



## MOSQUITO and VECTOR MANAGEMENT DISTRICT of Santa Barbara County

# DISEASE SURVEILLANCE REPORT

November 2015

### **West Nile Virus Activity**

In 2015 to date Santa Barbara County has had three dead birds from the Goleta Valley and Santa Ynez along with a sample pool of mosquitoes collected at Lake Los Carneros, City of Goleta test positive for West Nile Virus (WNV). Ventura County has had even more significant WNV activity with 6 confirmed human cases (two fatal), 26 positive dead birds, and 11 positive sentinel chickens.

Throughout California there have been 637 confirmed human cases of WNV (38 fatal) from 30 counties. A total of 1,323 WNV positive dead birds have been collected in 37 counties along with 3,280 WNV positive mosquito pools from 29 counties. Also, 442 WNV positive sentinel chickens in 96 flocks have been reported from 22 counties.

Additionally, 38 mosquito pools and 8 sentinel chickens from 2 flocks from the Coachella Valley have tested positive for St. Louis Encephalitis (SLE). SLE is a native virus similar and closely related to WNV.

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).

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

The District did not submit any dead bird samples in November 2015. Three dead bird samples submitted in late September and October 2015 tested positive for WNV. All were Crows, two from Santa Ynez and one from the Goleta Valley.

The CDPH West Nile Virus Dead Bird Hotline closed down for the winter season on October 15, 2015. However, citizens can still report dead birds at [www.westnile.ca.gov](http://www.westnile.ca.gov). In light of the late season positive birds, the District has made arrangements with CDPH to continue testing approved dead birds through the winter season. The Hotline will resume full operations in spring 2016.

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**

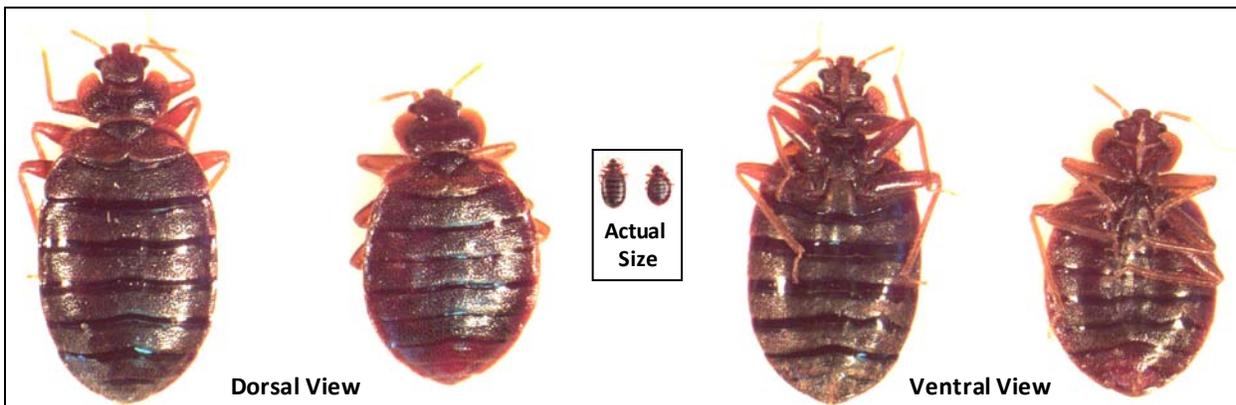
The District is switching over to once per month sampling of the chicken flocks at Carpinteria, Goleta, Solvang, and Mission Hills for the winter season. The flock at the Ranger Station on Paradise Road has been shut down for the winter. The chickens from that flock have been adopted by Forest Service personnel. In 2015 to date all samples have tested negative for WNV and other mosquito-borne encephalitis viruses.

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 did not conduct any mosquito trapping surveys in November 2015. The District submitted 227 sample pools for laboratory analysis in 2015. This is a very representative amount for the fourth year of a severe drought, though far less than the District's record of 529 pools submitted in 2011. Only one pool tested positive for WNV in 2015; a pool of 50 Encephalitis Mosquitoes (*Culex tarsalis*) collected at Lake Los Carneros, Goleta on April 1-2. Live mosquito-borne virus surveillance will resume in spring 2016.

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.



### COMMON BED BUG (*Cimex lectularius*)

Bed Bugs are blood-feeding insects that are **not** known to transmit any diseases to humans. Some researchers have recently claimed that Bed Bugs can transmit Chagas Disease to humans, but this is not generally accepted. Bed Bugs live as crack and crevice dwellers in buildings. Infestation of buildings with Bed Bugs was a very common problem, even in high class hotels, until the advent of chemical pest control in the early 20th Century. In recent years these problems have reappeared for reasons that are not yet fully understood. The District is experiencing an increasing number of inquiries from the public for information and assistance with Bed Bug infestations. Most of the requests for assistance are due to landlord-tenant situations. The specimens illustrated above were collected recently by District technicians investigating one such situation. The specimen on the left in both views is partially engorged with blood. *These specimens are darker colored than normal due to their having been in the District's low temperature freezer for some time.*