



## MOSQUITO and VECTOR MANAGEMENT DISTRICT of Santa Barbara County

# DISEASE SURVEILLANCE REPORT

**December 2008**

### **West Nile Virus Activity**

Santa Barbara County's only evidence of West Nile Virus (WNV) activity in 2008 was a dead Crow, found in the City of Santa Barbara near the border with Montecito on August 18, that tested positive for the disease. Ventura County reported one WNV positive horse case, 24 WNV positive dead birds, and 4 WNV positive sentinel chickens in 2008. San Luis Obispo County reported 2 WNV positive dead birds. WNV was very active in other areas of the state, with Los Angeles, Orange, and San Diego Counties having the highest activity levels. Statewide statistics include 411 (14 fatal) human cases, 32 (17 fatal) horse cases, 2,527 dead birds, 1,989 mosquito pools, 584 sentinel chickens, and 32 dead tree squirrels. These are likely the final figures for 2008.

Statistics for California WNV activity in can be found online at [www.westnile.ca.gov](http://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](http://www.cdc.gov).

### **2009 Surveillance Order**

The District has placed its 2009 order for chickens and disease surveillance sample tests with the California Department of Public Health. This is done annually in the month of December. For 2009, the District has ordered sufficient mosquito pool tests to accommodate an average season along with enough chickens and blood sample tests for 4 to 5 sentinel chicken flocks. If the District exceeds the total ordered, the District will be billed for the extra tests at the end of the 2009 season.

### **Sentinel Chicken Flocks**

The District's 3 active sentinel chicken flocks are being sampled once per month during the winter season. All samples were negative for mosquito-borne viruses in 2008. The next sampling is scheduled for late January 2009. The chicken flock at the U.S. Forest Service Station on Paradise Road has been deactivated for the winter. The chickens from the Paradise Road flock along with the spare chickens kept at the District's Summerland office have been disposed of via adoption.

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**

Live mosquito trapping has concluded for 2008. The District submitted a grand total of 328 mosquito pools to be analyzed for WNV and other mosquito-borne viruses in 2008. All pools tested negative for mosquito-borne viruses. Mosquito-Borne Virus Surveillance will resume in spring 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**

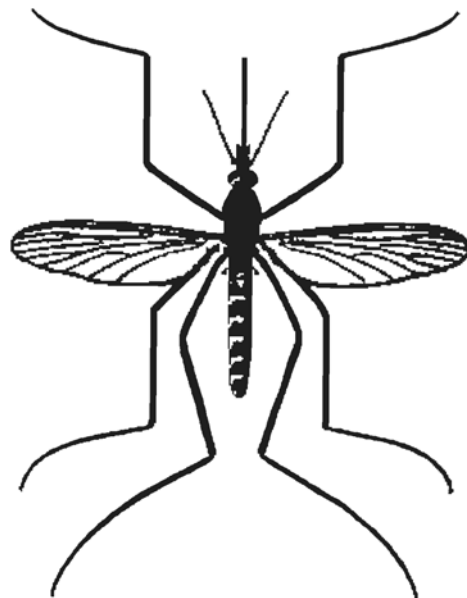
This project began in mid-March 2008 with surveys at 6 locations in the Santa Ynez Valley, 3 locations in the Lompoc Valley, 2 locations in Orcutt, and one location in Guadalupe. Population surveillance has concluded for 2008 and is expected to resume in March 2009.

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. The project probably will be continued during subsequent years as well. Emphasis will be placed on North County locations that have not been routinely surveyed in past years.

### **West Nile Virus Dead Bird Submissions**

The California Department of Public Health suspended dead bird testing for the winter on November 1, 2008. The Hotline (listed below) will continue to take dead bird reports, but the laboratory will not accept dead birds for testing. Only one dead bird from Santa Barbara County has tested positive for WNV in 2008, a Crow collected in the City of Santa Barbara near the Montecito border during August. Dead Bird testing will resume in spring 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](http://www.westnile.ca.gov).



**Southern House Mosquito  
(*Culex quinquefasciatus*)**

A major vector of West Nile Virus, this mosquito often breeds in containers that fill with sprinkler or rain water in urban backyards.