



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 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 NDDoH's dead bird surveillance for WNV involves collecting reports of dead bird sightings and testing dead birds for WNV.

In North Dakota, 60-70 mosquito traps are set up each season, with at least one trap in every county. The traps are emptied once per week and mosquitoes are sent to the NDDoH Division of Laboratory Services for counting and identification.

Visit www.ndhealth.gov/wnv to find additional information about WNV in North Dakota.

Division of Disease Control
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West Nile virus (WNV) is a mosquito-borne virus that can cause mild flu-like symptoms or severe neurological infections. 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. Laboratory testing also detected WNV in birds, horses and mosquitoes. There have been human cases of WNV in North Dakota every year since 2002.

On June 1, 2015, the North Dakota Department of Health (NDDoH) West Nile virus (WNV) surveillance program initiated its thirteenth season of human arboviral surveillance. The NDDoH Division of Laboratory Services conducted free WNV testing on human specimens from June 1 until September 30. Commercial and private laboratories also performed testing and reported results to the NDDoH. A total of 23 human cases were identified (Figure 1).

Of the 23 reported cases, 10 (43%) met the case definition of West Nile neuroinvasive disease and 13 (57%) cases were classified as West Nile fever. Eight of the cases were hospitalized. One case was fatal. Two asymptomatic North Dakota blood donors with WNV infections were also reported to the NDDoH in 2015.

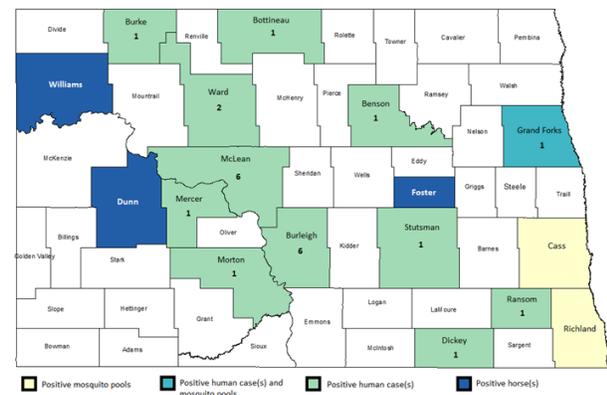
Table 1. Human WNV Cases by Age Group, North Dakota, 2015

Age Group	Cases
Age <10	1
Ages 10-19	1
Ages 20-29	1
Ages 30-39	7
Ages 40-49	3
Ages 50-59	4
Ages 60 and older	6

Seven of the cases were female and 16 were male. Ten (43%) cases were age 50 or older (Table 1).

The North Dakota Veterinary Diagnostic Laboratory (NDVDL) tested 17 horses for WNV infection. Of those, 2 (12%) tested positive for WNV (Figure 1). One additional equine WNV infection was identified by an out-of-state lab.

Figure 1. WNV Human and Non-human Activity by County, North Dakota, 2015.

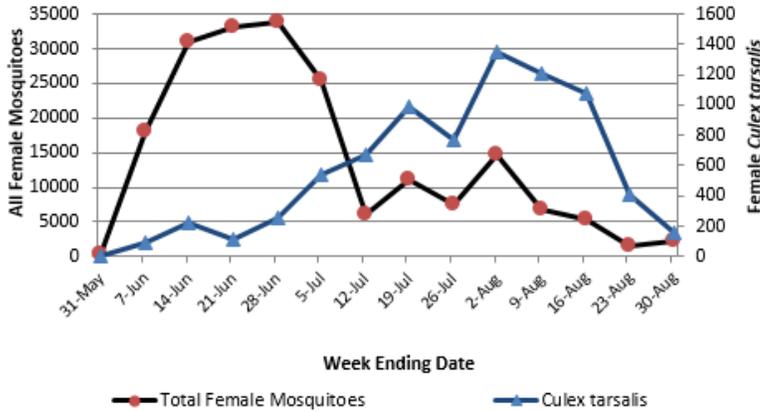


In 2015, dead bird collection focused on birds from the corvid family and raptors. The corvid family includes crows, jays, magpies and ravens. Raptors include birds of prey such as hawks, eagles, falcons and owls. Eight dead birds were collected and tested for WNV. None tested positive.

Statewide mosquito monitoring was conducted weekly from June through August using 66 New Jersey light traps stationed around the state. Female *Culex tarsalis* counts peaked during the first week in August (Figure 2).

Culex tarsalis, the mosquito species that transmits WNV, 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 Female Mosquitoes and Female *Culex tarsalis* from Surveillance Traps, North Dakota, 2015.



West Nile Virus in the United States

In 2015, 2,175 cases of WNV were reported in 43 states and the District of Columbia. Of the 2,175 human cases reported, 1,455 (67%) met the case definition of West Nile neuroinvasive disease and 720 (33%) were classified as West Nile fever. Additionally, 146 WNV deaths were reported from 28 states.

Figure 3. WNV Activity Reported by County, United States, 2015.

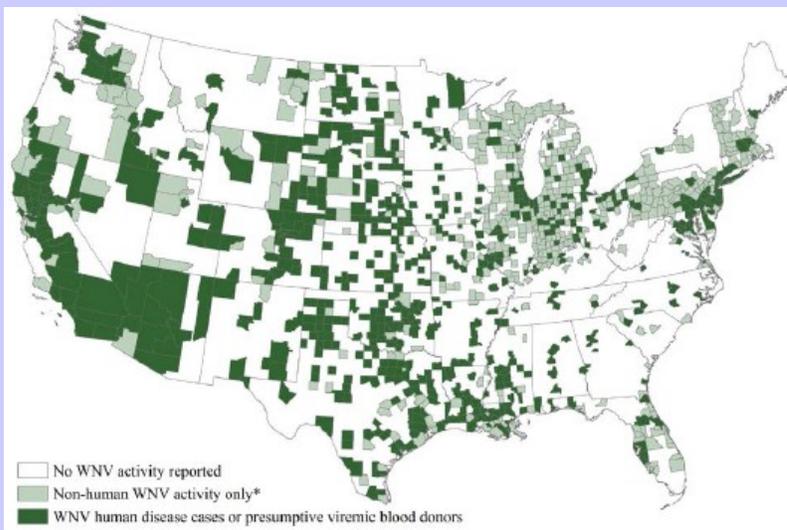


Table 2. WNV Activity by County, North Dakota, 2015.

County	Human	Horse	Bird	Other Vet
Adams				
Barnes				
Benson	1			
Billings				
Bottineau	1			
Bowman				
Burke	1			
Burleigh	6			
Cass				
Cavalier				
Dickey	1			
Divide				
Dunn		1		
Eddy				
Emmons				
Foster		1		
Golden Valley				
Grand Forks	1			
Grant				
Griggs				
Hettinger				
Kidder				
LaMoure				
Logan				
McHenry				
McIntosh				
McKenzie				
McLean	6			
Mercer	1			
Morton	1			
Mountrail				
Nelson				
Oliver				
Pembina				
Pierce				
Ramsey				
Ransom	1			
Renville				
Richland				
Rolette				
Sargent				
Sheridan				
Sioux				
Slope				
Stark				
Steele				
Stutsman	1			
Towner				
Traill				
Walsh				
Ward	2			
Wells				
Williams		1		