



MOSQUITO and VECTOR MANAGEMENT DISTRICT of Santa Barbara County

DISEASE SURVEILLANCE REPORT

October 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). Ventura County reports 3 WNV positive dead birds and San Luis Obispo County reports one. A total of 95 confirmed human cases of WNV (4 fatal) have been documented in 17 California counties in 2009 to date. Counties with the highest number of human cases are Los Angeles (19), Kern (16), Fresno (13), and Stanislaus (13).

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 for WNV testing in October 2009, an American Crow collected in Santa Ynez on October 7. The Crow tested negative for WNV. The California Animal Health and Food Safety Laboratory suspended dead bird testing as of mid-October 2009. **Testing will resume in March 2010.** The California Department of Public Health Dead Bird Hotline will continue to take dead bird reports through the winter, but will not accept anymore for testing until March 2010. The District submitted only 4 dead birds in 2009. 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) was 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

A total of 271 mosquito pools have been submitted to the laboratory at U.C. Davis. All tested negative for WNV and other mosquito-borne viruses. These are probably all of the pools to be submitted for 2009.

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. Rain and wind have again been hampering this project in October 2009. On October 1-2, a trapping survey was conducted along the Gaviota Coast at the

Gaviota Rest Stop (2 mosquitoes), Gaviota State Beach (3 mosquitoes), Refugio State Beach (30 mosquitoes), and El Capitan State Beach (10 mosquitoes). On October 22-23, a trapping surveys were conducted at Orcutt Creek at Bradley Road (4 mosquitoes), Orcutt Creek at Broadway Road (22 mosquitoes), and along the Bradley Channel near Main St., City of Santa Maria (2 mosquitoes). The Santa Ynez Valley was surveyed on October 29-30 at Sage Hill Campground, Paradise Road (103 mosquitoes), Cachuma Village (9 mosquitoes), Fjord Dr., Solvang (7 mosquitoes), Alamo Pintado Creek, Los Olivos (2 mosquitoes), Avenue of Flags, Buellton (3 mosquitoes). The Santa Ynez River at Refugio Rd., Santa Ynez was not surveyed due to the presence of an unfriendly dog. A report on the Mosquito Population Surveys for 2009 should be available for the December 2009 Board meeting.

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.



Floodwater Mosquitoes (*Aedes washinoi*), similar to the one pictured here, may become active early this winter season due to the unusually heavy October 2009 rain. Eggs of this mosquito species, laid on the soil and vegetation in seasonal wetlands the previous spring, hatch out in mass when the wetlands are flooded by heavy winter rains. Adult females are vicious and aggressive day and night biters.