



MOSQUITO and VECTOR MANAGEMENT DISTRICT of Santa Barbara County

DISEASE SURVEILLANCE REPORT

December 2015

West Nile Virus Activity

In 2015 to date Santa Barbara County has had three dead birds from the Goleta Valley and Santa Ynez along with a sample pool of mosquitoes collected at Lake Los Carneros, City of Goleta test positive for West Nile Virus (WNV). Ventura County has had even more significant WNV activity with 6 confirmed human cases (two fatal), 26 positive dead birds, and 11 positive sentinel chickens.

Throughout California there have been 730 confirmed human cases of WNV (45 fatal) from 31 counties. A total of 1,345 WNV positive dead birds have been collected in 37 counties along with 3,328 WNV positive mosquito pools from 29 counties. Also, 449 WNV positive sentinel chickens in 96 flocks have been reported from 22 counties. Additionally, 38 mosquito pools and 8 sentinel chickens from 2 flocks from the Coachella Valley, Riverside County have tested positive for St. Louis Encephalitis (SLE). SLE is a native virus similar and closely related to WNV. These are likely the final figures for 2015.

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.

West Nile Virus Dead Bird Submissions

The District submitted one dead bird sample in December 2015, a Red-shouldered Hawk from the City of Santa Barbara. Laboratory results on the Hawk are pending. The dead Hawk was wearing a leg band that the District removed before disposing of the carcass. A Google search of the address on the band led to the U.S. Geological Survey's Patuxent Wildlife Research Center Bird Banding Laboratory. The band number was reported to the USGS via e-mail. A return e-mail stated that USGS had no data for that band number, but they would contact the bander for the data.

Three dead bird samples submitted in late September and October 2015 tested positive for WNV. All were Crows, two from Santa Ynez and one from the Goleta Valley. The CDPH West Nile Virus Dead Bird Hotline closed down for the winter season on October 15, 2015. However, citizens can still report dead birds at www.westnile.ca.gov. In light of the late season positive birds, the District has made arrangements with CDPH to continue testing approved dead birds through the winter season. The Hotline will resume full operations in spring 2016.

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 U.C. Davis Center for Vector-Borne Diseases where the samples will be analyzed for West Nile Virus.

Sentinel Chicken Flocks

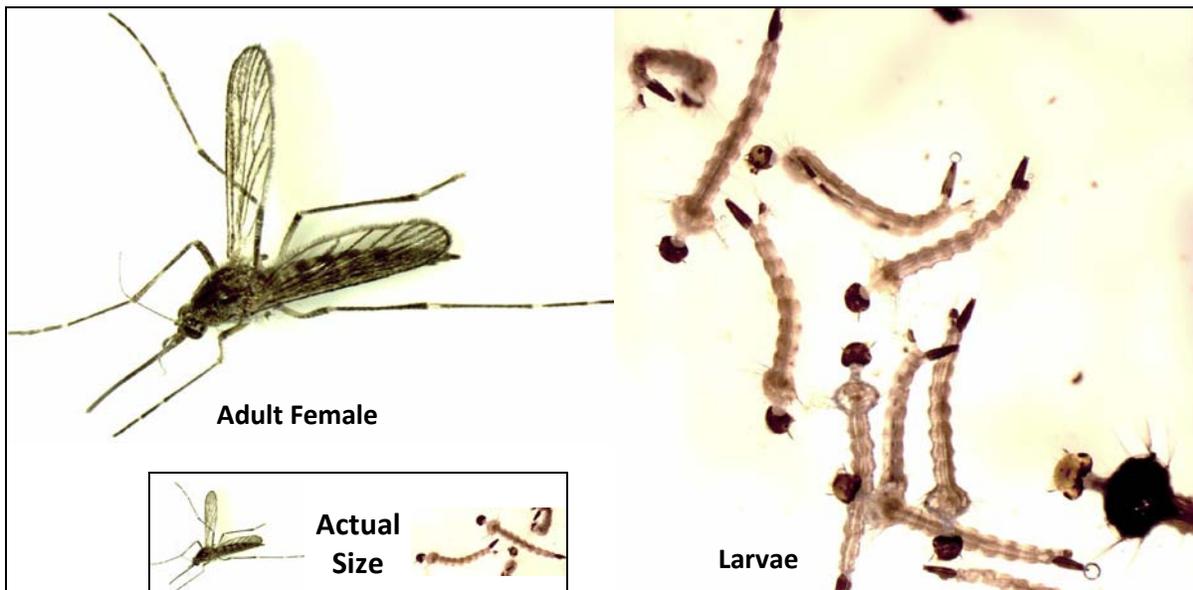
District personnel are sampling the chicken flocks at Carpinteria, Goleta, Solvang, and Mission Hills once per month during the winter season. The flock at the U.S. Forest Service Ranger Station on Paradise Road has been shut down until spring 2016. In 2015 all samples tested negative for WNV and other 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.

Live Mosquito-Borne Virus Surveillance

The District did not conduct any mosquito trapping surveys in December 2015. The District submitted 227 sample pools for laboratory analysis in 2015. This is a very representative amount for the fourth year of a severe drought, though far less than the District's record of 529 pools submitted in 2011. Only one pool tested positive for WNV in 2015; a pool of 50 Encephalitis Mosquitoes (*Culex tarsalis*) collected at Lake Los Carneros, Goleta on April 1-2. Live mosquito-borne virus surveillance will resume in spring 2016.

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.



FLOODWATER MOSQUITO (*Aedes washinoi*)

When and if this season's El Niño rains begin, they will fill local seasonal wetlands and cause the eggs of Floodwater Mosquitoes to hatch. District technicians will become very busy treating these wetlands with mosquito larvicide. Also known as the **Willow Mosquito**, this species is univoltine; that is they have one generation per year. Eggs are laid on aquatic vegetation and on the ground during spring and remain dormant through the dry season. When winter rains re-flood the wetland, the eggs all hatch en masse. Adults emerge in the spring to complete the lifecycle. Adult females are vicious and aggressive biters that create serious mosquito nuisance problems, but are not known to transmit human disease.