

West Nile Fever in Montana 2002 – 2014

West Nile Fever is caused by the West Nile Virus (WNV) and transmitted to humans and other mammals primarily through the *Culex* species mosquitos. The virus was first isolated in 1937 from a Ugandan case and is common throughout Africa, Central Asia and the Middle East. In 1999, two human cases of encephalitis and several bird carcasses tested positive for WNV. This was the first time WNV had been detected in the Western Hemisphere. From 2000–2002, WNV migrated from the east coast westward. In 2002, WNV had reached Montana when two people in tested positive for WNV. Since then Montana has been surveying mosquito pools, mammals, birds, and humans for WNV.

Figure 1: Number of WNV Cases: United States and MT 2002–2014

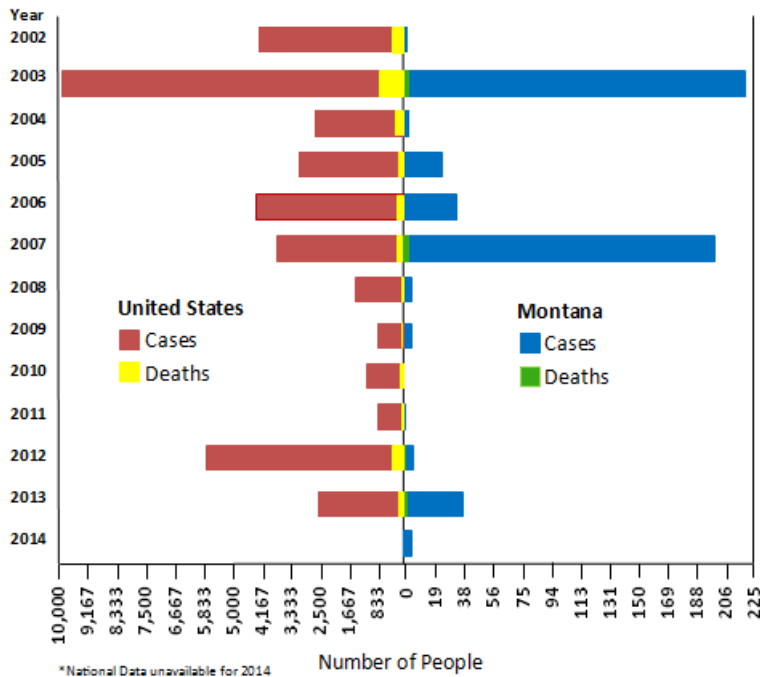
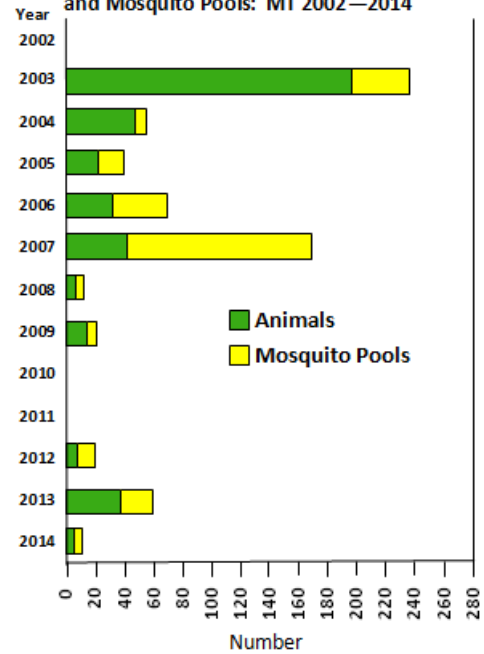


Figure 2: Number of Positive WNV Animal and Mosquito Pools: MT 2002–2014



The WNV is carried in and transmitted between a variety of different mosquitos and birds. Birds are the natural hosts of WNV. Mosquitos infected with WNV bite and infect humans, horses, and other mammals. Female mosquitos can also transmit the virus to their offspring. Uninfected mosquitos cannot become carriers after biting other non-bird, infected animals .

West Nile Fever develops in people who have been infected by the West Nile Virus (WNV). The number of cases in Montana and the United States has varied considerably and are moderately correlated. (Figure 1). Several predictors of increased West Nile Fever cases include presence of WNV in mosquito pools and animals (Figure 2) , summers with above normal temperatures, and warm winters.

Most people infected by the WNV will not become symptomatic. About 20% will develop a Febrile Illness (headache, body aches, joint pains, and vomiting) and less than 1% will develop neurologic illness leading to encephalitis, acute flaccid paralysis, meningitis or other acute signs of central or peripheral neurologic dysfunction. It can be fatal. No medications or vaccine have been found to treat or prevent West Nile Fever.

Recommendations:

- 1) Reduce risk of being bitten by mosquitos by a) wearing light colored long pants and long sleeve shirts, b) use insect repellent with DEET, and c) limit time outside at dawn and dusk when mosquitos are most active.
- 2) Monitor local mosquito and animal WNV positive cases because they precede human cases.
- 3) Support mosquito control districts that spray hot spots to prevent mosquito larva and nymphs from becoming adults.
- 4) Empty standing pools of water in your yard and other potential mosquito breeding pools.