



MOSQUITO and VECTOR MANAGEMENT DISTRICT of Santa Barbara County

DISEASE SURVEILLANCE REPORT

January 2018

West Nile Virus Activity

No West Nile virus (WNV) activity has been detected in Santa Barbara County or anywhere else in California in 2018 to date.

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. There have been 634 total imported cases of Zika virus into 37 California counties as of January 5, 2018 (508 in 2015-16, 126 in 2017), 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. Overall the number of Zika cases were down throughout the Americas in 2017. 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, with Kings and Merced counties recently added to the list. 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 District is sampling the four active chicken flocks once per month for the winter season. The flock at the U.S. Forest Service Ranger Station on Paradise Road has been inactivated for the winter. **Four sentinel chickens from the flock at the City of Solvang's Wastewater Treatment Plant tested positive for WNV in late September 2017.** None of the District's chickens have tested positive since then.

The District has ordered 28 new chickens to replace those in four of the five flocks. The new chickens will be picked up at Demler Egg Ranch in San Jacinto, California on February 15, 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 January 2018. Live mosquito-borne virus surveillance will resume in spring 2018.

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 January 2018.


The West Nile Virus Dead Bird Hotline is closed down 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.


BACKSWIMMERS
Hemiptera: Notonectidae



Adult - dorsal view



Actual Size



Swimming posture

These true bugs are aquatic and swim upside-down with a head down posture, hence the name backswimmers. They use their hind legs as oars and must come to the water surface to breathe. Backswimmers are predators of small aquatic animals including mosquito larvae. They are an important natural enemy that helps to keep mosquito populations under control. The District uses modern mosquito larvicides that are harmless to these natural allies and allows them to aid the mosquito control program.