

# West Nile Virus and Wetlands

## Wetland predators lower mosquito populations, WNV risk



West Nile is a mosquito-borne virus first detected in the United States in 1999 and in Wisconsin in 2001. Female mosquitoes transmit the virus mainly to birds, but also to other animals and occasionally to people. The threat to human health raises concerns about mosquito populations and the sites that breed them. **Some citizens are concerned that wetlands are part of the problem, but in fact, wetlands can be part of the cure.**

Healthy wetlands are home to fish, insects and birds that eat mosquitoes and keep their populations low. Furthermore, the species of mosquitoes mainly responsible for transmitting West Nile Virus don't prefer wetlands but breed prolifically in stagnant water in discarded tires, birdbaths, and roof gutters. Such artificial containers lack the predators found in wetlands, and are located in or near urban areas, providing infected mosquitoes with easy access to human or animal hosts.

**The presence of West Nile Virus in Wisconsin makes it more important than ever to protect and restore wetlands. Healthy wetlands can control mosquito numbers in addition to providing wildlife habitat, preventing flooding and purifying water.**

*Read on to learn more about mosquitoes and wetlands and what you can do around your home and community to decrease the risk of WNV.*



### About Wisconsin Wetlands...

Some people have suggested draining wetlands to control mosquitoes, thinking that if there is no standing water, there will be no mosquitoes. **The truth is that a drained area may actually produce more mosquitoes than it did as a wetland!**

Mosquitoes have a very short life cycle and their eggs can remain dormant for more than four years, hatching when flooded with water. Therefore, even after a wetland has been drained, it may still hold enough water after a rain to breed mosquitoes.



great blue heron

A healthy wetland provides habitat for natural enemies of mosquitoes.

Amphibians, bats, frogs, fish and insects feed on mosquito larvae and/or adults and keep their populations in check.

Dragonflies, damselflies, water striders, and predacious diving beetles also are natural enemies of mosquitoes. *But these insects need proper habitat -- healthy wetlands -- to survive.*

### About mosquitoes...

Wisconsin has about 53 different species of mosquitoes, but only one that's the main carrier of the virus.

*Culex pipiens*, more commonly known as the "**house mosquito**," accounts for about 70 percent of the positive WNV samples. Most house mosquitoes are produced locally because they can't fly more than ¼ mile from where they hatched.

Almost any kind of wet area or standing water makes a good breeding site for *Culex pipiens*: **old tires, cans, and other containers that collect rainfall**; even **hollow logs** that hold water, and **low spots in the ground** where water pools.

Because these places do *not* provide good homes for insects and wildlife that feed on mosquitoes, the mosquitoes quickly reproduce. A single discarded tire can produce 500 mosquitoes.

## Restoring wetlands can help reduce West Nile Virus risks

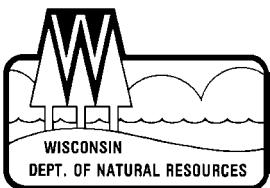
Restoring wetlands decreases mosquito populations by providing proper habitat for the natural enemies of mosquitoes, and by preventing or reducing flooding in areas that aren't normally wet and thus support mosquitoes but not their predators. When the Essex County Mosquito Control Project restored a 1,500 acre wetland in Massachusetts, the mosquito population *dropped by 90 percent*. Experts there know that wetland restoration is synonymous with genuine mosquito control. So by restoring degraded wetlands, we really can do ourselves a big favor!



## What can I do to reduce mosquitoes around my home and community?

Mosquito larvae must live in still water for five or more days to complete their growth before changing into adult biting mosquitoes capable of transmitting disease. Often, removing sources of standing water around homes can reduce mosquitoes in an area. **Here's how to prevent mosquitoes around your home:**

- ◆ Get rid of old tires, tin cans, buckets, drums, bottles or any water-holding containers.
- ◆ Fill in or drain any low places such as puddles, ruts, etc. in the yard. This does not include rain gardens.
- ◆ Keep drains, ditches, and culverts free of weeds and trash so water will drain properly.
- ◆ Keep roof gutters free of leaves and other debris.
- ◆ Cover trash containers to keep out rainwater.
- ◆ Repair leaky pipes and outside faucets.
- ◆ Empty plastic wading pools at least once a week and store indoors when not in use. Unused swimming pools should be drained and kept dry during the mosquito season.
- ◆ Fill in tree rot holes and hollow stumps that hold water.
- ◆ Change the water in birdbaths and plant pots or drip trays at least once each week.
- ◆ Store boats covered or upside down, or remove rainwater weekly.
- ◆ Keep grass cut short and shrubbery well trimmed around the house so adult mosquitoes will not hide there.
- ◆ Make sure ornamental ponds have fish, which will eat mosquito larvae.
- ◆ Repair window screens.



**For more information on West Nile Virus:**

<http://www.dhs.wisconsin.gov/communicable/westnilevirus>

**For more information on mosquito control:**

<http://www.dnr.state.wi.us>

