



MOSQUITO and VECTOR MANAGEMENT DISTRICT of Santa Barbara County

DISEASE SURVEILLANCE REPORT

July 2009

West Nile Virus Activity

West Nile Virus (WNV) has been detected in Santa Barbara County for the first time in 2009. A single dead bird found in the Santa Ynez Valley during late June 2009 tested positive for the disease (see below for details). Higher levels of WNV activity have been detected in a number of other areas in California. Fresno County has been the epicenter for WNV activity so far in 2009. However, high levels of WNV activity are now being detected in Contra Costa, Kern, and San Joaquin Counties as well.

Statistics for California WNV activity in 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 did not submit any dead birds for WNV analysis in July 2009. However, **one dead bird collected in late June 2009 did test positive for WNV**. This is the first indication of WNV activity in Santa Barbara County in 2009. The bird, a Yellow-Billed Magpie, was collected on a ranch near Happy Canyon in the Santa Ynez Valley. The Magpie is one of only two dead birds the District has submitted for WNV testing in 2009. Due to the State of California's financial difficulties, the California Department of Public Health (DPH) is now being very selective about authorizing dead birds for testing. The District cannot submit dead birds for testing without the DPH's authorization.

The dead birds are submitted to the California Animal Health and Food Safety Laboratory at Davis, California to be analyzed for the presence of West Nile Virus. The District and other agencies submit dead birds that are found by citizens who report them 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.

Sentinel Chicken Flocks

District personnel are sampling the District's 5 chicken flocks, including the new flock at the City of Solvang's Wastewater Treatment Plant, every two weeks. All samples submitted 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 viruses.

Live Mosquito-Borne Virus Surveillance

District personnel conducted 5 mosquito trapping surveys during the month of July 2009: the Goleta Salt Marsh (Slough) near Goleta Beach (296 mosquitoes, only 58 female), the UCSB/ Santa Barbara Airport bluffs (505 mosquitoes), the Santa Barbara City College West Campus creek (93 mosquitoes), the City of Santa Barbara's El Estero Wastewater Treatment Plant (186 mosquitoes), and Lake Los Carneros, City of Goleta (122 mosquitoes). A total of 119 mosquito pools have been submitted to the laboratory at U.C. Davis to date. All tested negative for WNV and other mosquito-borne viruses. Test results on more pools are pending.

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, separated 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 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.

Mosquito Population Surveys

This project began in mid-March 2008 and is continuing in 2009. A trapping survey was conducted in the Lompoc Valley on July 7-8 at the east end of Burton Mesa Road, Mission Hills (70 mosquitoes), the Santa Ynez River at Floradale Ave. (333 mosquitoes), and Miguelito Canyon (11 mosquitoes). The Santa Ynez Valley was surveyed on July 21-22 at Sage Hill Campground, Paradise Road (255 mosquitoes), Cachuma Village (65 mosquitoes), the Santa Ynez River at Refugio Road (5 mosquitoes), the Santa Ynez River at Fjord Dr., Solvang (47 mosquitoes), and along Alamo Pintado Creek, Los Olivos (20 mosquitoes). The Santa Maria Valley was surveyed on July 23-24 along Orcutt Creek at Bradley Road (55 mosquitoes), Orcutt Creek at Broadway (223 mosquitoes), and along the Bradley Channel near Main Street and the 101 Freeway, City of Santa Maria (17 mosquitoes). On July 29-30, trapping surveys were conducted at Leroy Park, Guadalupe (56 mosquitoes) and the Santa Ynez River at Avenue of Flags, Buellton (12 mosquitoes).

This mosquito trapping technique utilizes the same traps that are used for Live Mosquito-Borne Virus Surveillance. However fewer traps are placed at each location. The primary objective is to determine mosquito populations instead of collecting a large number of mosquitoes to test for the presence of disease. This is an effort to determine what mosquito species are active, how many, and at what time of year they are active. A number of locations will be sampled repeatedly throughout the spring, summer, and early fall seasons. Emphasis will be placed on North County locations that have not been routinely surveyed in past years.



American Crow (*Corvus brachyrhynchos*)

This very common bird species is extremely sensitive to West Nile Virus and infection with the disease is usually fatal. For this reason, dead American Crows are often the earliest and best indicators of West Nile Virus activity.