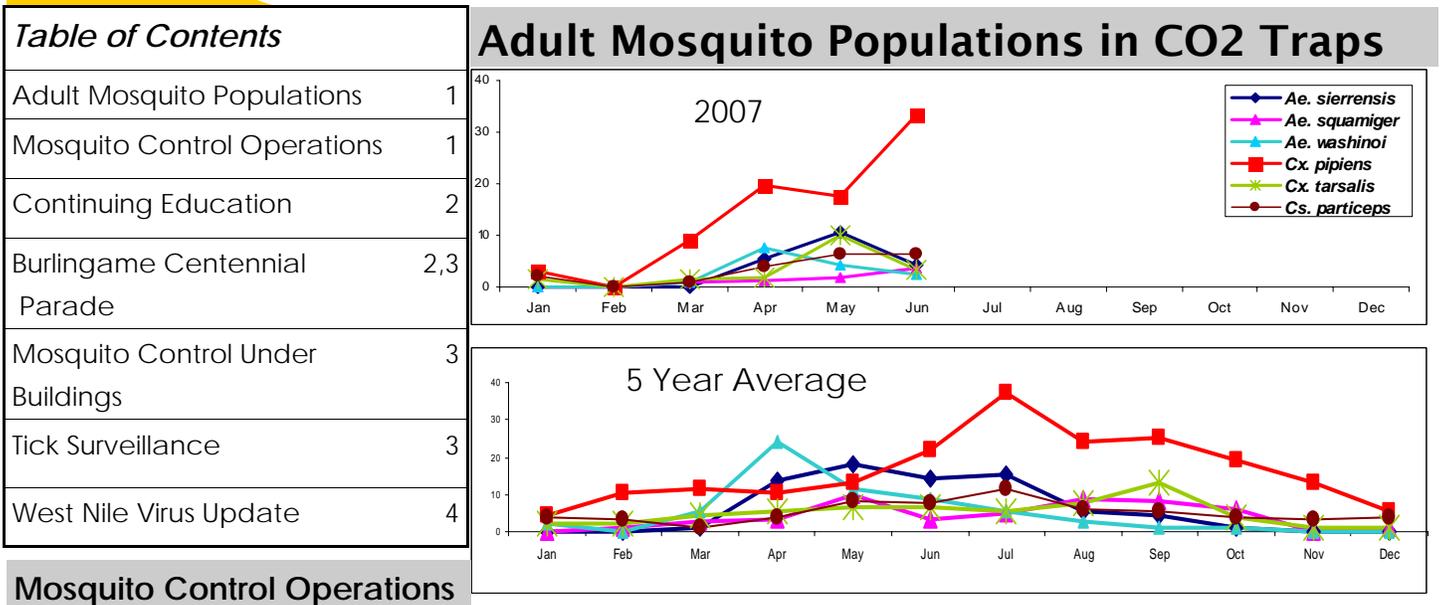


May 2007

# Entomology Report



## Mosquito Control Operations

In May, mosquito control technicians treated 1,192 backyard fishponds, 80 neglected swimming pools, 41,891 catch basins, and 215 ditches and drain lines. The area of marshes and impounds requiring treatment remained low (11 acres in May this year, compared with the average of 253 in previous years).

Mosquito development under buildings due to subsidence has been a major focus of operations this month (see page 3). Much of the land east of Highway 101 is built on filled bay lands and regularly experiences dramatic drops in ground level. When the ground subsides under buildings, it often leaves large caverns that collect water and are difficult to reach. This is ideal habitat for the northern house mosquito (*Culex pipiens*). Mosquito larvae under 84 buildings were treated this month, compared with 24 in April. The District is currently working with property owners in South San Francisco, Redwood Shores and Redwood City to remedy problem sites.

Bair Island continues to be inspected regularly; however the focus is shifting from winter to summer salt marsh mosquitoes (*Aedes dorsalis*). In 2004, changes in the landscape on Outer Bair resulted in the development of large populations of summer salt marsh mosquitoes for the first time in over 20 years. Adult mosquitoes inundated neighboring cities and had to be brought under control by truck-mounted fogging. Since that time, these summer mosquitoes have been controlled in their larval stages and have not reached the population levels seen in 2004.

Technicians continued inspecting and treating creeks in urbanized parts of the county. Helicopter treatment of cattail marshes in San Bruno, Portola Valley, and Pacifica is currently scheduled to begin on July 3.

Sewage treatment plants in Half Moon Bay, South San Francisco, Millbrae, Burlingame, San Mateo and Redwood Shores are being treated weekly during the warm months.



## Continuing Education Workshop at Solano County Mosquito Abatement District



Mosquito-sniffing dog from Alameda Co. MAD

On May 23rd, District staff attended a hands-on Continuing Education Workshop at the Solano County Mosquito Abatement District. The workshop was sponsored by the mosquito and vector control districts of the Coastal Region to satisfy education requirements for staff. Staff from member districts and vendors gave presentations at six work stations. Individual workstations covered calibration of boom & cluster nozzle sprayers, clean-up of pesticide spills, biology and identification of mites and mosquitoes, and truck safety compliance inspections.



Truck Safety Compliance Inspection Workstation

James Counts (SMCMAD supervisor) gave a presentation on modifications and setup of the District's all-terrain vehicles (Argos). During lunch, Sharon Mead from Alameda County MAD gave a demonstration of her mosquito-sniffing dog. This dog has been trained to locate sources of standing water with high organic content. It is a pilot project to see whether a trained dog would be able to help locate hidden mosquito sources such as those that occur under buildings. Staff members from the Greater Los Angeles Vector Control District demonstrated a sprayer they designed for treating storm drains. A variety of hands-on, education stations provided staff from the Bay area practical and applicable continuing education.



SMCMAD Supervisor James Counts describes setup of the District's Argos

## Burlingame Centennial Parade



Staff members Tina Sebay, Stephanie Cavanaugh, & Karen Williams in costume

On June 2, District staff participated in a parade celebrating the 100th anniversary of the city of Burlingame. The first mosquito control operations in San Mateo County were performed in 1908 (one year after the city was formed). The Burlingame Improvement Club asked Professor Herms (one of the fathers of medical entomology in California) to examine mosquito problems here and propose a solution. This early work led to the formation of the Three Cities Mosquito Abatement District in 1916, one of the oldest districts in California or the United States.

The District drove its 1940's vintage Power Wagon and 1970's Ford F150 pick-up in the parade and towed the hovercraft and Argo on trailers. Staff members Karen Williams (dressed as "Doctor Guido Mosquito") and Stephanie Cavanaugh (dressed as a mosquito) hammed it up for the crowd, while Tina Sebay and Chindi Peavey passed out stickers and temporary tattoos. The vehicles were driven by James Counts and Ben Rusmisl. Dennis Preger, representative for the city of Burlingame on the District's Board of Trustees rode in the parade with staff members on the hovercraft.



## Burlingame Centennial Parade Pictures

Stephanie Cavanaugh as a mosquito, next to the power wagon



Dr. Guido Mosquito passes out fly swatters to the crowd



Chindi Peavey & Tina Sebay



## Mosquito Control Under Buildings

In May, operational staff worked with owners of a building in Redwood Shores to devise a new approach to treating mosquito larvae under buildings. Many buildings in this area are built on slab foundations on 100' pilings. Over time, the ground under the slab subsides, leaving caverns which collect water. District staff treat several of these every month. During recent construction, an opening was created under one such foundation, allowing technicians to enter a cavern under this building. The ground had fallen 4-5 feet below the slab. Millions of mosquito larvae were developing under the building. Technicians were able to place a permanent pipe through which treatment materials can be applied from outside. The pipe was inserted under the rim of the foundation through an existing access hole. One end leads to a manhole cover and can be used to treat the standing water under the building after the construction opening is closed.



Void created under foundation by subsidence. Original ground level was flush with foundation (arrow). Note gravel on left (placed to seal out mosquitoes) and standing water (lower right)



Construction opened an entry point under the foundation



Typical subsidence viewed from outside showing gravel & rock placement

## Tick Surveillance



Nymphal tick

Testing nymphs, the juvenile stage, is an integral part of the Lyme disease surveillance program. Their extremely small, hard to see, size of this stage contributes to their role in transmission of Lyme disease. Nymphs are collected by dragging white flannel sheets over forest floors with dense leaf litter, the preferred habitat of nymphal ticks. Lab and field staff regularly monitor, collect, and test ticks in these areas to determine prevalence of Lyme disease in nymphal ticks. So far, surveys for nymphs have been carried out in Los Trancos Woods, Costanoa Resort in Pescadero, Skyline Ridge Open Space, Edgewood Park in Redwood City and Laurelwood Park in San Mateo.



Russ Baker and Samantha Wallingford collect nymphs



"An Independent Special District  
Working for You Since 1916"

SAN MATEO COUNTY  
MOSQUITO ABATEMENT DISTRICT

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The San Mateo County Mosquito Abatement District is an independent, Special District funded by a property tax voted in by individual cities. Our mission is to safeguard the health and comfort of our citizens through a planned program to reduce mosquitoes and other vectors in an environmentally responsible manner.

	Extension
Robert B. Gay, Manager	12
Chindi A. Peavey, Vector Ecologist	32
Angela M. Rory, Assistant Vector Ecologist	31
Angie Nakano, Assistant Vector Ecologist	44
Lauren Marcus, Assistant Vector Ecologist	38
James Counts, Supervisor	16
Karen Williams, Finance Administrator	11

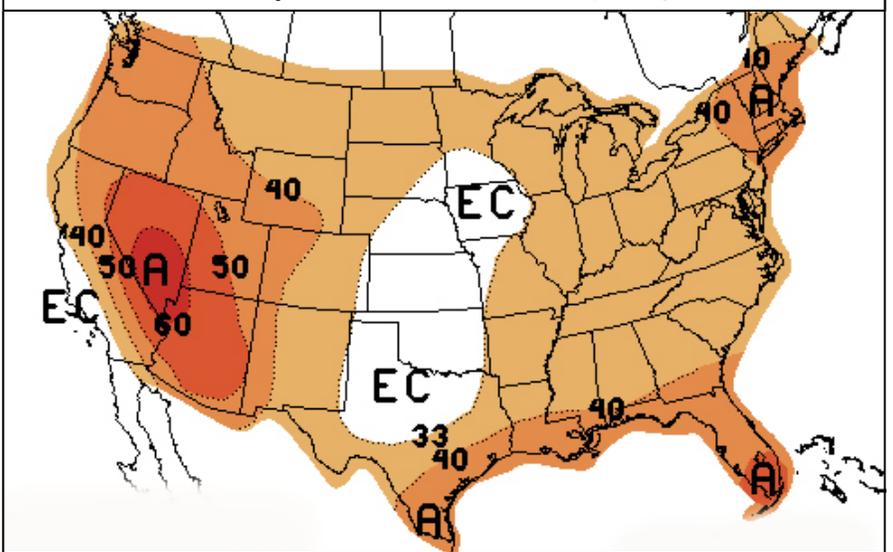
*"A VECTOR is any animal that can transmit disease to animals or people."*

### West Nile Virus Update

Thus far in 2007, detection of WNV in California has been limited to 25 dead birds, 4 mosquito pools, 1 horse, and 2 sentinel chickens. Of the positive dead birds, 32% (8/25) are from the Bay Area, specifically Santa Clara County. Additionally, a horse from Sonoma County tested positive for WNV. The state-wide prevalence of infection ( $[\frac{\# \text{positive}}{\# \text{tested}}] * 100$ ) in dead birds is 1.7% (25/1470). By this time last year, the prevalence of infection was 1.4% (24/1707). Five of these dead birds, or 20%, were from the Bay Area, one from San Mateo and four from Santa Clara. No WNV activity has been detected in San Mateo County in 2007.

According to weather predictions made by the National Weather Service Climate Prediction Center, NOAA, there is an equal chance the weather on the peninsula will be above or below normal. WNV activity usually peaks in dry, hot years.

### Three Month Temperature Outlook (July, August, September)



July, August, and September 2007 Outlook.

The above map depicts the probability of temperature variation.

**EC.** There is an equal chance it will be above or below normal.

**A.** Above normal . **B.** Below normal. **N.** Normal.

[http://www.cpc.noaa.gov/products/predictions/long\\_range/lead02/off\\_index.html](http://www.cpc.noaa.gov/products/predictions/long_range/lead02/off_index.html)