West Nile Virus (WNV) appeared on the East Coast of the United States in 1999 and spread across the country, showing up in California in 2003. This is a disease that is spread primarily between birds and Culex mosquitoes, although other mosquitoes may become involved. After acquiring the virus from an infected bird, the newly-infected mosquito can transmit the virus to a human or horse when she takes their blood. Approximately 80% of individuals who become infected show no symptoms. About 20% show flu-like symptoms, including fever, headache, body weakness, nausea, or rash. Less than one percent of victims show serious neurological complications such as tremors, paralysis, or coma. In extreme cases death may result, usually in individuals over 50 years of age.

### WNV surveillance in Albany

The City of Albany has two mosquito species that are capable of transmitting West Nile Virus to humans. Culex tarsalis (the “encephalitis mosquito”) is primarily responsible for spreading the virus within bird populations, but has been known to bite humans as well. Culex pipiens (the “northern house mosquito”) usually bites birds, but often enters homes and bites humans at night. As part of our surveillance program, adult Culex tarsalis and Culex pipiens are live trapped and brought to our lab where they are tested for West Nile Virus infection. In addition, from April through November, we maintain two “sentinel” chicken flocks in Albany. Every two weeks a small sample of chicken blood is tested for antibodies to West Nile Virus infection. To date, in the city of Albany, no WNV positive mosquitoes or WNV positive chicken samples have tested positive for WNV.

### Dead birds

The North American strain of West Nile Virus is lethal to several species of birds. Crows, jays, and raptors are particularly susceptible, and usually succumb to infection. Overall, the CDC reports that over 300 bird species have been found infected with West Nile virus. Finding a WNV dead bird serves as a powerful surveillance tool because it indicates that transmission may have occurred locally. We participate with the California Department of Public Health (CDPH) and the University of California at Davis in collecting recently dead birds and testing them for WNV infection. If you have found a recently dead bird and want it tested for WNV infection, call 1-877-WNV-BIRD (1-877 968-2473) or go to the CDPH website.

### Other mosquito borne diseases

Two newly emerging mosquito-borne viruses, Chikungunya and Zika are of special concern. To date, no locally acquired cases of these diseases have occurred in Albany. For more information, click on the following links:

- [www.cdc.gov/chikungunya](http://www.cdc.gov/chikungunya)
- [www.cdph.ca.gov/HealthInfo/discond/Documents/ChikungunyaFactSheet.pdf](http://www.cdph.ca.gov/HealthInfo/discond/Documents/ChikungunyaFactSheet.pdf)
- [www.cdph.ca.gov/HealthInfo/discond/Documents/ZikaFactSheet.pdf](http://www.cdph.ca.gov/HealthInfo/discond/Documents/ZikaFactSheet.pdf)
WEST NILE VIRUS

DISEASE CYCLE

Bird Migration/Travel Helps Spread/Distribute West Nile Virus

Horses and Other Animals Dead-End Victims

Birds Viremia/Virus Amplification

Adult Female Mosquito

The WNV Disease Cycle Includes:
- Virus From Migrated Birds to Local Mosquitoes
- Local Mosquitoes to Non-Infected Local Birds
- The Virus Replicates in Mosquitoes and Exponentially in Some Birds, Making Virus Transmissibility Easier
- The Viremia is Less in Dead-End Victims, Resulting In Their Exclusion From the WNV Transmission Cycle

Larval Development Cycle in Water

1131 Harbor Bay Parkway, Ste. 166
Alameda, CA 94502
(510) 567-6800 • www.acvcsd.org
Alameda County Department of Environmental Health