

West Nile Virus (WNV) Surveillance Program in Montana

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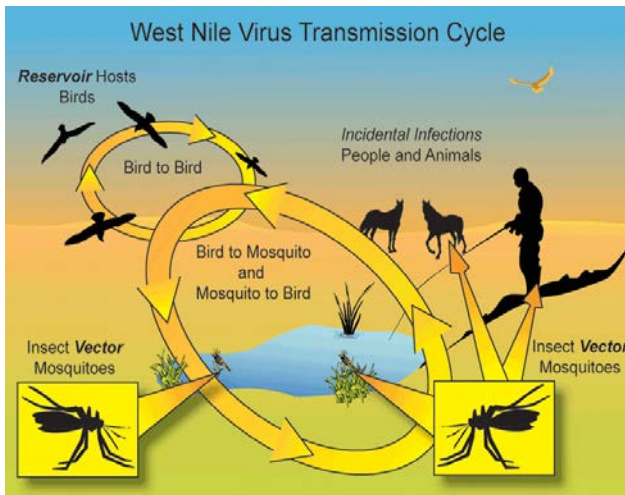


Background

- Vector surveillance provides early detection of potential outbreaks leading to accurate application of vector control, targeted public awareness, and better allocation of medical resources.
- Surveillance requires multiple partners to coordinate activities in a timely manner, execute proper handling and detection methodologies and report results to appropriate agencies. From 2009–2013 students in the Montana West Nile Virus Surveillance Program trapped more than a million mosquitoes, and sorted over 1,500 pools of *Cx. tarsalis* for WNV testing. In total, 57 mosquito pools were confirmed positive by both our laboratory and DPHHS.

Method

- Spatially referenced vector and viral presence have been analyzed in combination with GIS data layers of climatic, geographic and biological factors to develop a spatial risk assessment for WNV in Montana. This model can now be used to improve surveillance by making geographic predictions on where and when WNV-vector populations exist and pose a threat to human, horse and bird health.
- The use of horses in active surveillance programs has allowed for a more complete assessment of risk and should provide model validation



Scientific Advances

- Creation of vector model for Montana
- Baseline measurement of horse exposure to West Nile virus in Montana.

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