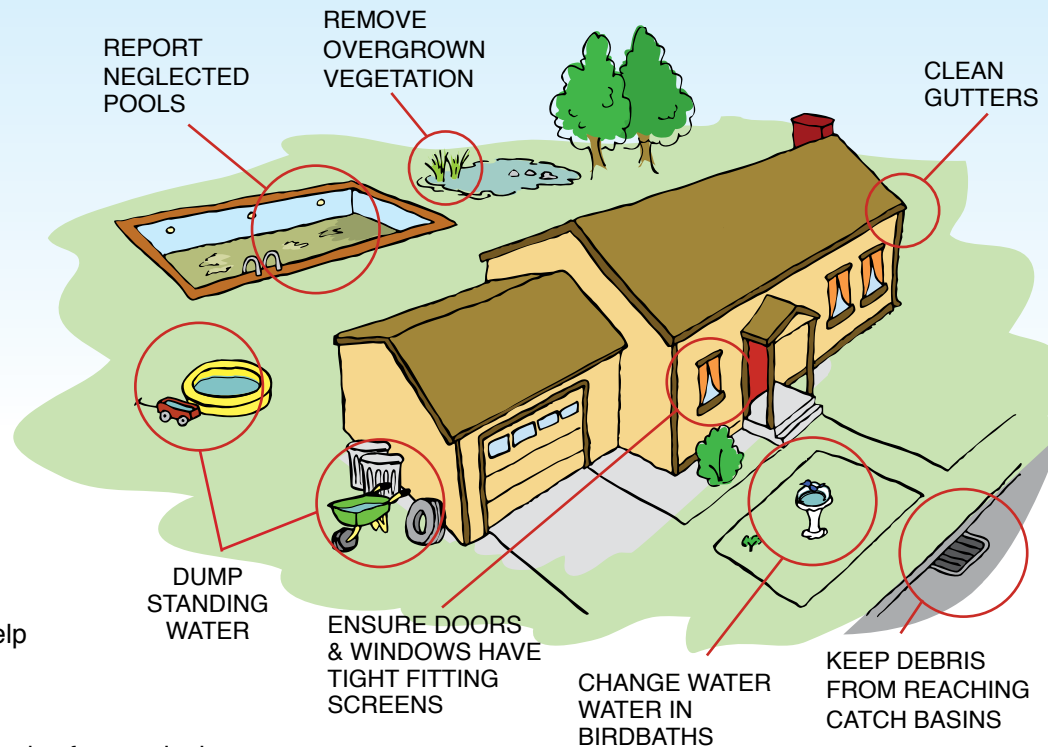
Wear long sleeves and pants and use repellents when outdoors. Remember to read the labels and carefully follow instructions on all insect repellents.

When choosing a repellent, look for these active ingredients registered with the EPA.

- DEET
- IR3535
- PARA-METHANE-DIOL
- PICARIDIN
- OIL OF LEMON EUCALYPTUS

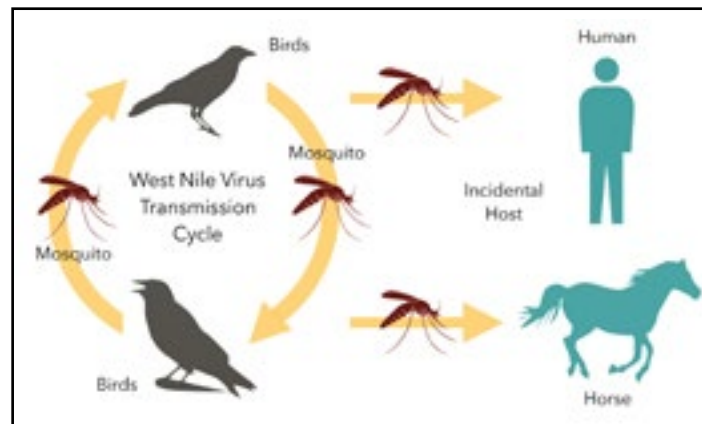
**NOTICE:** Failure to prevent the breeding of mosquitoes or other vectors of disease is a direct violation of the California Health & Safety Code §2000-2067.

## Common Backyard Sources



## Transmission cycle of West Nile virus

Mosquitoes pass the virus from bird to bird and can also infect incidental hosts like humans and horses



## Mosquitoes Grow in Water

Immature mosquitoes spend five to seven days growing in standing water before emerging as adults. During the aquatic stages of their life cycle, mosquitoes can easily be destroyed by dumping and draining the water. Even better, don't let them grow in the first place. Prevent standing water from collecting around your home.

### EGG

Adult female mosquitoes lay approximately 100-250 eggs either in clusters called rafts which float on the surface of standing water, or singularly on or at the water's edge. Larvae hatch from eggs within days after contact with water.



### LARVA

Larvae are often found at the surface of the water where they breathe and feed. They live in a wide variety of water-filled sources including neglected swimming pools, storm drains, household containers, ponds, horse troughs, and discarded tires. Larvae feed on algae and bacteria in the water and shed their skin four times as they grow over several days or weeks.



### PUPA

As pupae, mosquitoes transform in their cocoon-like shell. Pupae do not feed but must come to the water's surface to obtain oxygen. Once fully developed, the pupal skin splits and the adult mosquito emerges.



## Dead Bird Surveillance Program

If you find a bird that has recently died, particularly a crow or other corvid (i.e. raven, jay, or magpie) please call the California Department of Public Health hot-line at 877-WNV-BIRD. Not all birds will qualify for testing; however CDPH will record all reports of dead birds. To move or discard a carcass, wear rubber or latex gloves. If gloves are not available, use plastic bag turned inside-out over your hand and invert the bag to surround the bird. Seal and discard in the trash if the bird will not be picked up for testing. For more information, visit [www.westnile.ca.gov](http://www.westnile.ca.gov).