MOSQUITO and VECTOR MANAGEMENT DISTRICT
of Santa Barbara County

DISEASE SURVEILLANCE REPORT

January 2010

West Nile Virus Activity
No West Nile Virus (WNV) activity has been detected in California in 2010 to date.

The final 2009 WNV statistics for California are in. A total of 110 confirmed human cases of WNV (4 fatal) were documented in 19 California counties. Counties with the highest number of human cases are Los Angeles (20), Kern (19), Fresno (13), and Stanislaus (13). Of the total human cases, 59% developed neuroinvasive symptoms, 61% were male, and the median age was 54 years (range 7-88 years). The median age of the 4 fatalities was 71 (range 50-84). There were also 18 confirmed horse cases (8 fatal) from 12 counties. All of the infected horses were unvaccinated. There were 515 WNV positive dead birds (55 different species) from 36 counties and 10 WNV positive dead tree squirrels from 7 counties. 1,063 mosquito pools from 27 counties tested positive for WNV. The positive mosquito pools included 6 species of *Culex*, along with *Culiseta inornata*, *Aedes vexans*, and *Anopheles freeborni*. Additionally, 443 sentinel chickens (from 93 flocks) in 23 counties tested positive for WNV. In 2009, a total of 224 sentinel chicken flocks were distributed throughout 38 counties.

The only evidence of West Nile Virus (WNV) activity detected in Santa Barbara County in 2009 was a single dead bird found in the Santa Ynez Valley during late June 2009 that tested positive for the disease. Ventura County reported 3 WNV positive dead birds and San Luis Obispo County reported one.

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.

Sentinel Chicken Flocks
District personnel are sampling the District's 4 active chicken flocks once per month during the winter season. The most recent sampling was performed on the first week of February 2010. The results are pending. 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.

West Nile Virus Dead Bird Submissions
The California Animal Health and Food Safety Laboratory has suspended dead bird testing until 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 was the only indication of WNV activity in Santa Barbara County in 2009. 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 were submitted to the laboratory at U.C. Davis in 2009. All tested negative for WNV and other mosquito-borne viruses. Live mosquito-borne virus surveillance will resume in spring 2010.

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 will continue through 2010 and probably beyond. Surveys are expected to resume in March 2010.

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 are sampled repeatedly throughout the spring, summer, and early fall seasons. Emphasis is being placed on North County locations that have not been routinely surveyed in past years.