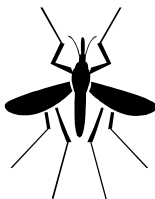


**SPRING 2003**

## West Nile Virus

**Clackamas County's Public Health Division** has developed this information to inform citizens about the West Nile Virus.



On the back of the flyer are some "frequently asked questions" citizens have called Water Environment Services about. If you have other questions, please call any of the listed numbers printed at the bottom of the flyer of the County's Public Health Division at 503-655-8384.

**West Nile Virus is a virus** carried by infected mosquitoes. The mosquitoes become infected when they feed on infected birds of the Corvid family, such as ravens, crow, jays and magpies. The mosquito can then transmit the infection to humans and animals by biting them. You cannot get the virus from another person or animal.

### Symptoms of West Nile Virus

Most people who become infected with the West Nile Virus (WNV) do not become ill. Only about 20 percent develop West Nile fever, which, besides fever includes headache and body aches, and occasionally a rash on the trunk of the body and swollen lymph glands. Symptoms begin 3-14 days after the bite of an infected mosquito and in cases of mild disease, last a few days. People with questions about WNV should call their health care provider.

Severe infection is rare and more common in people over 50 or in those with impaired immune systems. About one out of 150 of those who become infected develops a severe infection, also known as West Nile encephalitis or meningitis. Symptoms range from headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness and paralysis. Symptoms of severe disease may last several weeks, although some brain and nerve damage may be permanent. There is no effective treatment for WNV infection other than supportive therapy, i.e. hospitalization, intravenous fluids, airway management, respiratory support if needed (ventilator), prevention of secondary infections (pneumonia, urinary tract, etc.) and good nursing care.

**The only effective strategy is prevention.**



### Personal Protection (avoiding mosquito bites)

- Consider staying indoors at dawn, dusk and in early evening, which are peak mosquito biting times.
- When possible, wear long-sleeved shirts and long pants outdoors.

- Place mosquito netting over infant carriers.
- Install or repair window and door screens.
- Apply insect repellent containing DEET (N,N-diethyl-meta-toluamide) when you are outdoors. Be sure to read and follow the manufacturer's directions for use as printed on the product. Alternatively, spray clothing with DEET since mosquitoes may bite through thin clothing. If you spray your clothing, there is no need to spray repellent containing DEET on the skin under your clothing. Repellents may irritate the eyes and mouth, so avoid applying repellent to the hands of children.

### Prevention

There are two basic prevention strategies: reducing the mosquito populations and avoiding mosquito bites. The best way to reduce the mosquito population is to drain sources of standing water by early April. This will prevent mosquitoes from laying eggs and breeding.

- At least once or twice per week, empty water from flowerpots, pet food and water dishes, birdbaths, swimming pool covers and barrels.
- Check clogged rain gutters and clean them out.
- Remove discarded tires, containers that could collect water. Check for these items in hard to see places, i.e. bushes or under the house.
- Repair leaks and eliminate puddles around faucets and air conditioner units.
- Cover boats or store upside down in a dry place.
- Fill holes in the trees on your property.
- Empty and store wading pools in a dry place after the swimming season is over. Keep pool water circulating and run filters April through October.

### Detecting West Nile Virus in Clackamas County

Dead corvid birds, such as crows, jays or magpies in an area may indicate that WNV is circulating between the birds and the mosquitoes in that area. The public can play an important role in helping to monitor for WNV. Clackamas County Public Health staff can pick up specimens. To reduce the cost and increase the efficiency of the County's detection system, use these criteria when calling up to pick up birds for testing:

- The birds should be corvids (crows, jays and magpies) that have been dead less than 24 hours.
- The birds must be part of a continuous die-out over three days.
- Birds killed on the road, in parking lots, or deaths related to pesticide spraying or injuries from the animals will not be tested.

- Clackamas County Public Health staff (503-655-8386 or steved@co.clackamas.or.us) will provide information on how to collect the specimens.
- Once WNV has been detected in Clackamas County, the County will probably stop the bird testing.

## **West Nile Virus (WNV) & Stormwater Facilities: Frequently Asked Questions**

### **What are stormwater ponds used for?**

When land is developed to create homes, roads, businesses and other improvements, the natural system of trees and dense vegetation is replaced with pavement, hard surfaces and compacted lawns. As a result, less rainwater soaks into the ground and more of it runs off the hard surfaces at a faster rate – contributing to pollution problems in local streams and rivers. The rainwater becomes polluted with oil, fertilizers, pesticides, bacteria and other pollutants as it runs off parking lots, streets, rooftops, lawn and other hard surfaces.

Stormwater ponds detain and slow the rate of runoff from developed areas and remove pollutants that are collected in the runoff. These stormwater ponds are commonly used throughout the United States to reduce flooding, erosion, landslides, and pollution, all of which are essential to protecting clean water, public health and safety, public and private property, and water quality in local rivers and streams. The ponds are a vital element of the District's program to meet federal and state water quality laws.

### **Can stormwater ponds, ditches, catch basins and water quality facilities be significant breeding grounds for mosquitoes that carry WNV?**

Any standing water can provide breeding grounds for any types of mosquitoes, including those that carry the West Nile virus. Many of the catch basins in Clackamas County are designed to trap pollution and hold a small amount of stormwater after a rainfall event. These catch basins can be breeding grounds for mosquitoes. Some stormwater ponds and water quality facilities are designed to hold water most of the year or may retain small pools of water. These facilities are generally designed to provide habitat for many species of frogs, birds, fish and aquatic insects that feed on mosquitoes and their larvae.

Clackamas County Department of Health will provide guidance to local communities on more aggressive control measures if there is a need for it.

### **Are wetlands significant breeding grounds for mosquitoes?**

Although healthy wetlands can provide habitat for mosquitoes, typical water conditions, water quality, and natural predators deter mosquito use and minimize larval success if egg laying occurs. Predators including other aquatic insects, amphibians, and birds feed on any mosquitoes present. Wetlands are a critical element in a healthy ecosystem that benefits people, water quality and wildlife. Many wetlands recharge groundwater critical for local drinking water supplies and prevent streams from drying up during the summer. We will not eliminate mosquitoes by draining wetlands. Draining a wetland can destroy the mosquito's natural predators, which could actually increase the mosquito population. Many mosquito species need only a small puddle or depression in which to breed.

### **Can streams and rivers be significant breeding grounds for mosquitoes that carry WNV?**

Under normal circumstances, mosquitoes cannot breed successfully in flowing water, and therefore streams and rivers can only produce mosquitoes when they dry up and leave shallow, stagnant puddles in the stream bed or in backwater areas. Streams and rivers provide good habitat for predators that feed on mosquitoes and mosquito larva.

### **I live near a greenway or a wetland and worry about my family's safety.**

We will never be able to eliminate all habitats for mosquitoes and not all mosquitoes are carriers of the virus. Greenways and wetlands provide numerous health and quality of life benefits. They clean pollution from air and water and reduce flooding and erosion.

### **Local and federal health experts recommend the best personal protection is to reduce mosquito**

### **habitat, prepare your home and take personal protection measures.**

*Please review the County's list of protective tips on the reverse side or contact these resources:*

### **RESOURCES:**

- National Center for Disease Control: 1-888-246-2675
- Clackamas County Vector Control: 503-655-8394
- Clackamas County Public Health: 503-655-8384
- Oregon Public Health: 503-731-4024

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- Clackamas County:  
[www.co.clackamas.or.us/vector/](http://www.co.clackamas.or.us/vector/)

