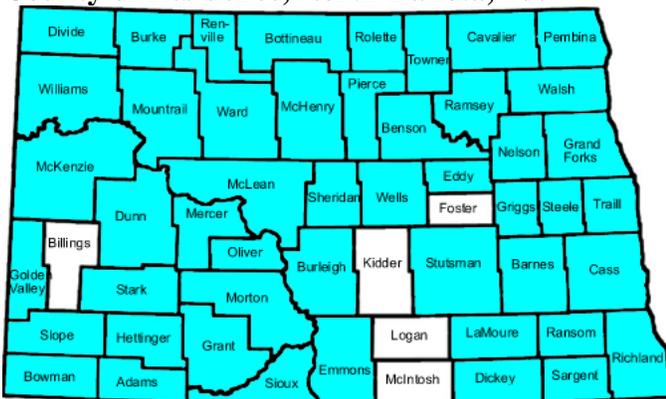


2007 West Nile Virus Summary

On June 1, 2007 the North Dakota Department of Health (NDDoH) West Nile virus (WNV) surveillance program initiated its sixth season of human arboviral encephalitis surveillance. In 2007, the Division of Microbiology conducted WNV testing on 2220 human samples. Three-hundred and sixty-nine positive human cases from 48 counties (highlighted in blue) were reported (Figure 1).

Figure 1. WNV Positive Human Cases by County of Residence, North Dakota, 2007



Of the 369 reported cases, 49 (13%) met the case definition of West Nile encephalitis, with the remaining 320 (87%) cases classified as West Nile fever. Eighty-six of the 369 cases were hospitalized, of which three were fatal. Two symptomatic and 22 asymptomatic blood donors were identified with WNV in 2007.

The peak of illness onset occurred during the week ending August 18, 2007 (Figure 2). This peak was about two weeks later than in 2006 when the peak illness occurred during the week ending August 5, 2006.

The North Dakota State University Veterinary Diagnostic Laboratory (NDVDL) tested 18 horses for WNV infection. Of the 18 samples submitted, four (22%) tested positive for WNV from four counties; Adams, Burleigh, McLean and Richland (Figure 3).

Figure 2. West Nile Cases by Date of Onset, North Dakota, 2007

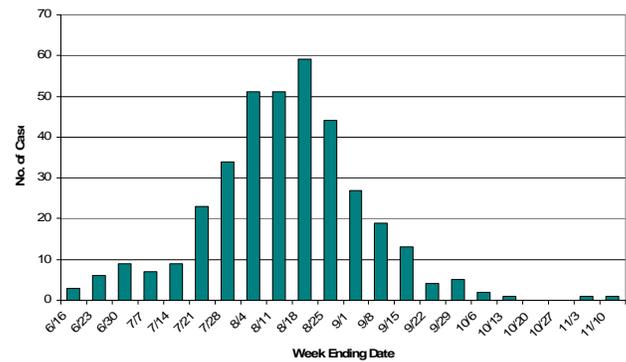


Figure 3. WNV Positive Equine Cases by County of Submission, North Dakota, 2007

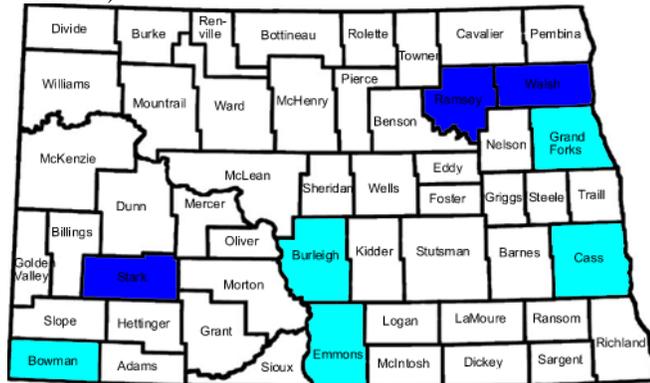


In 2007, dead bird collection continued to focus on birds from the corvid and raptor families. The corvid family includes crows, blue jays, magpies and ravens. The raptor family includes birds of prey such as hawks, eagles, falcons and owls. Eighteen dead birds were collected and sent for WNV testing. Of those, 10 tested positive from five counties.

In addition to dead bird testing, 314 sentinel chicken serums were sent to the NDVDL for WNV testing. Five serums from three counties tested positive for WNV. A total of 15 birds, representing six species (Table 1) and collected in eight counties tested positive for WNV in 2007 (Figure 4).

Figure 4. WNV Positive Avian Cases by County of Submission, North Dakota, 2007

(Counties with dead birds in light blue, & live birds in dark blue).



In 2007, mosquito monitoring was conducted weekly from June to August using 97 NJ light traps from around the state. Since female *Culex tarsalis* mosquitoes are believed to be the primary vector for WNV transmission in the state, these mosquitoes were separated and counted along with the total number. Female *Culex tarsalis* counts peaked approximately the third week in July which is one month prior to the peak of human WNV illness onset. In addition, 73 mosquito pools were tested for WNV by Grand Forks Public Health and the Division of Laboratory services, with seven pools testing positive (see table 2 for county specific data).

Table 1. WNV Positive Bird Species, North Dakota, 2007

North Dakota Bird Species	# WNV Positive
Purple Finch	1
Falcon	2
American Crow	5
Hawk	1
Sage Grouse	1
Chicken	5

Table 2. Number of WNV Cases Per County, North Dakota, 2007

County	Human	Horse	Bird	Pools*
Adams	2	1		
Barnes	3			
Benson	3			
Billings				
Bottineau	1			
Bowman	7		2	
Burke	3			
Burleigh	55	1	1	4
Cass	49		5	
Cavalier	2			
Dickey	10			
Divide	1			
Dunn	4			
Eddy	1			
Emmons	5		1	
Foster				
Golden Valley	2			
Grand Forks	3		1	3
Grant	3			
Griggs	2			
Hettinger	2			
Kidder				
LaMoure	5			
Logan				
McHenry	3			
McIntosh				
McKenzie	3			
McLean	13	1		
Mercer	12			
Morton	23			
Mountrail	7			
Nelson	2			
Oliver	3			
Pembina	3			
Pierce	5			
Ramsey	6		3	
Ransom	6			
Renville	1			
Richland	10	1		
Rolette	3			
Sargent	6			
Sheridan	1			
Sioux	5			
Slope	1			
Stark	18		1	
Steele	2			
Stutsman	21			
Towner	1			
Traill	6			
Walsh	4		1	
Ward	25			
Wells	4			
Williams	12			



Visit www.ndhealth.gov/wnv to find additional information about West Nile virus in North Dakota, to order campaign

materials, view public service announcements, print fact sheets or locate contacts in your area.