



## MOSQUITO and VECTOR MANAGEMENT DISTRICT of Santa Barbara County

# DISEASE SURVEILLANCE REPORT

**July 2016**

### **West Nile Virus Activity**

No West Nile Virus (WNV) activity has been detected in Santa Barbara County in 2016 to date. Three confirmed human cases of WNV have been reported from Fresno, Los Angeles, and Yuba counties. 715 WNV positive dead birds have been reported from 26 California counties. A total of 1,487 WNV positive mosquito pools have been reported from 30 counties along with 73 WNV positive sentinel chickens from 28 flocks in 11 counties. Ventura County has reported 10 WNV positive dead birds, mostly from Simi Valley. These figures are significantly higher than those from the same time in 2015.

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).

### **Saint Louis Encephalitis Virus Activity**

A total of 66 mosquito pools, 42 from Kern County and 24 from the Coachella Valley, Riverside County have tested positive for St. Louis Encephalitis (SLE). SLE is a native mosquito-borne virus that is very similar to WNV. Both are in the family Flaviviridae.

### **Zika Virus and Invasive *Aedes* Mosquito Update**

Florida has recently reported local transmission of Zika virus, the first in the continental United States. There have been imported cases of Zika virus into California, but no locally transmitted cases. Invasive *Aedes* spp. mosquitoes have now been found in at least 84 cities and communities in 12 California counties. Significant activity has been reported for all three invasive *Aedes* species in most areas with known infestations. Zika virus information can be found at <http://www.cdph.ca.gov/HealthInfo/discond/Pages/Zika.aspx> and at <http://www.cdc.gov/zika/>.

### **Live Mosquito-Borne Virus Surveillance**

The District conducted 10 mosquito trapping surveys in July 2016. The surveys include the use of both carbon dioxide baited Encephalitis Virus Surveillance (EVS) traps and the human scented BG-Sentinel traps. The results of the surveys are shown in the table below. The District has submitted 127 sample mosquito pools in 2016 to date. All pools tested have been negative for WNV and other mosquito-borne viruses.

LOCATION	DATE	NUMBER of MOSQUITOES	NUMBER of TRAPS <sup>^</sup>	MOSQUITOES PER TRAP NIGHT*	POOLS SUBMITTED	RESULT
El Estero Wastewater Plant, Santa Barbara	7/7-8/16	246	12 EVS/3 BG	16.4	6	Negative
Andree Clark Bird Refuge, Santa Barbara	7/11-12/16	26	12 EVS/2 BG	1.9	1	Negative
Bailey Wetland, Lompoc City	7/19-20/16	68	4 EVS	17.0	2	Negative
Santa Ynez River @ Floradale Ave., Lompoc	7/19-20/16	103	4 EVS	25.8	2	Negative
Club House Rd., Vandenberg Village	7/19-20/16	288	3 EVS	96.0	7	Negative
East end of Burton Mesa Blvd., Mission Hills	7/19-20/16	27	3 EVS	9.0	0	N.A.
UCSB/Santa Barbara Airport Bluffs	7/21-22/16	198	11 EVS	18.0	5	Negative
UCSB Main Campus	7/21-22/16	7	3 BG	2.3	0	N.A.
Sandpiper Mobile Home Park, Carpinteria	7/20-22/16	0	2 BG	0	0	N.A.
Jalama Beach County Park	7/25-26/16	268	12 EVS	22.3	5	Negative

\* Mosquitoes Per Trap Night = Number of Mosquitoes ÷ (Number of Traps x Number of Nights)

<sup>^</sup> EVS = CO<sub>2</sub> trap      BG = BG-Sentinel invasive *Aedes* mosquito trap

This surveillance technique utilizes battery-powered Encephalitis Virus Surveillance (EVS) traps that use dry ice as a source of carbon dioxide along with human scented BG-Sentinel traps 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°C until they can be submitted to the Davis Arbovirus Research and Training (DART) laboratory on the U.C. Davis campus where they are analyzed for the presence of live mosquito-borne viruses including WNV.

### **Sentinel Chicken Flocks**

District personnel are taking samples from all five sentinel chicken flocks every two weeks. All samples submitted in 2016 to date have been negative for WNV and other mosquito-borne 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 encephalitis viruses.

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

The District did not submit any dead bird samples in July 2016. All dead bird samples submitted by the District in 2016 to date have been negative for WNV.

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 Davis Arbovirus Research and Training (DART) laboratory on the U.C. Davis campus where the samples will be analyzed for West Nile Virus.

### **Bubonic Plague Surveillance**

On July 13, 2016 District personnel assisted California Department of Public Health biologists conducting a plague survey at Los Prietos Campground along Paradise Road in the Los Padres National Forest.

Dubonic plague (*Yersinia pestis*)'y cu'pqvf gvgvfg