



MOSQUITO and VECTOR MANAGEMENT DISTRICT of Santa Barbara County

DISEASE SURVEILLANCE REPORT

April 2009

West Nile Virus Activity

No West Nile Virus (WNV) has been detected in Santa Barbara County in 2009 to date. However, WNV activity has been detected in Southern California and some areas of Northern California. Since January 1, 2009 three sentinel chickens, one dead wild bird, and a mosquito pool have tested positive for the disease in Los Angeles County. Orange County has reported 2 WNV positive dead birds and San Diego County has reported six. Contra Costa County has had 11 mosquito pools test positive for WNV. Fresno County reports one positive dead bird.

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 established chicken flocks every two weeks. The 4 locations are: 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. All samples submitted to date have been negative for WNV and other mosquito-borne viruses. Ten chickens are being held at the District's Summerland facility as spares or for possible establishment of a 5th chicken flock. Efforts are currently underway to find a site for a 5th flock in the Buellton or Solvang area.

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 Mosquito-Borne Virus Surveillance project has continued to be hampered by windy and cooler than normal weather conditions. Six mosquito trapping surveys were conducted during the month of April 2009: Lake Los Carneros, Goleta (149 mosquitoes trapped), the Andree Clark Bird Refuge, Santa Barbara (66 mosquitoes), Cravens Lane, Carpinteria (26 mosquitoes), the Carpinteria Salt Marsh (17 mosquitoes), the Devereux Lagoon (42 mosquitoes), and the El Estero Wastewater Treatment Plant, Santa Barbara (72 mosquitoes). Most of these figures are on the low side for this time of year. A total of 23 mosquito pools were submitted to the laboratory at U.C. Davis. All tested negative for WNV and other mosquito-borne viruses.

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. Due to persistent cool, windy weather conditions, only one more survey took place at the 3 Lompoc Valley locations on April 30-May 1, 2009. The locations were the east end of Burton Mesa Blvd., Mission Hills (18 mosquitoes), the Santa Ynez River at Floradale Ave. (10 mosquitoes), and San Miguelito Canyon (3 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.

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.

Stable Flies

The District has been investigating a citizen complaint of biting flies at their residence on the upper eastside of the City of Santa Barbara, first reported to the District in fall 2006. The residents reported that the problem was ongoing since spring 2006. Samples of the flies were collected at the residence on several occasions and were identified at the District laboratory as Stable Flies (*Stomoxys calcitrans*). The adult Stable Fly is a biting, blood-feeding insect that closely resembles the common House Fly (*Musca domestica*). It is very unusual for a Stable Fly problem to occur in an urbanized residential neighborhood, as they are normally associated with horse stables or other animal livestock operations. Stable Flies breed in manure and composted vegetation. Most likely they were introduced into the neighborhood as larvae in manure or yard compost brought in from outside the area. The District surveyed the neighborhood in fall 2006 and again in spring 2009, but neighbors have not reported biting fly problems. The source of the Stable Flies has not been found and the situation remains a mystery.

