

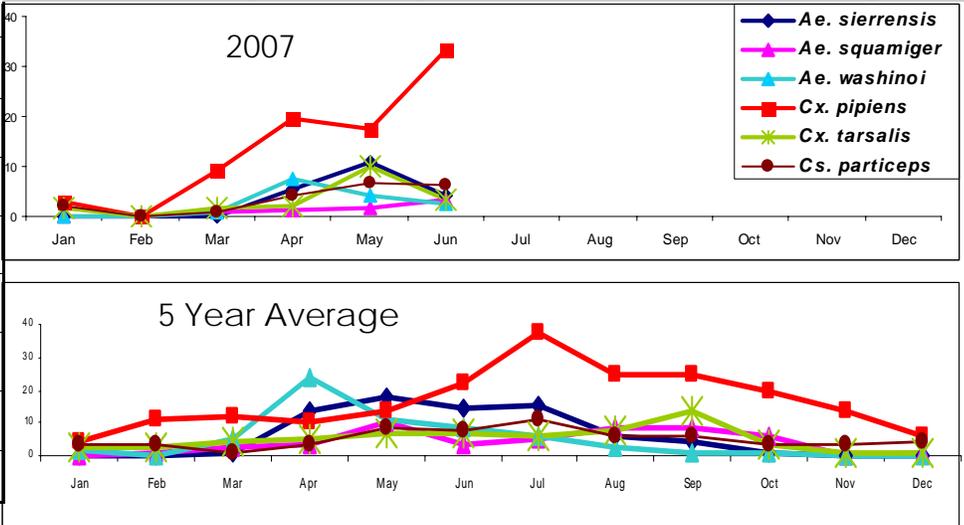


Entomology Report



<i>Table of Contents</i>	
Adult Mosquito Populations	1
Mosquito Control Operations	1,2
KCBS Ad Campaign	2
West Nile Virus Update	2
Activities with County Health	3
Pest Identification	3
Tick Population Dynamics	3
Light Brown Apple Moth	4

Adult Mosquito Populations in CO2 Traps



Mosquito Control Operations



Helicopter delivering hopper filled with Bs granules.

Bs (*Bacillus sphaericus*) is a biological mosquito larvicide.



In June, mosquito control technicians treated 1,334 backyard fishponds, 106 neglected swimming pools and hot tubs, 39,570 catch basins, water under 22 buildings and 143 ditches and drain lines.

Regular inspections at Bair Island and Mussel Rock revealed low water levels. Very little treatment has been required in these sites this month.

Technicians continued inspecting and treating creeks in urbanized parts of the county. Helicopter treatment of deep cattail marshes in San Bruno, Portola Valley, and Pacifica began on July 3, 2007.

High mosquito counts in CO₂ traps in June prompted an extensive search for sources of mosquito development in a hillside neighborhood in Brisbane. A number of new breeding

(Continued on page 2)



Cattail marshes in Searsville Lake, Portola Valley, viewed from helicopter.



Mosquito Control Operations (cont. from page 1)

sites were discovered and technicians had the opportunity to introduce themselves to Brisbane residents. Brisbane was annexed to the District in 2004.

Sewage treatment plants in Half Moon Bay, South San Francisco, Millbrae, Burlingame, San Mateo and Redwood Shores were treated weekly this month.

Yellowjacket nests have been abundant this year. In June alone, technicians treated 76 underground nests on residential property. This is twice the 5-year average of June from previous years. Low rainfall over the winter may have allowed a greater proportion of yellowjacket queens and colonies to survive from the year before. Residents can request treatment of ground-nesting yellowjackets, if they can provide the location of the nest.



Mosquito control technician Kim Keyser samples larvae from a neglected pool and hot tub. Such sources are treated with mosquitofish or materials such as Bti until the pool can be repaired.

KCBS Ad Campaign

The District, in conjunction with five other bay area mosquito abatement districts, is running a Bay Area-wide ad campaign with KCBS . This ad includes the following:

- 1) Over 130, 60-second radio commercials during the summer of 2007
- 2) Development and hosting of a sister website that provides general information and links to all district websites in the Bay Area
- 3) Over 1,200 streaming audio ads on www.kcbs.com
- 4) Banner ads on www.kcbs.com

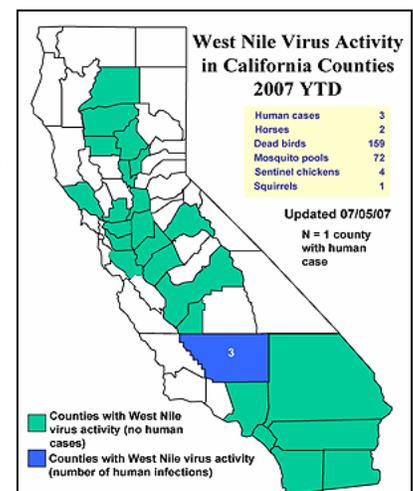
Each streaming ad provides information on how to reduce mosquito breeding on residential property to prevent WNV. This strategy is effective both for decreasing disease transmission and as general information regarding mosquito control and protection.

West Nile Virus Update

So far in 2007, dead birds from the counties of Alameda (1), Contra Costa (1), Santa Clara (20), and Solano (1) have tested positive for WNV in the Bay Area. Other local indicators of WNV include 2 dead horses in Sonoma County and 1 dead squirrel in Santa Clara County.

# Dead Birds and Squirrels Reported, Tested, and Positive for WNV in San Mateo County 2004-2007*			
(Jan - June)	Total Reported	Total Tested	Total Positive
2007	96	48	0
2006	120	79	1
2005	149	120	2
2004	15	8	0

* This table represents data from Jan-June of each year.





Outreach with San Mateo County Public Health

Physician Survey on Lyme Disease

In conjunction with the San Mateo County Public Health Department, laboratory staff have surveyed over 100 physicians throughout the county to assess physician beliefs and awareness about Lyme Disease. So far, 9% of the surveys have been completed and returned. This survey will be used to develop educational materials, geared towards physicians, informing them of the risk of acquiring Lyme Disease in the county.



Ixodes pacificus female

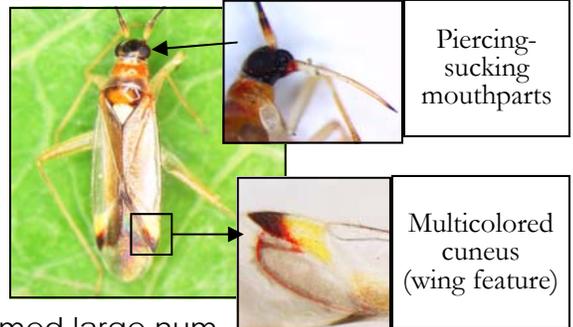


West Nile Virus Education

In the month of June, District and County Health staff assembled and delivered over 80 West Nile Virus prevention information packets to all libraries, colleges, medical clinics, and pony farms in the county. Materials were included in both English and Spanish and included a selection of brochures, bookmarks, wallet cards, flyers and posters targeted to the recipient organizations.

Pest Identification

In response to a service request for biting insects in the hillside community of Ladera, laboratory staff set CO₂ traps and conducted an inspection of the gardens surrounding a private residence in early June. Although a number of biting fly species were identified in the traps, none were present in numbers significant enough to explain the problem. However, during the onsite inspection, lab staff were bitten multiple times by what were identified as plant or leaf bugs (family: Miridae). A subsequent visit confirmed large numbers of these insects in the resident's yard. Although mirids are generally plant-feeding insects, many are capable of using their sharp piercing-sucking mouthparts to inflict a painful bite.



Piercing-sucking mouthparts

Multicolored cuneus (wing feature)

Population Dynamics of the American Dog Tick and Pacific Coast tick

District staff have been monitoring the seasonal population dynamics of the American Dog tick (*Dermacentor variabilis*) and the Pacific Coast tick (*Dermacentor occidentalis*) along the coast this year. These ticks are potential vectors of tularemia and Rocky Mountain Spotted Fever in California. Human cases of these diseases appear to have been acquired in San Mateo County during the past 3 years. Cases of tularemia have occurred in children camping south of Pescadero in 2004 and 2006. In 2004, a tick removed from a patient tested positive and in 2006, infection was detected in local ticks collected in the same area.

Adults of these ticks appear during spring and summer months. Because they are not vectors of Lyme disease, they have not been surveyed by District staff as extensively as the Western black-legged tick. The District is now sampling for these ticks on a weekly basis to further characterize their seasonal population trends. This information will be incorporated into public education campaigns that teach people to avoid tick-borne diseases.



Dermacentor variabilis male



"An Independent Special District
Working for You Since 1916"

SAN MATEO COUNTY
MOSQUITO ABATEMENT DISTRICT

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Burlingame, CA 94010

Phone: 650-344-8592

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www.smcmad.org

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."

Light Brown Apple Moth

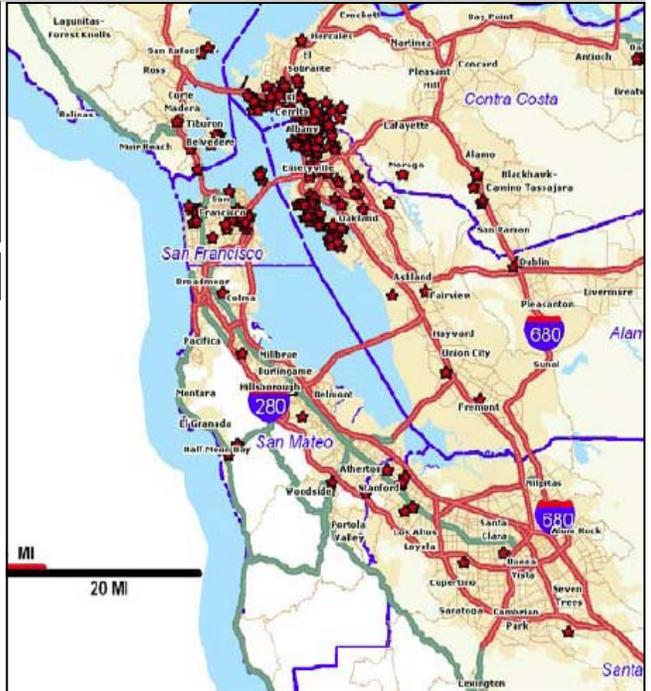


Larval feeding damage on an avocado

Photo credits: http://www.cdfa.ca.gov/phpps/pdep/lbam_main.htm

Laboratory staff regularly receive inquiries regarding a newly invasive agricultural pest, the light brown apple moth (LBAM). It is an exotic moth, native to Australia, that has been discovered in parts of the San Francisco Bay Area (refer to map). This pest feeds on a wide variety of plants, including but not limited to, apple, citrus, avocado, oak, willow, strawberry, grapes, and other ornamental shrubs and trees. To help stop the spread of LBAM, the California Department of Food and Agriculture ask that the public dispose of green waste in approved green waste bins provided by the County. If you see signs of damage, or a suspect moth, please report it to your County Agricultural Commissioner or refer to the website

<http://www.cdfa.ca.gov/index.htm>.



Map of Light Brown Apple Moth Distribution in the Bay Area
http://www.cdfa.ca.gov/phpps/pdep/lbam_main.htm

or refer to the website