

## West Nile virus Activity Update – September 1, 2017

West Nile virus has been detected in groups of mosquitoes collected from 8 counties in Montana (Prairie, Custer, Hill, Cascade, Blaine, Phillips, Big Horn and Gallatin) in July/August, 2017. There have been 7 reported human cases (Lake, Toole, Lewis and Clark, McCone (2), Richland and Big Horn), and one horse has tested positive in Treasure Co.

WNV is mosquito transmitted; the primary vector in Montana is *Culex tarsalis*. The distribution map below shows that while it is widely dispersed throughout the state, it is particularly abundant along the Hi-Line. The highest densities of this species are found in areas associated with irrigated agriculture, prairie wetlands and riparian areas adjacent to river drainages. These high mosquito density areas are where we typically find WNV, although it has occurred in areas where mosquito densities are lower.

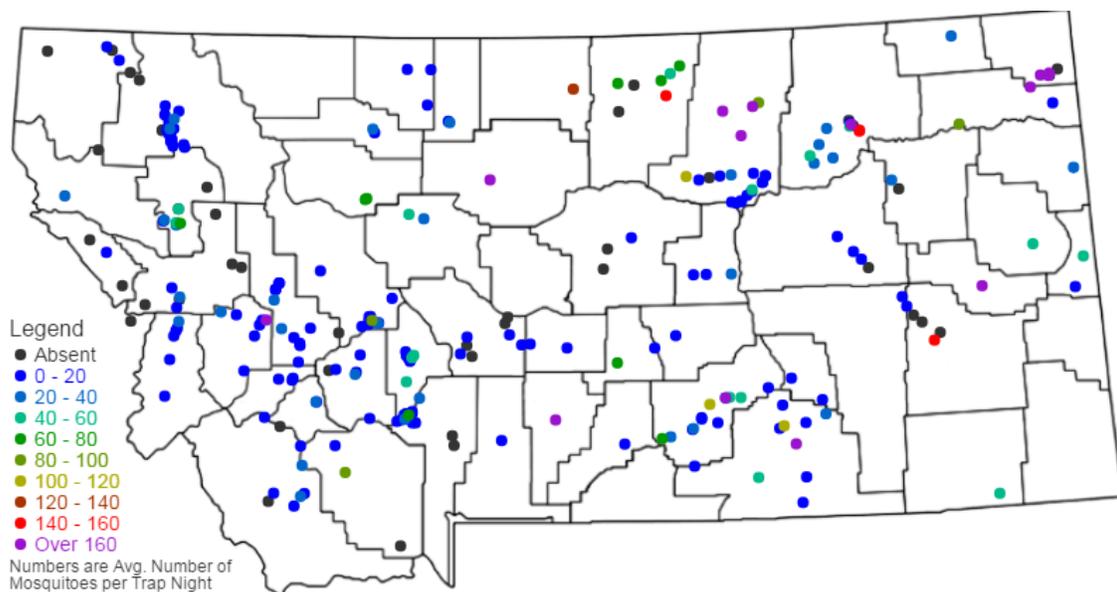


Figure 1. Distribution of *Cx. tarsalis* in Montana. Source: Montana Mosquito Surveillance Database, <http://django.msu.montana.edu/MTmosquito/db/>

Since August is usually the prime time for WNV transmission, there are several things people can do to protect themselves. First, peak biting activity for this species (and many others) is between dusk and midnight. When outside during these hours and mosquitoes are noticeable, it is highly recommended to use an insect repellent that contains either DEET (Tradename OFF), picaridin (Cutter's Advanced), oil of lemon eucalyptus (Repel Lemon Eucalyptus), or IR3535 (Avon Skin-so-soft Bug Guard). According to the Centers for Disease Control and Prevention, these products provide longer-lasting protection compared

to other products. It's also recommended to wear long-sleeved shirts and pants to reduce the amount of exposed skin.

Horses and other equines are also greatly affected by WNV. There are insect repellents available that can be applied to horses as a spray or wipe-on. Many of these products contain either a pyrethroid insecticide plus the synergist piperonyl butoxide or natural products like oil of eucalyptus or lemongrass oil. Some are formulated with a conditioner that binds the repellent to the hair. The duration of effectiveness of these products varies from a few hours to several days, so repeat applications are necessary. To optimize safety and effectiveness, use these repellents according to the label instructions.

Vaccinating horses for WNV is recommended and will protect horses through the summer and into the fall when virus transmission normally occurs. If horses haven't been vaccinated this year and WNV activity is in the area, it would be prudent to get the animals vaccinated now in hopes of protecting them in the event transmission extends into September.