



West Nile Virus and Wetlands

What is West Nile virus?

West Nile virus (WNV) is a viral disease previously seen only in Africa, Asia and Southern Europe. This virus can cause encephalitis, an infection of the brain and the spinal cord. WNV was first detected in the United States in 1999 when at least 62 people became seriously ill, and seven of them died. Since then, WNV has rapidly spread throughout the continental United States. In Ohio, WNV was first identified in birds and mosquitoes in 2001. The following year, the first human cases and deaths were reported in Ohio. By the end of 2002, WNV was reported in all 88 Ohio counties, either in birds, mosquitoes, humans or horses. There were 441 human and 644 horse cases identified. WNV is now established in Ohio where cases occur each year and seasonal epidemics can flare up under certain conditions in the summer and continue into the fall.

WNV is spread to people by the bite of an infected mosquito. The principal transmitter of West Nile virus is the Northern house mosquito (*Culex pipiens*). Mosquitoes first become exposed to the virus when they feed on birds that are infected with WNV. Once the mosquito is infected, it may transmit the virus to people or other animals when it bites them. Many birds can be infected with WNV, but crows and blue jays are the most likely to die from the infection. Horses, too, are prone to severe WNV infection. People cannot get WNV from another person or horse that has the disease.

If I'm hiking or walking in an area with wetlands, how can I protect myself from West Nile virus infection?

West Nile Virus infections usually peak in late summer and early autumn, before mosquito numbers are reduced by hard freezes. If you hike or walk out of doors during this period, you should wear long-sleeved shirts, long pants and apply insect repellants to clothing and skin, following the label directions, to prevent mosquito bites.

What is the value of a wetland?

Wetlands are among the most biologically productive habitats in the world. Before European settlement, Ohio's wetlands covered 18.9% (5 million acres) of the state. As settlers moved west, they drained the wetlands for timber and farming, thus eliminating 87% of the state's original wetlands. Wetland-dependent wildlife species have been severely impacted by this significant reduction in the amount and quality of wetland habitat. Wetlands are highly productive. They warm quickly in spring and produce abundant quantities of food for amphibians, reptiles, shorebirds, migrating birds, and waterfowl. Even small sites, much less than an acre, can produce hundreds of frogs, toads and salamanders. They also provide critical links to other habitat types and wildlife populations.

Should wetlands be drained to control mosquitoes?

Because the *Culex* mosquito can breed in very small amounts of water, eliminating temporary standing water in plastic containers, discarded tires or other water-holding containers around one's property can greatly reduce breeding areas. Any stagnant water in rain barrels, irrigation ditches, clogged gutters, backyard home septic systems, and road-side ditches can serve as breeding sites. The difference

between these water-holding places and wetlands is the presence of mosquito-eating predators. Wetlands are home to a host of mosquito-eating beetles, backswimmers, water striders, dragonfly larvae, etc., making them significantly less ideal breeding sites for *Culex* mosquitoes.

Can wetlands be drained or are there regulations which protect them?

Wetlands are afforded protection from draining under the authority of the Ohio Environmental Protection Agency in several sections of Ohio Administrative Code 3745. Under this authority, the hydrology necessary to support the biological and physical characteristics naturally present in wetlands shall be protected to prevent significant adverse impacts on the wetlands. A person cannot alter the water levels of the wetland which also includes groundwater recharge and discharge.

What is the current status of West Nile virus in Ohio?

Contact your local health department or visit the Ohio Department of Health's website for the current status of WNV in Ohio: <http://www.odh.ohio.gov/wnv>.