



The North Dakota Department of Health (NDDoH) monitors WNV activity in the state through surveillance activities that include reporting and testing sick horses and other veterinary animals, trapping and testing mosquitoes, reporting and testing dead birds and monitoring illness in humans.

Dead bird surveillance is an indicator of transmission of WNV and can play a role in predicting human risk of infection. The North Dakota dead bird surveillance for WNV involves collecting reports of dead bird sightings and testing dead birds for WNV.

In North Dakota, approximately 100 mosquito traps are set up each summer, with at least one trap in each county. The traps are emptied each week and mosquitoes are sent to the North Dakota Department of Health's Division of Laboratory Services for counting and identification.

Visit [www.ndhealth.gov/wnv](http://www.ndhealth.gov/wnv) to find additional information about WNV in North Dakota.



On June 1, 2011, the North Dakota Department of Health (NDDoH) West Nile virus (WNV) surveillance program initiated its tenth season of human arboviral surveillance. In 2011, the Division of Laboratory Services conducted WNV testing on 367 human samples. Four positive human cases were identified (**Figure 1**).

Of the four reported cases, one (25%) met the case definition of West Nile encephalitis/meningitis, with the remaining three (75%) cases classified as West Nile fever. One of the three cases was hospitalized. No cases were fatal. No asymptomatic North Dakota blood donors with WNV were reported to the NDDoH in 2011.

**Table 1. Human WNV Cases by Age Group, North Dakota, 2011.**

Age Group	Cases
Age <10	0
Ages 10-19	1
Ages 20-29	0
Ages 30-39	0
Ages 40-49	1
Ages 50-59	1
Ages 60 and older	1

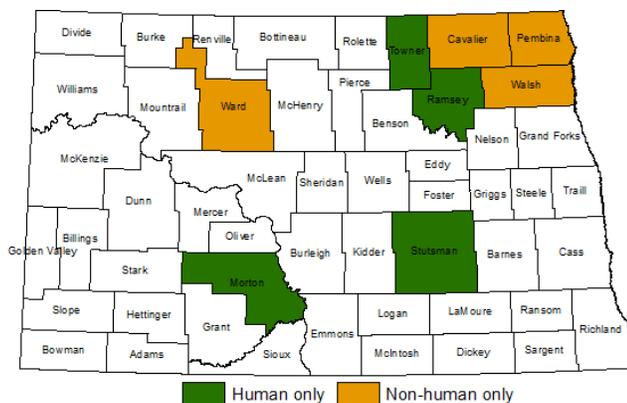
In 2011, all four of the reported human WNV cases were male. Of the four reported cases, two (50%) were age 50 or older (**Table 1**).

West Nile virus (WNV) is a mosquito-borne infection that can cause mild flu-like symptoms or severe encephalitis. WNV was first recognized in the U.S. in 1999 in the state of New York. In 2002, North Dakota had its first confirmed human cases of WNV, as well as detectable virus through laboratory testing in birds, horses and mosquitoes. Since 2002, every year there have been human cases of WNV in North Dakota.

Although WNV can affect all age groups, those older than 50 have an increased risk of developing more severe disease.

The North Dakota Veterinary Diagnostic Laboratory (NDVDL) tested 13 horses for WNV infection. Of the 13 samples submitted, 1 (7%) tested positive for WNV from Ward County. In addition, six dogs that tested positive for WNV were reported to the NDDoH from Walsh (4), Pembina (1) and Cavalier (1) Counties (**Figure 1**).

**Figure 1. WNV Human and Non-human Activity by County, North Dakota, 2011.**

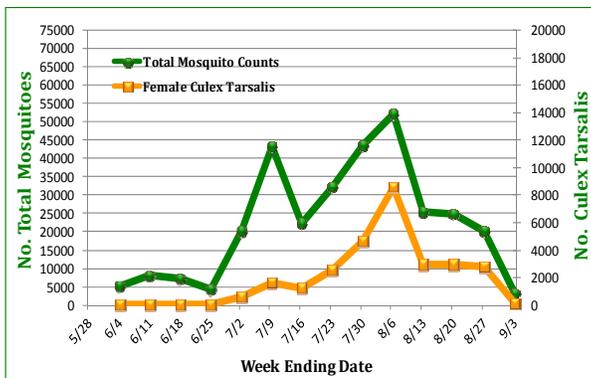


In 2011, dead bird collection focused on birds from the corvid and raptor families. The corvid family includes crows, blue jays, magpies and ravens. The raptor family includes birds of prey such as hawks, eagles, falcons and owls. Five dead birds were collected and sent to the NDVDL for WNV testing. Of those, none tested positive.

Statewide mosquito monitoring was conducted weekly from June through August using 92 New Jersey light traps stationed around the state. Female *Culex tarsalis* counts peaked the first week in August (**Figure 2**).

*Culex tarsalis* is the mosquito that transmits WNV and typically reaches its peak numbers at the end of July or beginning of August. Increases in the number of *Culex tarsalis* pose a higher risk for human WNV infection.

**Figure 2. Total Number of Mosquitoes and Female *Culex tarsalis* Mosquitoes from surveillance traps, North Dakota, 2011.**



**Table 2. Number of WNV Cases Per County, North Dakota, 2011.**

County	Human	Horse	Bird	Other Vet
Adams				
Barnes				
Benson				
Billings				
Bottineau				
Bowman				
Burke				
Burleigh				
Cass				
Cavalier				1
Dickey				
Divide				
Dunn				
Eddy				
Emmons				
Foster				
Golden Valley				
Grand Forks				
Grant				
Griggs				
Hettinger				
Kidder				
LaMoure				
Logan				
McHenry				
McIntosh				
McKenzie				
McLean				
Mercer				
Morton	1			
Mountrail				
Nelson				
Oliver				
Pembina				1
Pierce				
Ramsey	1			
Ransom				
Renville				
Richland				
Rolette				
Sargent				
Sheridan				
Sioux				
Slope				
Stark				
Steele				
Stutsman	1			
Towner	1			
Traill				
Walsh				4
Ward				1
Wells				
Williams				

## West Nile Virus in the United States

In 2011, 690 human cases of WNV were reported from 43 states and the District of Columbia (**Figure 3**). Of the 690 reported cases, 474 (69%) met the case definition of West Nile encephalitis/meningitis, with the remaining 216 (31%) cases classified as West Nile fever. Additionally, there were 43 WNV deaths reported from 18 states.

**Figure 3. WNV Activity Reported by County, United States, 2011.**

