



MOSQUITO and VECTOR MANAGEMENT DISTRICT of Santa Barbara County

DISEASE SURVEILLANCE REPORT

March 2009

West Nile Virus Activity

Minimal West Nile Virus (WNV) activity has been detected in Southern California during the winter season. Since January 1, 2009 three sentinel chickens have tested positive for the disease in Los Angeles County along with two dead wild birds, one each in Orange and San Diego Counties. No WNV has been detected in Santa Barbara County in 2009 to date.

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

The 2009 sentinel chicken season will begin on April 1, 2009. District personnel picked up the 2009 sentinel chickens in San Jacinto, Calif. on March 17, 2009. The District's 4 established chicken flocks are all up and running. The locations are the same: the Carpinteria Sanitary District, the Goleta Sanitary District, the Mission Hills Community Services District, and the U.S. Forest Service facility on Paradise Road in the upper Santa Ynez Valley. Ten chickens are being held at the District's Summerland facility as spares or for possible establishment of a 5th chicken flock.

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 Section at Richmond, California where they are analyzed for antibodies to WNV and other mosquito-borne viruses.

Live Mosquito-Borne Virus Surveillance

The start of the Mosquito-Borne Virus Surveillance season was delayed due to cold and windy weather conditions in March 2009. However, one mosquito trapping survey was conducted on the UCSB/ Santa Barbara Airport bluff tops on March 26-27. A total of 654 mosquitoes were collected in the survey and placed into 13 mosquito pools that are in the District's low-temperature freezer awaiting submission to the laboratory at U.C. Davis.

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 with surveys at 6 locations in the Santa Ynez Valley, 3 locations in the Lompoc Valley, 2 locations in Orcutt, and one location in Guadalupe. The first survey of 2009 was conducted at 3 new locations at Gaviota, Refugio, and El Capitan State Beaches on March 25-26. Very few mosquitoes were collected due to cool, windy weather conditions.

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.

West Nile Virus Dead Bird Submissions

Dead bird testing resumed on March 16, 2009. To date, the District has not submitted any dead birds to be analyzed for WNV in 2009.

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.

