

West Nile Virus and Stormwater Facilities Frequently Asked Questions

West Nile virus is in the national news and health experts expect it to arrive in our region this year. National health experts do not believe this will be a health emergency for residents of Washington County. Human illness from West Nile virus is rare, even in areas where the virus has been reported. The chance that any one person is going to become ill from a mosquito bite is low.

However, people are concerned and asking questions about how best to prepare and protect themselves from West Nile virus. The Washington County Department of Health and Human Services is working closely with regional and state health experts to coordinate the County's response to West Nile virus. You can learn more about West Nile virus by visiting the Centers for Disease Control (CDC) web site at: www.cdc.gov/westnile

Clean Water Services is working closely with the Washington County Department of Health and Human Services and local cities to monitor and control mosquitoes in stormwater ponds, local wetlands and streams, and the public drainage system. Here are answers to some common questions about West Nile virus, stormwater ponds, wetlands and water quality.

What is my risk of getting West Nile virus?

Human illness from West Nile virus is rare, even in areas where the virus has been reported. The chance that any one person is going to become ill from a mosquito bite is low.

What are stormwater facilities and why are they important?

When land is developed to create homes, roads, businesses and other improvement, 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—which could contribute to flooding as well as 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, lawns and other hard surfaces.



Stormwater facilities (ponds and swales) detain and slow the rate of runoff from developed areas and remove pollutants that are collected in the runoff. These stormwater facilities 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 facilities are a vital element of the County's program to meet federal and state water quality laws.

Are stormwater catch basins significant breeding grounds for mosquitoes that carry West Nile virus?

Any standing water can provide breeding grounds for mosquitoes that carry West Nile virus. Many of the catch basins in Washington 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 that carry West Nile virus. Clean Water Services and Washington County Cities will be working with the Washington County Department of Health

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and Human Services this summer to sample water from these types of catch basins in the urban area to monitor them for the presence of mosquitoes carrying West Nile virus.

Are stormwater ponds and swales significant breeding grounds for mosquitoes that carry West Nile virus?

Stormwater ponds and swales are designed to filter pollution from rain-water runoff and reduce flooding. Most of the facilities that have been built in residential and commercial developments since 1990 are designed to drain within a few days, which prevent mosquito larvae from completing their development.

However, some stormwater ponds and swales are designed to hold water most of the year or may retain small pools of water. These facilities offer habitat for many species of frogs, birds, fish and aquatic insects that feed on mosquitoes and their larvae. Clean Water Services and Washington County Cities are working to inventory and evaluate the maintenance of these facilities to reduce mosquito breeding habitat and improve the habitat for natural mosquito predators.

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Clean Water Services and Washington County Cities will also be working with the Washington County Department of Health and Human Services to monitor these facilities for the presence of mosquitoes carrying West Nile virus. If mosquitoes carrying the West Nile virus are detected, the Washington County Department of Health and Human Services will provide guidance to local communities on more aggressive control measures including the application of biological larvicide controls.

Are wetlands significant breeding grounds for mosquitoes that carry West Nile virus?

Although wetlands can provide habitat for mosquitoes, typical water conditions and natural predators found in healthy wetlands 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. Wetlands clean and slowly release rainwater and provide flood protection and wildlife habitat. 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. We could actually increase the mosquito population if their natural predators are destroyed by draining a wetland. Many mosquito species need only a small puddle or depression in which to breed.

Are streams and rivers significant breeding grounds for mosquitoes that carry West Nile virus?

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 larvae.

Are wastewater treatment plants significant breeding grounds for mosquitoes that carry West Nile virus?

Typically not. The flowing water at wastewater treatment facilities does not provide usable breeding habitat for mosquitoes.

However, wastewater treatment plants can be a source of midges ("blind mosquitoes") periodically. Although midges appear similar to mosquitoes, they are incapable of biting and do not carry West Nile virus.

What is being done to monitor and control mosquitoes that may carry West Nile virus in the stormwater facilities and local wetlands?

Clean Water Services and Washington County Cities will be working with the Washington County Department of Health and Human Services to monitor stormwater facilities and local wetlands for the presence of mosquitoes carrying West Nile virus. If mosquitoes carrying the West Nile virus are detected, the Washington County Department of Health and Human Services will provide guidance to local communities on more aggressive control measures including the application of biological larvicide controls.

Is the County, Clean Water Services, or cities going to spray stormwater ponds and wetlands for mosquitoes?

Widespread chemical controls are not the answer. We are actively researching mosquito control options, and are in the process of developing management guidelines that take advantage of the insect's life cycle and vulnerable stages. The use of pesticides can affect the environment and, ultimately, human health. However, if mosquitoes carrying West Nile virus are detected in the public drainage system or local waterways, the County, Clean Water Services, and Cities are considering the use of biological larvicide controls.

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. The use of chemical controls can affect the environment and human health and have limited success unless carefully applied by licensed pesticide applicators. Application of pesticides to wetlands, streams and other waterways can not only affect the environment and, ultimately, human health, but may be illegal under state and federal law.

Local and federal health experts recommend the best personal protection is to reduce mosquito habitat, prepare your home and take personal protection measures.

Reducing mosquito habitat

Mosquitoes lay their eggs in standing water. The eggs only need a few ounces of water to grow into adults. Reduce mosquito habitat by:

- Eliminate places where water can stagnate in containers such as buckets, flowerpots and tires.
- Change water at least once a week in birdbaths and wading pools.
- Clean clogged rain gutters, and put mosquito screens on rain barrels.
- Dispose of old tires or cover them so they don't collect water

Prepare your home

- Put tight-fitting window screens on all your windows, and repair rips or tears in existing screens.
- Consider adding a screen door to outside doors that are often left open.

Personal protection

We will never be able to eliminate all mosquitoes. Personal protection is a way to avoid getting bitten. When mosquitoes are out, particularly at dusk:

- Wear long sleeves and long pants.
- Consider wearing insect repellent that contains DEET. Read repellent instructions carefully. Repellent should not be applied to children under the age of two.

For more information on West Nile virus and mosquito control, visit:

- The Centers for Disease Control and Prevention at: www.cdc.gov/westnile
- Washington County Department of Health and Human Services: http://www.co.washington.or.us/dept_mts/hhs/env_hlth/vector/msqt_idx.htm
- The Oregon Public Health Service <http://www.ohd.hr.state.or.us/acd/wnilc/>
- The National Pesticide Information Center at: <http://npic.orst.edu/wnv/>
- The U.S. Environmental Protection Agency's site on Mosquito control at: <http://www.epa.gov/pesticides/factsheets/skeeters.htm>