



## MOSQUITO and VECTOR MANAGEMENT DISTRICT of Santa Barbara County

# DISEASE SURVEILLANCE REPORT

October 2015

### **West Nile Virus Activity**

Three dead birds from the Goleta Valley and Santa Ynez tested positive for West Nile Virus (WNV) - *see details below*. This is the first indication of WNV activity 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. Ventura County has had even more significant WNV activity with 5 confirmed human cases (one a fatality in Simi Valley), 26 positive dead birds, and 7 positive sentinel chickens.

Throughout California there have been 469 confirmed human cases of WNV (28 fatal) from 30 counties. A total of 1,219 WNV positive dead birds have been collected in 37 counties along with 3,006 WNV positive mosquito pools from 29 counties. Also, 385 WNV positive sentinel chickens in 89 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).

### **Invasive Mosquito Species Update**

Yellow Fever Mosquito (*Aedes aegypti*) has now been found in Riverside and San Bernardino Counties. Multiple new infestations have recently been found in San Diego County and the infestation in eastern Los Angeles County is expanding. *Ae. aegypti* infestations have been discovered in a total of 12 California Counties. Asian Tiger Mosquito (*Aedes albopictus*) has now been found in Kern and San Diego Counties. The *Ae. albopictus* infestation in Los Angeles County is also expanding and now encompasses 20 cities.

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

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. This is the second consecutive year that Santa Barbara County has had its first WNV positive dead birds of the year so very late in the season.

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.

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

The District conducted 8 mosquito trapping surveys in October 2015. The results are shown in the table below. The District has submitted 227 sample pools for laboratory analysis in 2015. There will probably be no further submissions in 2015. Only the pool of 50 Encephalitis Mosquitoes (*Culex tarsalis*) collected at Lake Los Carneros, Goleta on April 1-2, 2015 has tested positive for WNV.

| LOCATION                                   | DATE        | NUMBER of MOSQUITOES | NUMBER of TRAPS | MOSQUITOES PER TRAP NIGHT* | POOLS SUBMITTED | RESULT   |
|--|-------------|----------------------|-----------------|----------------------------|-----------------|----------|
| El Estero Wastewater Plant, Santa Barbara  | 10/6-7/15   | 41                   | 13              | 3.2                        | 2               | Negative |
| UCSB/Santa Barbara Airport Bluffs          | 10/8-9/15   | 40                   | 12              | 3.3                        | 2               | Negative |
| Sage Hill Campground, upper S. Ynez Valley | 10/12-13/15 | 57                   | 4               | 14.3                       | 1               | Negative |
| Santa Ynez County Park, Santa Ynez         | 10/12-13/15 | 8                    | 4               | 2.0                        | 0               | N.A.     |
| Alamo Pintado Creek, Solvang/Santa Ynez    | 10/12-13/15 | 9                    | 5               | 1.8                        | 0               | N.A.     |
| Fjord Dr., Solvang                         | 10/12-13/15 | 32                   | 5               | 6.4                        | 0               | N.A.     |
| Jalama Creek, Jalama Beach County Park     | 10/21-22/15 | ~8,165               | 11              | ~742.3                     | 15              | Negative |
| Lake Los Carneros, Goleta                  | 10/27-28/15 | 9                    | 13              | 0.7                        | 0               | N.A.     |

\*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.

### 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.



### American Crow (*Corvus brachyrhynchos*)

The American Crow is the bird species most susceptible to West Nile Virus along with other members of the family Corvidae (Ravens, Jays, Magpies). They are also large and very common birds that are highly visible. For these reasons, dead crows are often the first indicators of WNV activity. Freshly dead crows and other dead birds should be reported to California's West Nile Virus Dead Bird Hotline at 1-877-968-2473 or [www.westnile.ca.gov](http://www.westnile.ca.gov).

**MOSQUITO TRAPPING SURVEY, JALAMA BEACH COUNTY PARK, OCTOBER 21-22, 2015**



**Mosquitoes trapped at Jalama Beach County Park on October 21-22, 2015.**



**Various mosquitoes species trapped at Jalama Beach County Park on October 21-22, 2015.**



**Tule Mosquitoes (*Culex erythrothorax*) trapped at Jalama Beach County Park on October 21-22, 2015.**



**Placing mosquitoes into "pools" on 10/22/2015.**

**Carbon dioxide baited EVS mosquito trap; the type used at Jalama Beach County Park. →**

