



## MOSQUITO and VECTOR MANAGEMENT DISTRICT of Santa Barbara County

# DISEASE SURVEILLANCE REPORT

November 2014

### **Lyme Disease Surveillance**

In January 2014, CDPH personnel collected a Western Black-Legged Tick (*Ixodes pacificus*) in Romero Canyon, Montecito that tested positive for *Borrelia burgdorferi sensu lato*. Further testing has indicated that it was **not** positive for *Borrelia burgdorferi sensu stricto*, the cause of Lyme Disease. More testing may be done to determine if the tick was positive for the related *Borrelia miyamotoi*, a recently discovered human pathogen.

### **West Nile Virus Activity**

Two dead birds from the Santa Ynez Valley tested **positive** for West Nile Virus in October 2014. This is the only West Nile Virus (WNV) activity that has been detected in Santa Barbara County in 2014. During summer and early fall 2014, infection rates of mosquitoes with WNV in California were at the highest levels since the disease arrived in 2003. As of November 30, 2014, 769 confirmed human cases (29 fatal) have been documented from 31 California counties. A total of 2,430 dead birds from 36 counties have tested positive for the disease. 3,338 WNV positive mosquito pools have been reported from 30 counties. A total of 440 WNV positive sentinel chickens from 95 flocks have been reported from 23 counties. Very high levels of WNV were detected in Los Angeles, Orange, and Santa Clara Counties. One human case and 7 dead birds have been reported from Ventura County, mostly from the western part of the county. A horse case of WNV has been confirmed in northern San Luis Obispo County.

Statistics for California WNV activity can be found online at [www.westnile.ca.gov](http://www.westnile.ca.gov). National statistics for WNV can be found at the National Centers for Disease Control and Prevention website at [www.cdc.gov](http://www.cdc.gov).

### **Yellow Fever Mosquito Update**

The Greater Los Angeles County Vector Control District has reported finding more Yellow Fever Mosquitoes (*Aedes aegypti*) in the City of Commerce. Some of them were collected by trapping in the underground storm drains. Colonizing the storm drain system is a development that could lead to the species spreading far and wide. In San Diego County, more specimens of *Ae. aegypti* have been collected on and adjacent to the Naval Base, the site of the earlier find. A number of specimens were also collected in the City of Chula Vista.

### **West Nile Virus Dead Bird Submissions**

The District submitted one dead bird in November 2014, a Sparrow from the City of Santa Barbara. Laboratory results on the Sparrow are pending. Two dead birds from the Santa Ynez Valley tested positive for WNV in October 2014. These are the only indications of WNV activity in Santa Barbara County in 2014. The Dead Bird Hotline has been inactivated for the winter. However the District has made arrangements with the California Department of Public Health to continue testing certain species of birds reported online at [www.westnile.ca.gov](http://www.westnile.ca.gov) through the winter. The District will submit Crows, Jays, Magpies, Ravens, Hawks, Sparrows, and Finches when CDPH approves.

The MVCAC Board of Directors has approved funding the West Nile Virus Dead Bird Hotline for 2015. The Hotline will be fully staffed and functional again in spring 2015.

Citizens can report dead birds to the California Department of Public Health's toll free West Nile Virus Dead Bird Hotline (1-877-968-2473 or 1-877-WNV-BIRD) or online at [www.westnile.ca.gov](http://www.westnile.ca.gov). Local agencies will pick up the dead birds and collect samples via oral swabs that are transferred to RNase cards. The RNase cards are dried outdoors for at least two hours then mailed to the U.C. Davis Center for Vector-Borne Diseases where the samples will be analyzed for West Nile Virus.

## Sentinel Chicken Flocks

District staff is transitioning to once per month bleeding of the 4 active chicken flocks for the winter season. The flock at the USFS Ranger Station on Paradise Rd. has been inactivated for winter. Two of the chickens from that flock were transferred to the Goleta flock as replacements for losses that occurred there. The other 8 chickens from the Ranger Station were adopted by Forest Service personnel. All blood samples from all flocks have tested negative for WNV and other mosquito-borne viruses in 2014 to date.

Samples of blood are collected from each chicken on strips of filter paper and dried overnight. They are then submitted to the California Department of Public Health Vector-Borne Disease Laboratory at Richmond, California where they are analyzed for antibodies to WNV and other mosquito-borne viruses.

## Live Mosquito-Borne Virus Surveillance

The District submitted 318 mosquito sample pools for laboratory analysis in 2014. All tested negative for WNV and other mosquito-borne viruses. The 318 sample pools are well short of the District's record of 529 pools in 2011, but is more than might have been expected for such dry year. Live mosquito-borne virus surveillance will resume in spring 2015.

This surveillance technique utilizes battery-powered traps that use dry ice as a source of carbon dioxide to attract adult female mosquitoes that are actively seeking a blood meal. The live female mosquitoes are taken into the District's laboratory where they are anesthetized with triethylamine under the fume hood. They are then separated by species using a stereo zoom microscope and placed into "pools." The pools (1 pool = up to 50 adult female mosquitoes of a single species collected at one place at one time) are stored in the District's ultra-low temperature freezer at  $-70^{\circ}\text{C}$  until they can be submitted to the U.C. Davis Center for Vector-Borne Diseases at Davis, California where they are analyzed for the presence of live mosquito-borne viruses including WNV.

