



MOSQUITO and VECTOR MANAGEMENT DISTRICT of Santa Barbara County

DISEASE SURVEILLANCE REPORT

February 2018

West Nile Virus Activity

No West Nile virus (WNV) activity has been detected in Santa Barbara County in 2018 to date. There has been a total of three dead birds in two California counties: two in Santa Clara County and one in San Mateo County.

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.

St. Louis Encephalitis Virus Activity

No St. Louis encephalitis (SLE) virus activity has been detected in California in 2018 to date. SLE activity has never been confirmed in Santa Barbara County. Most SLE cases occur in hot inland areas.

St. Louis encephalitis is a native mosquito-borne virus that is in the Family Flaviviridae (as are West Nile, dengue, Zika, and yellow fever viruses) and has symptoms similar to WNV.

Zika Virus and Invasive *Aedes* Mosquito Update

The Santa Barbara County Public Health Department has reported a total of 10 travel related cases of Zika infection in Santa Barbara County to date, three in calendar year 2017. No invasive *Aedes* sp. mosquitoes have been found in Santa Barbara County to date. Overall the number of Zika cases were down throughout the Americas in 2017. There have been 635 total imported cases of Zika virus into 37 California counties as of February 2, 2018 (508 in 2015-16, 127 in 2017-18), but no local mosquito transmitted cases. In Mexico in 2017, the highest number of Zika cases occurred in central Mexico as opposed to southern Mexico in 2016. At least one locally acquired case of Zika has been reported in Ensenada, Baja California, Mexico. Local mosquito transmitted cases of Zika infections have also been reported in southern Florida and southern Texas. Invasive yellow fever mosquitoes (*Aedes aegypti*) and Asian tiger mosquitoes (*Aedes albopictus*) have now been found in 183 cities and communities in 14 California counties. A third species, the Australian backyard mosquito (*Aedes notoscriptus*) appears to be getting established in parts of Los Angeles County and a single specimen has been found in Orange County. *Ae. aegypti* and *Ae. albopictus* can transmit dengue, chikungunya, and yellow fever viruses as well as Zika virus. *Ae. notoscriptus* is an excellent vector of dog heartworm. Some Los Angeles County mosquito control agencies are reporting invasive *Aedes* mosquito activity even in winter.

Zika virus information can be found at <https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Zika.aspx> and at <http://www.cdc.gov/zika/>.

Sentinel Chicken Flocks

The final samples of the 2017 sentinel chicken season have been taken. No more have tested positive for mosquito-borne viruses since four of seven sentinel chickens at the City of Solvang's Wastewater Treatment Plant tested positive for WNV in late September 2017.

The District has obtained 28 new chickens from Demler Egg Ranch in San Jacinto, California on February 15, 2018. They have replaced the two year old chickens in the Goleta and Mission Hills flocks along with the WNV positive flock at Solvang. Also the flock at the U.S. Forest Service Ranger Station on Paradise Road will be re-established. The chickens at the Carpinteria Sanitary District will serve for another season. The 2018 sentinel chicken sampling season will begin the week of April 1, 2018.

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.

Live Mosquito-Borne Virus Surveillance

No mosquito trapping surveys were conducted in February 2018. Live mosquito-borne virus surveillance will resume in both Santa Barbara and San Luis Obispo counties in March 2018, weather permitting.

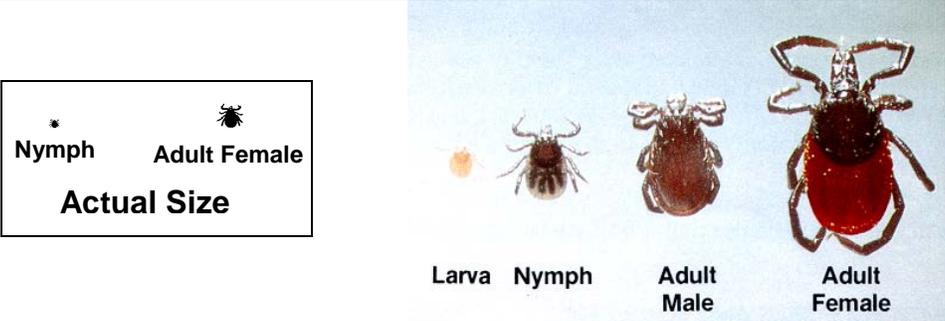
This surveillance technique utilizes battery-powered Encephalitis Virus Surveillance (EVS) traps that use dry ice as a source of carbon dioxide along with human scented BG-Sentinel traps to attract adult female mosquitoes that are actively seeking a blood meal. The live female mosquitoes are taken into the District's laboratory where they are anesthetized, sorted by species, 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. The BG-Sentinel traps are deployed to survey for invasive *Aedes* mosquito species that are known vectors of Zika virus and other diseases.

West Nile Virus Dead Bird Submissions

The District did not submit any dead birds in February 2018.

The West Nile Virus Dead Bird Hotline is closed for the winter season. Citizens will still be able to report dead birds online at www.westnile.ca.gov. The District has made arrangements with the California Department of Public Health to continue retrieving and sampling approved dead birds through the winter. The Hotline will resume full operation in spring 2018.

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 dead birds approved for testing 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 BLACK-LEGGED TICK (*Ixodes pacificus*)

The western black-legged tick is the only known vector of Lyme disease on the west coast of the United States and is also a vector of Babesiosis. It is a very close relative of the better known deer tick (*Ixodes scapularis*), the vector of Lyme disease and Babesiosis east of the Rocky Mountains. Adult *I. pacificus* are active during the cool, moist months of the year and are abundant in vegetation alongside trails and roadsides. Nymphs or immature ticks are considered to be the stage when they are most likely to be infected with Lyme disease (caused by the spirochete or spiral-shaped bacterium *Borrelia burgdorferi*). Nymphs are active from March through early May and can be found inhabiting oak leaf litter and fallen logs.