



## Highlights

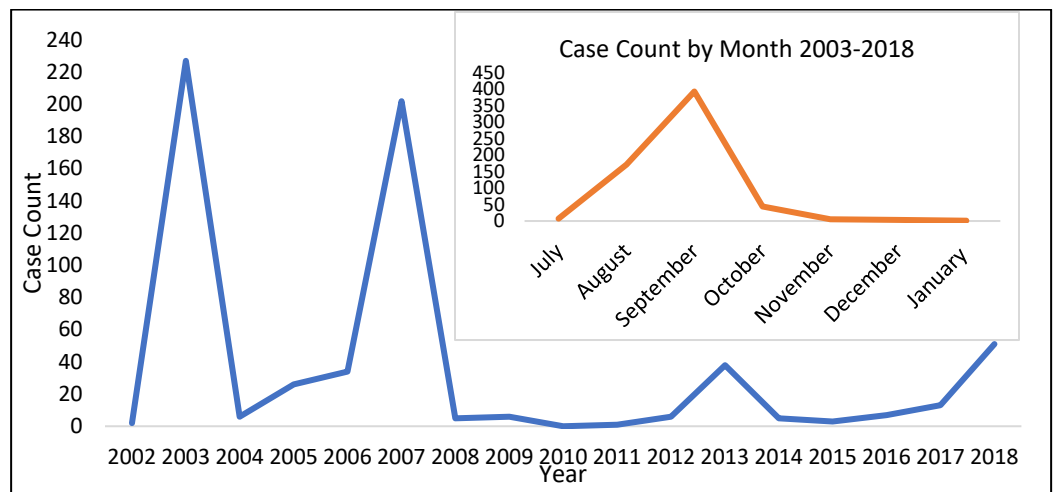
- The Centers for Disease Control and Prevention (CDC) stated in a 2018 Vital Signs report that, “Disease cases from mosquito, tick, and flea bites tripled in the US from 2004-2016.”
- In the same Vital Signs report it was noted that, “Nine new germs spread by mosquitoes and ticks have been discovered or introduced since 2004.”

## In Montana:

- Since WNV surveillance began in 2002, the 2018 season was the third highest in terms of the number of WNV cases reported in Montana.
- **51% (24)** of cases reported in the 2018 WNV season occurred in individuals over 60 years of age.
- **47% (22)** of the cases reported in 2018 were non-neuroinvasive, while **53% (25)** of cases were neuroinvasive.
- There has been a total of 14 deaths related to WNV since surveillance began in 2002.

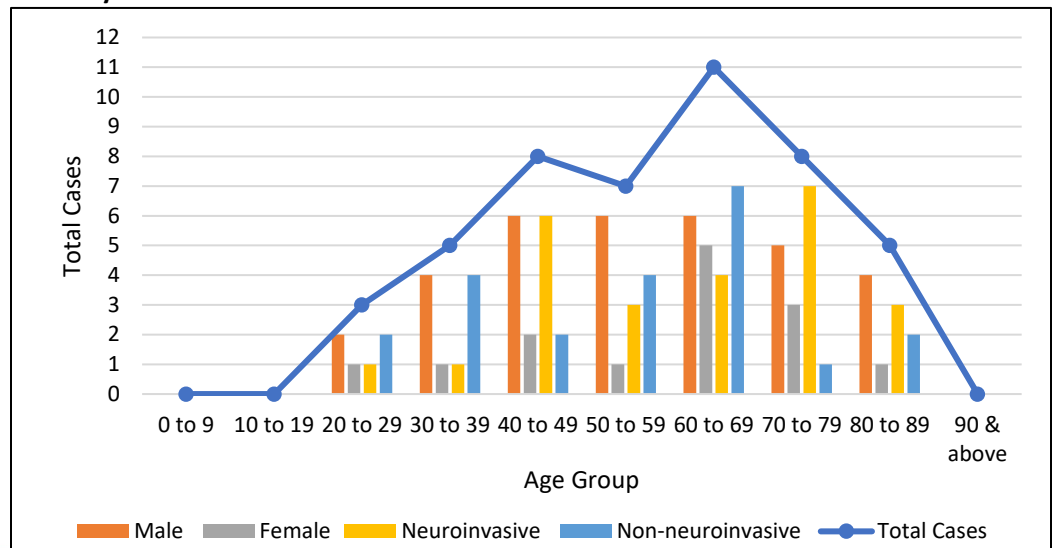
**Data.** WNV is the leading cause of arboviral disease in Montana. In 2018, there were a total of 47 symptomatic human cases, 4 asymptomatic viremic blood donor cases, and 50 equine cases of West Nile Virus (WNV) reported. Since surveillance began in 2002, case counts have varied widely each year. In 2002, when WNV was first reported in Montana, there were two cases, while one year later, in 2003, there were 227 cases reported. The 17-year average, which includes two outbreak years consisting of 200 plus cases, is 37 cases.

**Figure 1. Seasonality of human cases of West Nile Virus – Montana, 2002-2018**



**Risk Factors.** WNV is a vector-borne disease meaning that for individuals to become infected, they must be bitten by an infected mosquito. About one in five individuals infected will develop symptoms, which are often not severe. Serious symptoms can develop in rare cases with approximately 1 in 150 of those infected developing

**Figure 2. Symptomatic West Nile Virus cases by age group, gender, and disease severity for the 2018 season**



infections in or around the brain, also known as neuroinvasive disease. Most cases of WNV occur between July and October in Montana. Individuals over the age of 65 years and those that are immunocompromised are more likely to develop severe or fatal infection. More cases occurred in males (70%) than in females (30%).

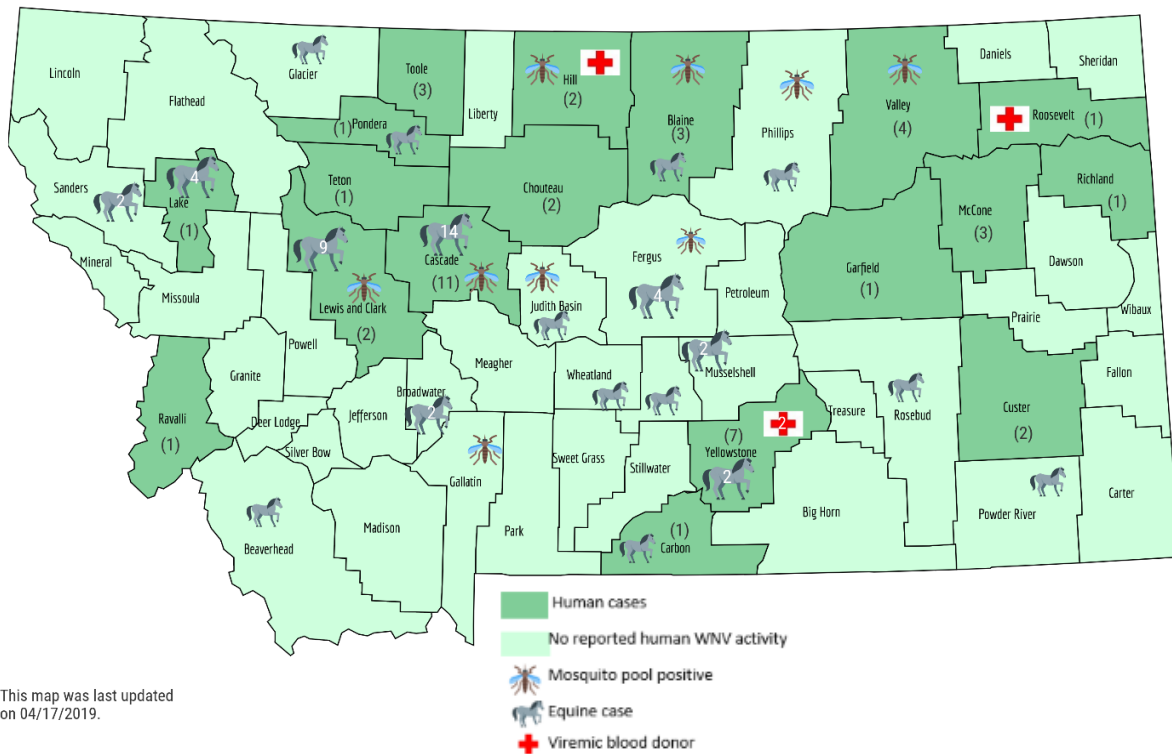
**Geography.** In 2018, a total of 18 counties had at least one case of West Nile Virus reported in a human. Case counts for counties are as follows: Blaine (3), Carbon (1), Cascade (11), Chouteau (2<sup>o</sup>), Custer (2), Garfield (1), Hill (3\*), Lake (1), Lewis and Clark (2), McCone (3), Pondera (1), Ravalli (1), Richland (1), Roosevelt (2\*<sup>o</sup>), Teton (1), Toole (3), Valley (4) and Yellowstone (9\*).

\*viremic (blood donor) cases included    <sup>o</sup> tribal health department counts included in county totals

**Surveillance Efforts.**

In addition to reporting symptomatic human cases, blood donors (asymptomatic), positive equine cases and positive mosquito pools are tracked. In 2018, there were seven counties with positive mosquito pools. Approximately 50 equine cases were reported during the 2018 WNV season. Below is a map summarizing the 2018 WNV activity in Montana.

**West Nile Virus Activity by County  
Montana, 2018**



This map was last updated on 04/17/2019.

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