



## MOSQUITO and VECTOR MANAGEMENT DISTRICT of Santa Barbara County

# DISEASE SURVEILLANCE REPORT

August 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. High levels of WNV have been reported in other parts of California. Eighty-three human cases (2 fatal) have been confirmed from 19 counties. A total of 581 WNV positive dead birds have been collected in 36 counties along with 2,073 WNV positive mosquito pools from 29 counties. Also, 174 WNV positive sentinel chickens in 49 flocks have been reported from 20 counties. Six dead birds and 3 sentinel chickens have been reported in Ventura County. One of the dead birds was from Ojai. The others were all from Simi Valley and Moorpark.

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).

### St. Louis Encephalitis Virus Activity

Twenty-one mosquito pools from the Coachella Valley have tested positive for St. Louis Encephalitis (SLE) in August 2015. This is the first detection of SLE activity in California since 2003, the same year that WNV first arrived in California. Several of the pools were positive for both SLE and WNV. SLE activity has also been detected concurrently in Phoenix, Arizona.

### Second Bubonic Plague Human Case in Yosemite

A Georgia resident became ill with Bubonic Plague after recently visiting Yosemite National Park. This is the second human case of Plague in Yosemite National Park since mid-July 2015 when a child visiting from Los Angeles County became ill from the disease. In response, the California Department of Public Health is conducting surveillance for Plague at campgrounds in the Park. Plague activity was detected at some of the campgrounds. Those campgrounds were closed in order to dust Ground Squirrel burrows with deltamethrin, a pyrethroid insecticide, to kill the fleas that vector the Plague bacteria (*Yersinia pestis*).

### Live Mosquito-Borne Virus Surveillance

The District conducted 9 mosquito trapping surveys in August 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
UCSB/Santa Barbara Airport Bluffs	8/5-6/15	196	13	15.1	5	Negative
Sage Hill Campground, upper S. Ynez Valley	8/10-11/15	165	4	41.3	4	Negative
Cachuma Village, Santa Ynez Valley	8/10-11/15	22	3	7.3	0	N.A.
Fjord Dr., Solvang	8/10-11/15	25	6	4.2	0	N.A.
Riverview Park, Buellton	8/10-11/15	18	4	4.5	0	N.A.
Carpinteria Salt Marsh, Carpinteria	8/17-18/15	90	11	8.2	2	Negative
Lake Los Carneros, Goleta	8/19-20/15	17	12	1.4	0	N.A.
Jalama Creek, Jalama Beach County Park	8/20-21/15	~1,158	11	~105.3	11	Negative
Tecolote Creek, Rancho Embarcadero	8/25-26/15	10	11	0.9	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.

### West Nile Virus Dead Bird Submissions

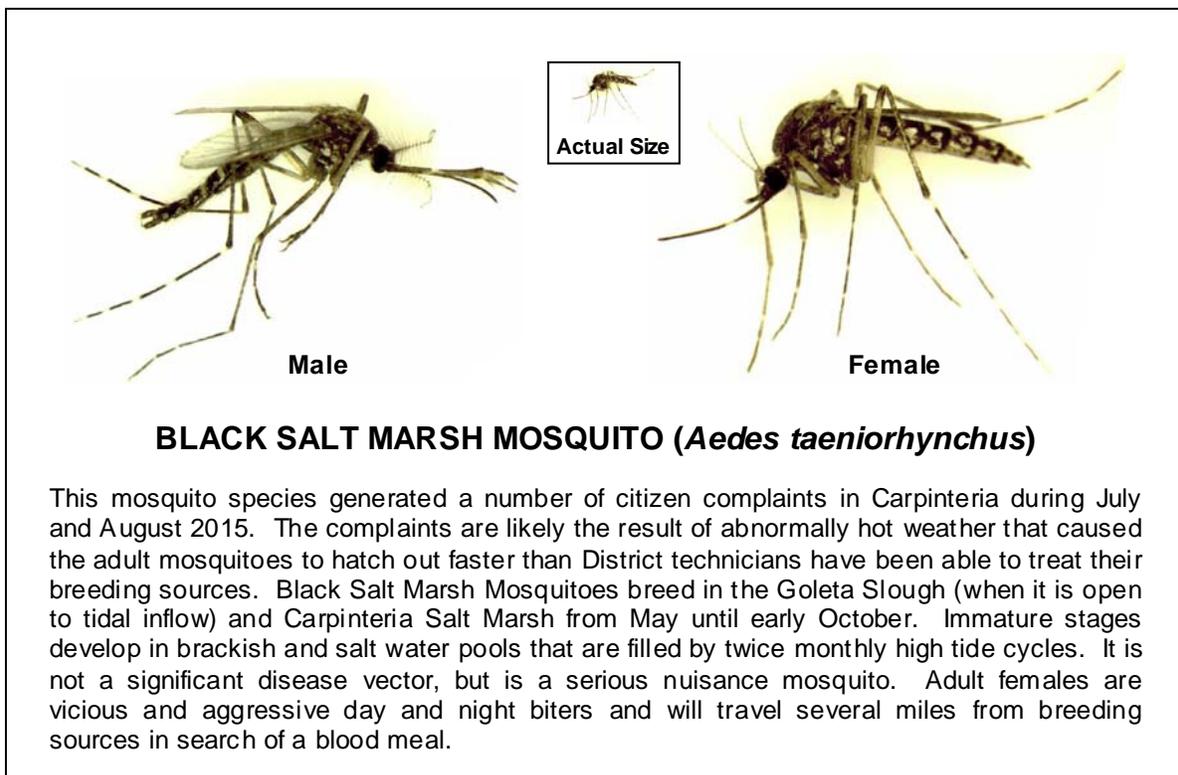
The District submitted one dead bird sample in August 2015, a Great Horned Owl from the City of Goleta. The Owl, found by District technicians in Glen Annie Creek, tested negative for WNV. All dead bird samples submitted in 2015 to date have been negative for WNV.

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.



This mosquito species generated a number of citizen complaints in Carpinteria during July and August 2015. The complaints are likely the result of abnormally hot weather that caused the adult mosquitoes to hatch out faster than District technicians have been able to treat their breeding sources. Black Salt Marsh Mosquitoes breed in the Goleta Slough (when it is open to tidal inflow) and Carpinteria Salt Marsh from May until early October. Immature stages develop in brackish and salt water pools that are filled by twice monthly high tide cycles. It is not a significant disease vector, but is a serious nuisance mosquito. Adult females are vicious and aggressive day and night biters and will travel several miles from breeding sources in search of a blood meal.