



2023 WEST NILE VIRUS ANNUAL SUMMARY

In May 2023, vector control districts in Grand Forks, Cass, Richland and Williams Counties, and state lab employees in the city of Bismarck, 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 North Dakota Department of Health and Human Services (NDHHS).

In 2023 there were 58 cases of human WNV cases reported within 19 counties in North Dakota (Figure 1). Of the 58 cases reported, 32 (55%) met the case definition of West Nile neuroinvasive disease and 26 (45%) cases were classified as West Nile fever. Twenty-six of the cases were hospitalized and two cases were fatal. Fourteen asymptomatic blood donors with WNV infections were also reported to NDHHS in 2023.

Of the 58 total human cases, 17 were female, and 41 were male. Twenty-six (45%) of cases were age 60 or older. The elderly, especially those over 60, are at an increased risk for severe WNV illness (Table 1).

Mosquito monitoring was conducted weekly from late May through September in four counties. The state lab in Bismarck also set traps to collect mosquitoes and test for WNV (Figure 2).

Culex tarsalis, the main species that transmits WNV in the West/Midwest, 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. 2023 WNV Human Cases by County, ND

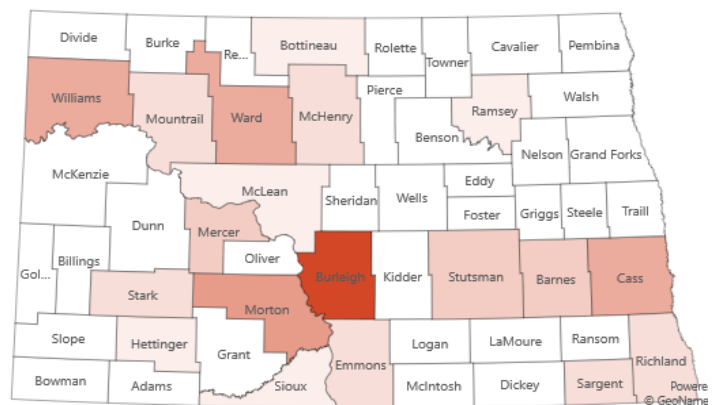


Table 1. 2023 WNV Human Cases by Age Group, ND

Age Group	Cases
<10	0
10-19	0
20-29	7
30-39	6
40-49	11
50-59	8
≥60	26

Figure 2. 2023 Positive Mosquito Pool(s)

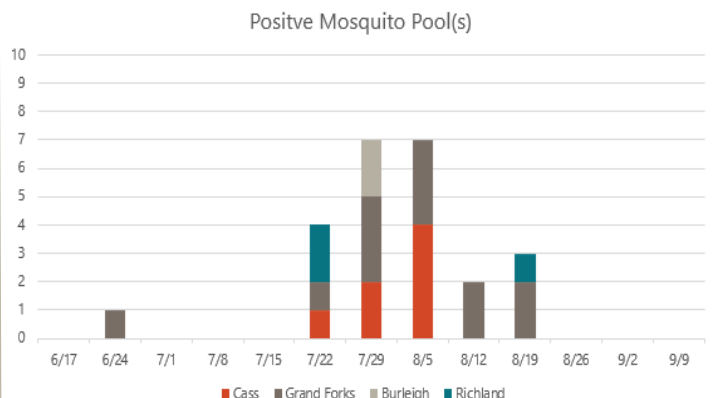


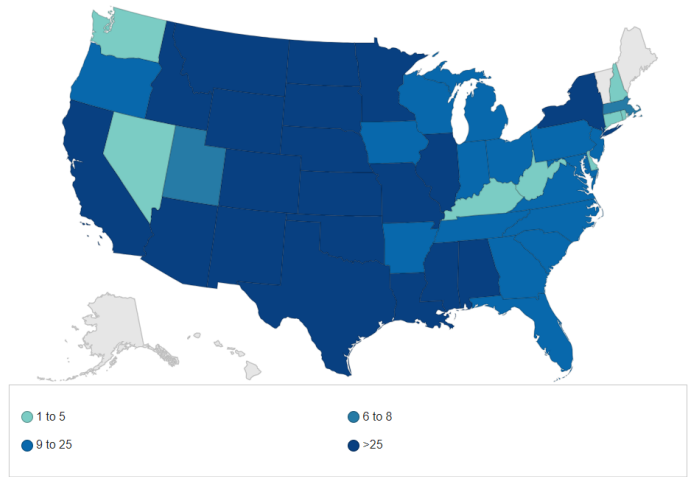
Table 2. WNV Activity by County, 2023

County	Human	Avian/ Veterinary	Live Mosquito Pools
Adams			
Barnes	3		
Benson			
Billings			
Bottineau	1		
Bowman			
Burke			
Burleigh	11		2
Cass	5		7
Cavalier			
Dickey			
Divide			
Dunn			
Eddy			
Emmons	2		
Foster			
Golden Valley			
Grand Forks		1	12
Grant			
Griggs			
Hettinger	1		
Kidder			
LaMoure			
Logan			
McHenry	2		
McIntosh			
McKenzie			
McLean	1		
Mercer	3		
Morton	6		
Mountrail	2		
Nelson			
Oliver			
Pembina			
Pierce			
Ramsey	1		
Ransom			
Renville			
Richland	2		2
Rolette			
Sargent	2		
Sheridan			
Sioux	1		
Slope			
Stark	2		
Steele			
Stutsman	3		
Towner			
Trails			
Walsh			
Ward	5		
Wells			
Williams	5	1	

The North Dakota Veterinary Diagnostic Laboratory (NDVDL) in Fargo, ND, tests various animals for WNV. In 2023 no animals tested positive for WNV (Table 2).

Dead bird testing focused primarily on birds in the Corvidae family, which includes crows, jays, magpies, and ravens. In 2023 two birds tested positive for WNV (Table 2).

**West Nile Virus In the United States, 2023
(results as of January 9th, 2024)**



West Nile Virus in the United States

As of January 9th, 2024, 2,406 human cases of WNV have been reported in 47 states and the District of Columbia for 2023. Of these reported cases, 1,599 (66%) met the case definition of neuroinvasive disease. There have been 162 reported deaths due to WNV across 47 of the states.