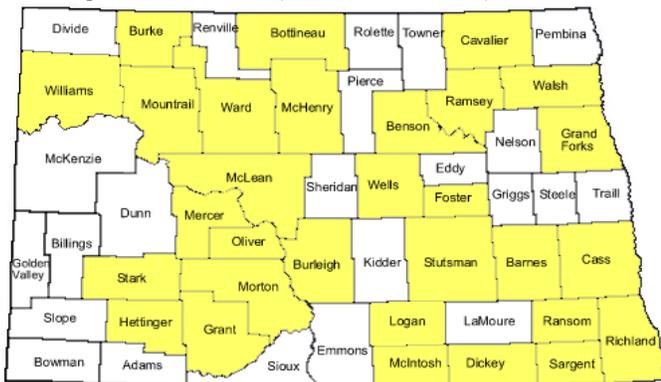


2006 West Nile Virus Summary

On June 1, 2006 the North Dakota Department of Health (NDDoH) West Nile virus (WNV) surveillance program initiated its fifth season of human arboviral encephalitis surveillance. In 2006, the Division of Microbiology conducted WNV testing on 963 human samples. One-hundred and thirty-seven positive human cases from thirty counties (highlighted in yellow) were reported (Figure 1).

Figure 1. WNV Positive Human Cases by County of Residence, North Dakota, 2006



Of the 137 reported cases, 20 (15%) met the case definition of West Nile encephalitis, with the remaining 117 (85%) cases classified as West Nile fever. Thirty-four of the 137 cases were hospitalized and one of which was fatal. One symptomatic and ten asymptomatic blood donors were identified with WNV in 2006.

The peak of illness onset occurred during the week ending August 5, 2006 (Figure 2). This peak was about three weeks earlier than in 2005 when the peak illness occurred during the week ending August 27, 2005.

The North Dakota State University Veterinary Diagnostic Laboratory (NDVDL) tested 23 horses for WNV infection. Of the 23 samples submitted, four (17.4%) tested positive for WNV from four counties; Barnes, Burleigh, Sheridan and Towner (Figure 3).

Figure 2. West Nile Cases by Date of Onset, North Dakota, 2006

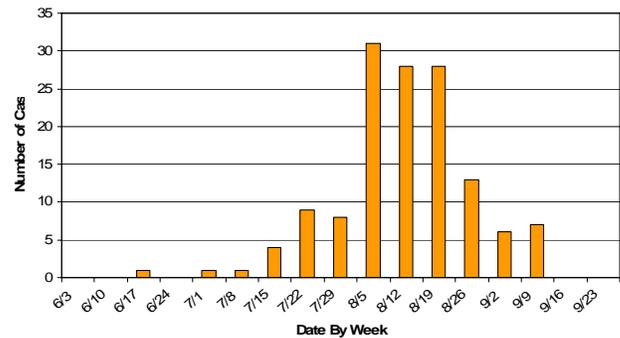
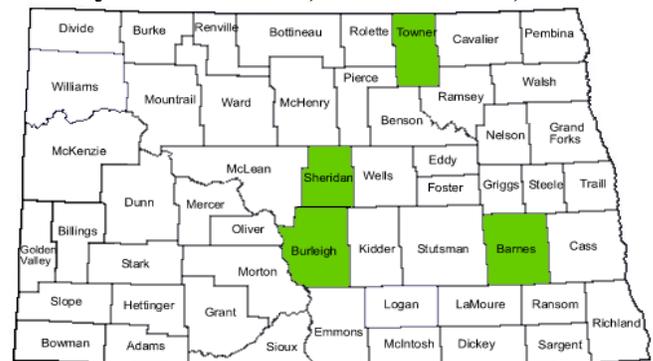


Figure 3. WNV Positive Equine Cases by County of Submission, North Dakota, 2006

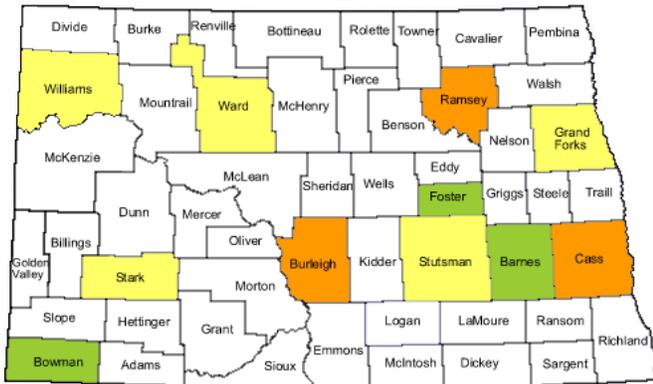


In 2006, dead bird collection continued to focus on birds from the corvid and raptor families. The corvid family includes crows, blue jays, magpies and ravens. The raptor family includes birds of prey such as hawks, eagles, falcons and owls. Thirty-three dead birds were collected and sent for WNV testing. Of those, 10 tested positive from six counties.

In addition to dead bird testing, 754 sentinel chicken serums were sent to the NDVDL for WNV testing. Thirty-six serums from eight counties tested positive for WNV. A total of 46 birds, representing six species (Table 1) and collected in 11 counties tested positive for WNV in 2006 (Figure 4).

Figure 4. WNV Positive Avian Cases by County of Submission, North Dakota, 2006

(*Counties with dead birds in green, live birds in yellow & both dead and live birds in orange).



In 2006, mosquito monitoring was conducted weekly from June to August using 100 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 first week in August which is the same week human WNV illness onset occurred. Four mosquito pools out of the 34 tested in Grand Forks county were positive (see table 2 for county specific data).

Table 1. WNV Positive Bird Species, North Dakota, 2006

North Dakota Bird Species	# WNV Positive
American Crow	3
Blue Jay	1
Chicken	36
Magpie	1
Raven	4
Sage Grouse	1

Table 2. Number of WNV Cases Per County, North Dakota, 2006

County	Human	Horse	Bird	Pools*
Adams				
Barnes	1	1	1	
Benson	4			
Billings				
Bottineau	1			
Bowman			1	
Burke	1			
Burleigh	63	1	9	
Cass	8		8	
Cavalier	1			
Dickey	2			
Divide				
Dunn				
Eddy				
Emmons				
Foster	1		1	
Golden Valley				
Grand Forks	2		4	4
Grant	1			
Griggs				
Hettinger	1			
Kidder				
LaMoure				
Logan	1			
McHenry	2			
McIntosh	1			
McKenzie				
McLean	2			
Mercer	5			
Morton	14			
Mountrail	1			
Nelson				
Oliver	1			
Pembina				
Pierce				
Ramsey	6		8	
Ransom	2			
Renville				
Richland	2			
Rolette				
Sargent	2			
Sheridan		1		
Sioux				
Slope				
Stark	2		8	
Steele				
Stutsman	4		3	
Towner		1		
Traill				
Walsh	2			
Ward	1		1	
Wells	1			
Williams	2		2	

*Mosquito pools tested by Grand Forks Vector Control



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.