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**PRELIMINARY RESEARCH INDICATES A REDUCTION IN INFECTED ADULT MOSQUITO  
POPULATIONS, POST-AERIAL TREATMENT**  
**-- Comprehensive Analysis and Evaluation Will Follow After Mosquito Season**

**ELK GROVE, Calif.**, August 18, 2006 – The Sacramento-Yolo Mosquito and Vector Control District announced today that preliminary data suggest that post-aerial applications over the urban areas of Yolo County reduced the number of infected adult mosquitoes carrying the potentially fatal West Nile virus. “Our plan did what it was designed to do,” David Brown District Manager said. “We believe we were able to interrupt the disease transmission cycle of West Nile virus through our comprehensive and integrated approach coupled with timely communication between city, county and state officials.”

The District’s plan is based on an extensive Integrated Pest Management Program (IPM) and Mosquito-Borne Disease Management plan which includes extensive mosquito control and surveillance, bio-rational control, chemical control and public education. In addition, dead bird reports provided by the California Department of Health Services, and the direct and timely communication with the Sacramento and Yolo County Health and Human Services as well as the California Department of Food and Agriculture allowed the District to track and monitor mosquitoes and West Nile virus activity within the District’s boundaries.

**INITIAL RESULTS**

**Aerial application dates:** Tuesday, August 8 and Wednesday, August 9 from approximately 8:30 p.m. - 9:30 p.m.

**Contractor:** Vector Disease Control Inc.

**Aircraft:** 2 twin engine Piper Aztecs

**Product:** Evergreen 60-6

**Product application rate:** 0.66 ounces per acre

**Flight pattern:** East to West

**Amount of material used:** 140 gallons per evening

**Total acres treated:** Approximately 28,000 acres per evening

**Cost:** \$2.00 per acre

**Sentinel cages:** Sentinel cages are circular cardboard hoops with a mesh overlay. Approximately, 20 mosquitoes were placed in each cage. Sentinel cages were strategically placed in and around the treatment zones to determine the efficacy of the aerial application. The numbers below indicates the mortality rate of the caged mosquitoes:

**Woodland, California - Exposed areas (open space)**

Tuesday, August 8 = 92.2 percent

Wednesday, August 9 = 69.7 percent

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**Davis, California - Exposed areas (open space)**

Tuesday, August 8 = 48.4 percent

Wednesday, August 9 = 57 percent

**Woodland, California - Covered area (under vegetation)**

Tuesday, August 8 = 57.6 percent

Wednesday, August 9 = 20.9 percent

**Davis, California - Covered area (under vegetation)**

Tuesday, August 8 = 9.7 percent

Wednesday, August 9 = 19.2 percent

**Mosquito traps post-aerial application**

Surveillance of mosquito populations provides vital information which helps guide efficient control of vectors and vector-borne diseases in Sacramento and Yolo Counties. The District utilizes four types of mosquito traps: American Light Traps, Mosquito Magnet Traps, Red Boxes and Gravid Traps which we set out in representative sites of all habitats in Sacramento and Yolo Counties. The District is also working closely with the University of California, Davis to ascertain mosquito populations in our area. The numbers below indicates trap counts post aerial-application:

**Davis, California**

- 1) *Culex tarsalis* - CO2 traps\*: 25.6 percent control
- 2) *Culex pipiens* - CO2 traps: 58 percent control
- 3) *Culex tarsalis* - Gravid traps\*: -11.2 percent control
- 4) *Culex pipiens* - Gravid traps: 73.1% control

**Woodland, California**

- 1) *Culex tarsalis* - CO2 traps: 46.8 percent control
- 2) *Culex pipiens* - CO2 traps: 77.7 percent control
- 3) *Culex tarsalis* - Gravid traps: 51.2 percent control
- 4) *Culex pipiens* - Gravid traps: 70.2 percent control

**\*CO2 Baited trap**

CO2 baited traps attract host-seeking mosquitoes

**\*Gravid Trap**

This device collects gravid mosquitoes that are seeking a location to lay eggs. A special mixture of ground meals is added to the trap once a week to replenish the trap's attractiveness. When a gravid adult mosquito approaches this trap a fan positioned over the water pulls the mosquito up into a one way collection container. This trap is very attractive to *Cx. pipiens*, a potential vector of WNV. A photocell operates the trap from dusk to dawn.

**Mosquito samples\* post-aerial application**

The District detected three West Nile virus-positive mosquito samples post aerial application. Two samples were located in Yolo County, one found in the treatment zone just outside of city limits and the other in the agricultural area between Davis and Woodland. The remaining sample was detected in Sacramento County.

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#### **Further analysis and evaluation**

A full evaluation of the District's entire program will be completed post mosquito season. This evaluation will include the following variables: geography, weather, infection rates in mosquitoes, entire IPM program, emergency response plan and further research provided to the University of California, Davis.

#### **The District's 7Ds:**

**DRAIN** any standing water that may produce mosquitoes. **DAWN** and **DUSK** are times to avoid being outdoors. These are the times when mosquitoes are most active. **DRESS** appropriately by wearing long sleeves and pants when outside. **DEFEND** yourself against mosquitoes by using an effective insect repellent, such as DEET, Picaridin or Oil of Lemon Eucalyptus. Make sure you follow all label directions! **DOOR** and window screens should be in good working condition. This will prevent mosquitoes from entering your home. **DISTRICT** personnel are also available to address any mosquito problem you may be experiencing. We can be reached at 1-800-429-1022 or visit us online at [FIGHTtheBITE.net](http://FIGHTtheBITE.net).

#### **West Nile virus**

According to the Centers for Disease Control (CDC), West Nile virus (WNV) is the leading cause of arboviral encephalitis in the United States. Originally discovered in Africa in 1937, WNV was first detected in the western hemisphere in 1999 in New York City. Since then it has caused seasonal epidemics of West Nile virus fever and severe neurological disease. West Nile virus is transmitted to humans and animals through the bite of an infected mosquito. Mosquitoes become infected with WNV when they feed on infected birds.

**West Nile virus activity for Sacramento and Yolo Counties:** This year, **74** dead birds, **75** mosquito pools, **7** sentinel chicken flocks (presence of antibodies), **1** equine and **18** humans have tested positive for West Nile virus to date.

The District is at **LEVEL 5** of their response plan, for details visit us online at <http://www.fightthebite.net/mediacorner/plan.php>

To report a dead bird call 1-877-WNV-BIRD (1-877-968-2473) or visit the California Department of Health Services online at [westnile.ca.gov](http://westnile.ca.gov)

*\*Mosquito samples: Mosquitoes are trapped and collected from the field. The collected females are then pooled together by species. Each sample contains a minimum of one to a maximum of 50 mosquitoes per sample. Each sample is tested for the presence of St. Louis Encephalitis, Western Equine Encephalomyelitis and West Nile viruses by TaqMan real-time polymerase chain reaction (PCR).*

The **Sacramento-Yolo Mosquito and Vector Control District** provides mosquito and vector control services for Sacramento and Yolo Counties.

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