

2022 WEST NILE VIRUS ANNUAL SUMMARY

In May 2022, vector control districts in Grand Forks, Cass, Richland and Williams Counties began West Nile virus (WNV) surveillance. PCR and RAMP testing for WNV was conducted on mosquito pools and dead birds. Surveillance ran until September, and results were reported to the NDHHS.

There were 26 human WNV cases reported within 12 counties in North Dakota (**Figure 1**). Of the 26 reported cases, 8 (31%) met the case definition of West Nile neuroinvasive disease and 18 (69%) cases were classified as West Nile fever. Seven of the cases were hospitalized and no cases were fatal. Ten asymptomatic North Dakota blood donors with WNV infections were also reported to the NDHHS in 2022.

Eleven cases were female and 15 were male. Eleven (42%) of cases were age 60 or older. The elderly, especially those over 60, are at an increased risk for severe WNV illnesses (**Table 1**).

Mosquito monitoring was conducted weekly from late May through September in four counties with vector control programs (**Figure 2**).

Culex tarsalis, the main species that transmits WNV in the West/Midwest regions of the United States, typically reaches its peak numbers in North Dakota at the end of July or beginning of August. An increased number of *Culex tarsalis* pose a higher risk for human WNV infection.

Figure 1. Reported WNV Human Cases by County

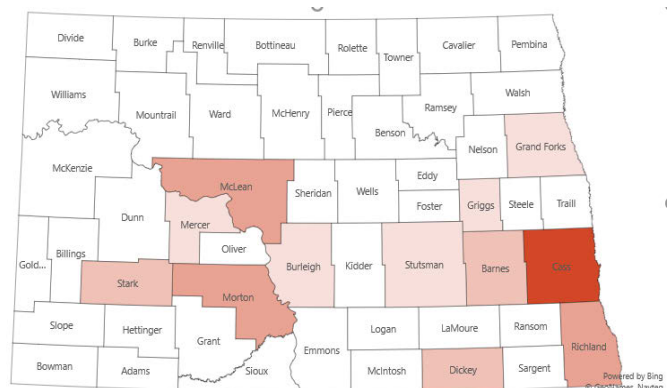


Table 1. WNV Human Cases by Age Group

Age Group	Cases
<10	0
10-19	1
20-29	2
30-39	2
40-49	6
50-59	4
≥60	11

Figure 2. Positive Mosquito Pools by County

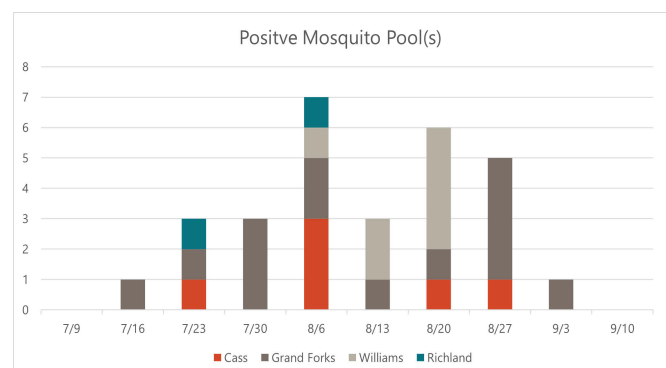


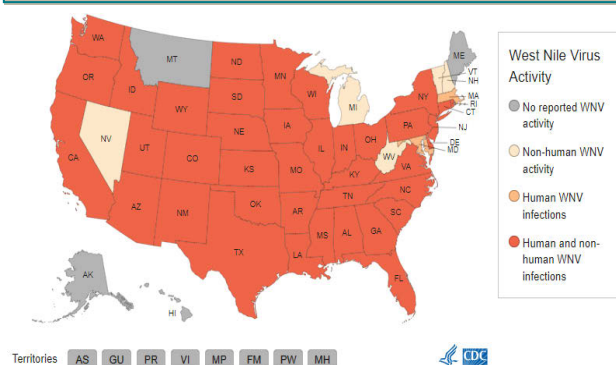
Table 2. WNV Activity by County, 2022

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

The North Dakota Veterinary Diagnostic Laboratory (NDVDL) tests various animals for WNV. In 2022 no animals tested positive (**Table 2**).

Dead bird testing focuses primarily on birds in the Corvidae family, which includes crows, jays, magpies, and ravens. In 2022 one bird tested positive for WNV (**Table 2**).

West Nile Virus in the United States



West Nile Virus Activity by State-United States, 2022 (as of January 10, 2023)

As of January 10th, 2023, there have been 1,035 human cases of WNV reported in 50 states and the District of Columbia in 2022. Of these reported cases, 737 (71.2%) have met the case definition of neuroinvasive disease. There have been 79 reported deaths due to WNV across 25 of the states and the District of Columbia.