



MOSQUITO and VECTOR MANAGEMENT DISTRICT of Santa Barbara County

DISEASE SURVEILLANCE REPORT

December 2016

West Nile Virus Activity

No West Nile Virus (WNV) activity was detected in Santa Barbara County in 2016. 421 confirmed human cases (18 fatal) of WNV were reported from 30 California counties. 1,350 WNV positive dead birds were reported from 33 California counties. A total of 3,519 WNV positive mosquito pool were reported from 31 counties along with 343 WNV positive sentinel chickens from 82 flocks in 19 counties. Ventura County reported two human cases and 34 WNV positive dead birds, mostly from Simi Valley. San Luis Obispo County reported one asymptomatic human blood donor case of WNV.

Statistics for California WNV activity can be found online at 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.

Saint Louis Encephalitis Virus Activity

In 2016 three human cases of St. Louis Encephalitis (SLE) were confirmed in Sacramento, Fresno, and Kern counties. 180 mosquito pools in 8 California counties and 4 sentinel chickens in 3 flocks in 2 counties tested positive for SLE. The majority of the mosquito pools were in Kern and Riverside counties. SLE is a native mosquito-borne virus that can cause symptoms that are very similar to WNV.

Zika Virus and Invasive *Aedes* Mosquito Update

The Santa Barbara County Public Health Department reported seven travel related cases of Zika infection in Santa Barbara County in 2016. There have been over 300 imported cases of Zika virus into California, but no local mosquito transmitted cases. Local mosquito transmitted cases of Zika infections have been reported in southern Florida and southern Texas. Invasive *Aedes* spp. mosquitoes have now been found in at least 129 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 two mosquito trapping surveys in December 2016 using only human scented BG-Sentinel traps. The results of the surveys are shown in the table below. The District submitted 227 sample mosquito pools in 2016, well short of the District's record of 529 in 2011. All pools tested in 2016 were negative for WNV and other mosquito-borne viruses. Surveillance using the carbon dioxide baited EVS traps will resume in spring 2017.

LOCATION	DATE	NUMBER of MOSQUITOES	NUMBER of TRAPS [^]	MOSQUITOES PER TRAP NIGHT*	POOLS SUBMITTED	RESULT
South Coast						
Santa Barbara Zoo, Santa Barbara, City	11/29-12/6/16	0	1 BG	0	0	N.A.
200 block of Moreton Bay Ln., Goleta City	12/8-14/16	0	1 BG	0	0	N.A.

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 have switched to taking samples from the four active sentinel chicken flocks once per month for the winter season instead of every two weeks. All samples submitted in 2016 were negative for WNV and other mosquito-borne viruses. Twice per month sampling will resume in spring 2017.

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 birds in December 2016. The District only submitted 3 dead bird samples in all of 2016. All were negative for WNV. A likely reason for the low number of dead bird reports could be the publicity surrounding Zika virus distracted the public from the threat of WNV. The West Nile Virus Dead Bird Hotline is closed for the winter. However, the public can still report dead birds online at www.westnile.ca.gov. The District has made arrangements with CDPH to continue testing approved dead birds through the winter. The hotline will resume full operations in spring 2017.

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. 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 are analyzed for West Nile Virus.



WESTERN BLOODSUCKING CONENOSE BUG a.k.a. KISSING BUG (*Triatoma protracta*)

These blood feeding insects normally live in the nests of Wood Rats (*Neotoma* sp.), but on occasion will invade human dwellings and become crack and crevice dwellers much like cockroaches and Bed Bugs. Their bite can cause allergic reactions, even life threatening anaphylactic shock, in hypersensitive individuals. In Latin America, related species vector Chagas Disease caused by the protozoan *Trypanosoma cruzi*, one of the most important vector-borne diseases in the western hemisphere. The name “Conenose” refers to the shape of the head. They have been known to bite people on the lip, hence the name “Kissing Bug.” The specimen illustrated here was collected in a South Coast foothill neighborhood.