



MOSQUITO and VECTOR MANAGEMENT DISTRICT of Santa Barbara County

DISEASE SURVEILLANCE REPORT

May 2016

West Nile Virus Activity

No West Nile Virus (WNV) activity has been detected in Santa Barbara County in 2016 to date. However, 53 WNV positive dead birds have been reported from 6 California counties, 30 of them from San Diego County. Twenty-seven WNV positive mosquito pools have been reported from 7 counties.

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

Nine mosquito pools from Bakersfield, Kern County have tested positive for St. Louis Encephalitis (SLE). This is the first time SLE activity has been detected in Kern County since 1992. SLE had seemed to disappear from California after the arrival of WNV in 2003 until it was detected in the Coachella Valley, Riverside County in 2015. 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

Aedes aegypti has recently been discovered in the City of Coachella, Riverside County. Invasive *Aedes* spp. mosquitoes have now been found in 80 cities and communities in 12 California counties. The Greater Los Angeles Vector Control District already reports significant activity of all three invasive *Aedes* species. There have been imported cases of Zika virus into California, but no locally transmitted cases. Zika virus information can be found at <http://www.cdph.ca.gov/HealthInfo/discond/Pages/Zika.aspx> and at <http://www.cdc.gov/zika/>.

West Nile Virus Dead Bird Submissions

The District submitted one dead bird sample in May 2016, a juvenile Crow from the City of Goleta. The Crow was negative for WNV. All dead bird samples submitted by the District in 2016 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. 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 laboratory on the U.C. Davis campus where the samples will be analyzed for West Nile Virus.

Live Mosquito-Borne Virus Surveillance

The District conducted 15 mosquito trapping surveys in May 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. All sample mosquito pools submitted in 2016 to date have been negative for WNV and other mosquito-borne viruses.

LOCATION	DATE	NUMBER of MOSQUITOES	NUMBER of TRAPS [^]	MOSQUITOES PER TRAP NIGHT*	POOLS SUBMITTED	RESULT
Fiesta Dr., Carpinteria City	4/29-5/2/16	0	2 BG	0	0	N.A.
Andree Clark Bird Refuge, Santa Barbara	5/2-3/16	29	12 EVS/2 BG	2.1	2	Negative
UCSB/Santa Barbara Airport Bluffs	5/3-4/16	235	12 EVS/2 BG	16.8	8	Negative
Sage Hill Campground., upper Santa Ynez Valley	5/9-10/16	110	4 EVS	27.5	2	Negative
Cachuma Village, Santa Ynez Valley	5/9-10/16	32	3 EVS	10.7	0	N.A.
Santa Ynez River @ Fjord Dr., Solvang	5/9-10/16	52	4 EVS/2 BG	8.7	1	Negative

Riverview Park, Buellton	5/9-10/16	33	4 EVS/2 BG	5.5	1	Negative
Lake Los Carneros, Goleta City	5/12-13/16	40	11 EVS	3.6	1	Negative
Lake Marie Subdivision, Orcutt	5/16-17/16	~977	7 EVS/2 BG	~108.6	13	Negative
Leroy Park, Guadalupe	5/16-17/16	74	7 EVS	10.6	2	Negative
Bailey Wetland, Lompoc City	5/23-24/16	101	4 EVS	25.3	3	Pending
Santa Ynez River @ Floradale Ave., Lompoc	5/23-24/16	146	4 EVS	36.5	3	Pending
Club House Rd., Vandenberg Village	5/23-24/16	129	3 EVS	43.0	3	Pending
East end of Burton Mesa Blvd., Mission Hills	5/23-24/16	39	3 EVS/2 BG	7.8	0	N.A.
El Estero Wastewater Plant, Santa Barbara	5/31-6/1/16	274	12 EVS	22.8	5	Pending

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


^ EVS = CO2 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 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.



BITING MIDGES or PUNKIES
Diptera: Ceratopogonidae

Also called “no-see-ums” because of their very minute size, Biting Midges are blood feeding insects. Most species feed on the blood of other insects including grasshoppers, dragonflies, moths, beetles, etc. However, some species in the genus *Culicoides* will feed on human blood. Adult Biting Midges are weak fliers and are rarely found far from their aquatic or semi-aquatic breeding sources. Local species often turn up as by-catch in CO2 mosquito traps.