MOSQUITO and VECTOR MANAGEMENT DISTRICT
of Santa Barbara County

DISEASE SURVEILLANCE REPORT

August 2009

West Nile Virus Activity
Only very low levels of West Nile Virus (WNV) have been detected in Santa Barbara County in 2009 to date. A single dead bird found in the Santa Ynez Valley during late June 2009 tested positive for the disease (see below for details). However, higher levels of WNV activity are being detected in many other areas of California. Outbreaks of WNV have begun late in the season this year, possibly due to the cool, dry weather that California experienced in spring 2009.

The District received a report that a child (a resident of another county) who had attended a youth camp off Highway 154 near Lake Cachuma contracted WNV and was in a coma only 3 days after attending the camp. The incubation period for WNV is normally 5-15 days, so in is likely that the child was exposed prior to attending the camp. Nevertheless, District personnel are inspecting the area for mosquito breeding sources and conducted a mosquito trapping survey at the camp. No significant mosquito breeding source was found at the camp. The trapping survey collected 4 mosquitoes with 24 traps.

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 submitted one dead bird to be analyzed for WNV in August 2009. The bird was an American Crow collected in the Goleta Valley on August 31, 2009. This is only the third dead bird the District has submitted in 2009. Test results on the Crow are pending. One dead bird, a Yellow-Billed Magpie collected on a ranch near Happy Canyon in the Santa Ynez Valley in late June 2009 did test positive for WNV**.** This has been the only indication of WNV activity in Santa Barbara County in 2009 to date. 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.

Live Mosquito-Borne Virus Surveillance
District personnel conducted 8 mosquito trapping surveys during the month of August 2009: the Andree Clark Bird Refuge was trapped on 3 occasions (~4,082 mosquitoes, ~4,142 mosquitoes, and ~2,042 mosquitoes respectively), the UCSB/ Santa Barbara Airport bluffs (~2,252 mosquitoes), the City of Santa Barbara's El Estero Wastewater Treatment Plant (73 mosquitoes), Lake Los Carneros, City of Goleta (111 mosquitoes), the Carpinteria Salt Marsh, Carpinteria (11 mosquitoes), and near Lake Cachuma (4 mosquitoes). A total of 219 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 -70ºC 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 August 17-18 at the east end of Burton Mesa Road, Mission Hills (76 mosquitoes), the Santa Ynez River at Floradale Ave. (162 mosquitoes), and Miguelito Canyon (4 mosquitoes). The Gaviota Coast was surveyed on August 20-21 at the southbound 101 Freeway Rest Stop (3 mosquitoes), Gaviota Creek (6 mosquitoes), Refugio State Beach (14 mosquitoes), and El Capitan State Beach (no mosquitoes). The Santa Maria Valley was surveyed on August 26-27 along Orcutt Creek at Bradley Road (7 mosquitoes), Orcutt Creek at Broadway (88 mosquitoes), and along the Bradley Channel near Main Street and the 101 Freeway, City of Santa Maria (8 mosquitoes). The Santa Ynez Valley and Guadalupe will be surveyed in early September 2009.

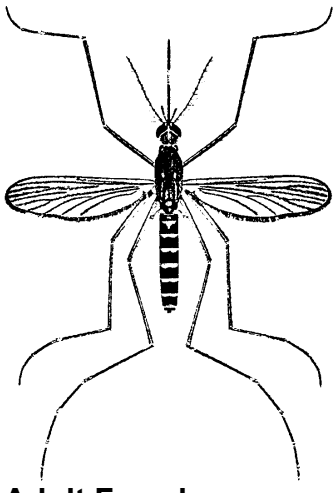
This mosquito trapping technique utilizes the same traps that are used for Live Mosquito-Borne Virus Surveillance. However fewer traps are placed at each location. The primary objective is to determine mosquito populations instead of collecting a large number of mosquitoes to test for the presence of 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.

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.

Actual size



ENCEPHALITIS MOSQUITO (*Culex tarsalis*) - Adult Female

A very common mosquito species throughout California and a primary vector of mosquito-borne viruses including West Nile Virus.