



## MOSQUITO and VECTOR MANAGEMENT DISTRICT of Santa Barbara County

# DISEASE SURVEILLANCE REPORT

**June 2015**

### West Nile Virus Activity

No further West Nile Virus (WNV) activity has been detected in Santa Barbara County since a sample pool of mosquitoes collected at Lake Los Carneros, City of Goleta on April 1-2, 2015 tested positive for the disease. Throughout California, a total of 101 WNV positive dead birds have been collected in 23 counties along with 180 WNV positive mosquito pools from 18 counties. Also, 3 WNV positive chickens have been reported from 2 counties. One of the dead birds, a Crow, was collected in Simi Valley, Ventura 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).

### Live Mosquito-Borne Virus Surveillance

The District conducted 18 mosquito trapping surveys in June 2015. The results are shown in the table below. No more sample pools have tested positive since a pool of 50 Encephalitis Mosquitoes (*Culex tarsalis*) collected at Lake Los Carneros, Goleta on April 1-2, 2015 tested positive for WNV.

LOCATION	DATE	NUMBER of MOSQUITOES	NUMBER of TRAPS	MOSQUITOES PER TRAP NIGHT*	POOLS SUBMITTED	RESULT
Orcutt Creek @ Bradley Rd., Orcutt	6/2-3/15	22	3	7.3	0	N.A.
Orcutt Creek @ Broadway, Orcutt	6/2-3/15	145	7	20.7	4	Negative
Lake Marie Subdivision, Orcutt	6/2-3/15	19	4	4.8	0	N.A.
Lake Los Carneros, Goleta	6/4-5/15	71	12	5.9	3	Negative
El Estero Wastewater Plant, Santa Barbara	6/8-9/15	155	14	11.1	5	Negative
Bailey Wetland, Lompoc	6/15-16/15	32	4	8.0	1	Negative
Santa Ynez River @ Floradale Ave., Lompoc	6/15-16/15	191	4	47.8	4	Negative
Club House Rd., Vandenberg Village	6/15-16/15	66	4	16.5	2	Negative
E. end of Burton Mesa Blvd., Mission Hills	6/15-16/15	13	4	3.3	0	N.A.
Chumash Park, Pismo Beach	6/18-19/15	227	4	56.8	3	Pending
Pismo Creek, Pismo Beach	6/18-19/15	26	3	8.7	0	N.A.
Leroy Park, Guadalupe	6/18-19/15	14	6	2.3	1	Pending
Sage Hill Campground, upper S. Ynez Valley	6/23-24/15	198	4	49.5	4	Pending
Cachuma Village, Santa Ynez Valley	6/23-24/15	58	3	19.3	1	Pending
Fjord Dr., Solvang	6/23-14/15	12	6	2.4	0	N.A.
Riverview Park, Buellton	6/23-24/15	19	5	3.8	0	N.A.
Andree Clark Bird Refuge, Santa Barbara	6/25-26/15	6	13	0.5	0	N.A.
UCSB/Santa Barbara Airport Bluffs	6/29-30/15	382	12	31.8	9	Pending

\*Mosquitoes Per Trap Night = Number of Mosquitoes ÷ (Number of Traps x 1 Night)

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°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.

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

The District did not submit any dead bird samples in June 2015. All dead bird samples submitted in 2015 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 U.C. Davis Center for Vector-Borne Diseases where the samples will be analyzed for West Nile Virus.

### **Sentinel Chicken Flocks**

District personnel are obtaining blood samples from the District's 5 sentinel chicken flocks every two weeks. 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.

### **Bubonic Plague Surveillance**

District personnel assisted personnel from the California Department of Public Health/Vector-Borne Disease Section with a Bubonic Plague survey at Figueroa Campground in the Los Padres National Forest near Los Olivos on June 10, 2015. A total of 9 California Ground Squirrels were trapped during the survey. Blood and flea samples were collected from all of the squirrels. The squirrels were then released. Laboratory results for the samples are pending.

### **Tick-Borne Disease Surveillance**

Concurrently with the Bubonic Plague survey, District and CDPH personnel surveyed the nearby Fir Canyon Trail for ticks. Only a small number of *Dermacentor* sp. ticks were collected. Laboratory results are pending.



### **CALIFORNIA GROUND SQUIRREL (*Otospermophilus beecheyi*)**

Ground Squirrels and Chipmunks are the primary reservoirs of Bubonic Plague in California. Ground Squirrels are considered to be an "amplifying host" of the disease. This means that when Plague bacteria (*Yersinia pestis*) gets into the squirrel population, levels of the bacteria increase dramatically and the disease can spread rapidly. The vector of Plague in Ground Squirrel populations is the California Ground Squirrel Flea (*Diamanus montana*).