

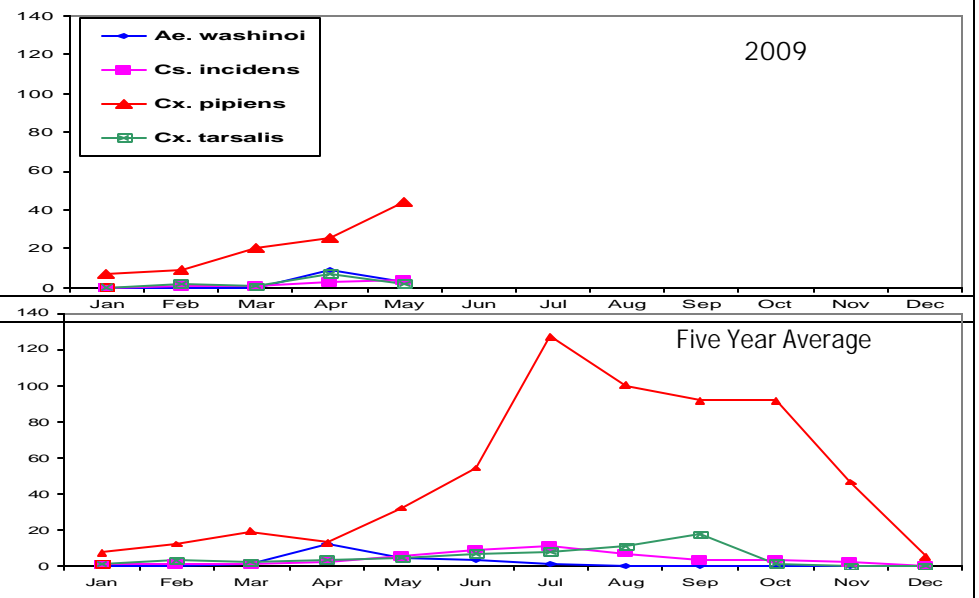


May 2009

Entomology Report

Adult Mosquito Populations in CO2 Traps

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Mosquito Control Operations

In May, Mosquito Control Technicians conducted their quarterly applications for control of mosquito larvae in utility vaults. Over 2,000 vaults were treated with time-release briquets containing a hormone specific to mosquitoes. Control operations in storm drains and catch basins continued this month. The district now has four seasonal staff dedicated to treating storm drains full time, combining their efforts with the two to three permanent staff members assigned to this work at any given time. Four additional seasonals will start in July. Mosquito control technicians also treated drains throughout green belt areas of Foster City and Redwood Shores.

Sewer treatment plants in Half Moon Bay, Burlingame, South San Francisco, and San Mateo were treated every two weeks.

Bair Island was inspected on May 21. Most of the seasonal impounds are now dry.

Number of Sources Treated Per Month by Source Type			
Source type	This Month (May)	Last month (Apr)	Monthly Avg
Fishponds & Fountains	771	1,200	1,066
Containers	324	484	497
Ditches & Drainlines	103	136	120
Creek	66	10	40
Catch basins	43,356	14,218	24,712
Utility Vaults	2085	82	102
Marshes & Impounds	109 (57 acres)	173 (63 acres)	187 (1,461 acres)
Neglected Swimming Pools	58	124	73
Water under Buildings	19	43	17

(Continued on page 2)



Mosquito Control Operations (continued) and Service Requests

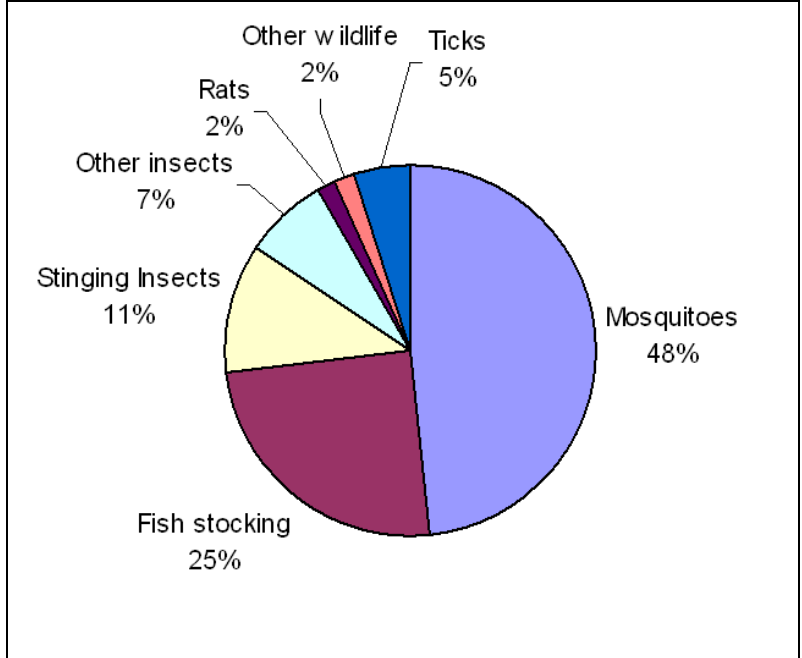
In May, technicians also began treating pools of standing water in creeks throughout urbanized areas of the county.

Service Requests

District Mosquito Control Technicians stocked fish in 37 backyard ponds this month and responded to a total of 122 requests for service from local residents. Almost three-fourths of these were related to mosquito control (reports of standing water, adult and/or larval mosquitoes, or requests for fish).

District technicians abated eight yellow jacket nests. Laboratory staff responded to nine calls requesting information about other insects and six requests for tick identification and testing.

Service Requests by Category, May 2009



West Nile Virus Update

Statewide:

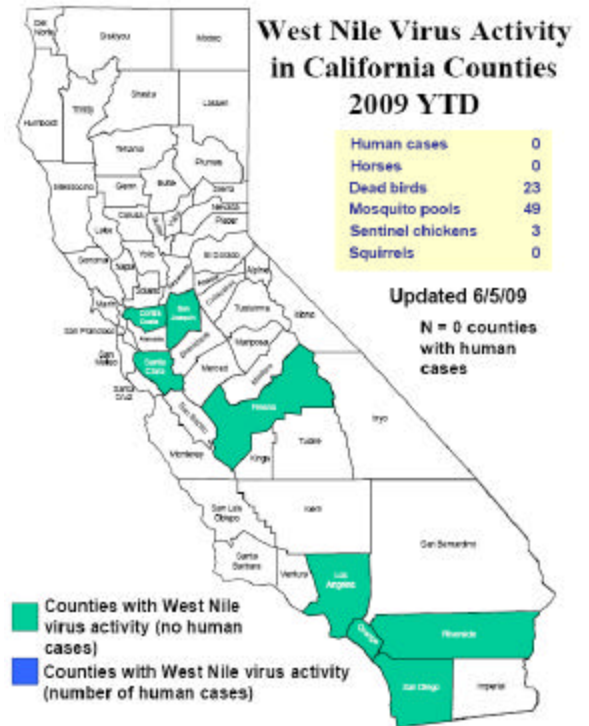
As of June 5, 2009, 23 dead birds have tested positive for West Nile Virus (WNV) in six counties in California (see map at right). This week's results include the first positive birds reported in Santa Clara County (or in any county in the San Francisco Bay Area) this year. Overall, the state has seen fewer WNV-positive birds in 2009 (23) than it had by this same time of year in 2008 (65).

Forty-nine mosquito samples have tested positive in California, including eleven from Contra Costa County and thirteen from Santa Clara County. To date, there have been no human cases of WNV in California in 2009.

San Mateo County:

As of June 9, 95 dead birds have been reported in the county for 2009. Of these reported birds, 18 have been tested for WNV and none have been found positive.

The district works cooperatively with the San Mateo County Health Department in ongoing efforts to educate the public on WNV and mosquito safety. A meeting was held between agencies on May 27 to coordinate these efforts. Additionally, Vector Ecologist Chindi Peavey gave a talk on WNV and local vector-borne diseases to nurses and doctors at the Kaiser facility in South San Francisco on May 14.





Mosquito Age Grading Methods from Lake County Vector Control District



Lake County Biologist Bonnie Ryan displays ovarian structures of the mosquito

District Assistant Vector Ecologists Theresa Shelton and Angie Nakano visited the Lake County Vector Control District on May 18, 2009, to observe and learn microdissection techniques for mosquitoes. Information about the reproductive status and history of individual female mosquitoes may be obtained by examining structures dissected from their ovaries. Biologist Brittany Mills of Lake County has become an expert in these dissec-

tion and photography methods, and shared her techniques and advice with district staff.

The district lab hopes to apply these dissection techniques in the future to determine parity (whether or not a mosquito has ever laid eggs) and the number of gonotrophic cycles the mosquito has gone through (how many times she has laid eggs). This information can then be used for a variety of purposes, including evaluating efficacy of specific mosquito control applications and assessing the disease risk from a specific population of vector mosquitoes.



Lake County Biologist Brittany Mills demonstrates a dissection (top); Mosquito ovaries are dissected in a single drop of solution. (bottom)

May Public Education Events

Fairs

Both fairs attended by the district in May, the San Carlos Hometown Days at Burton Park and the Foster City Art and Wine Festival at Leo Ryan Park, drew large crowds. Throughout both weekends, the San Mateo County MVCD booths were met with steady interest from the community. Many people expressed appreciation for district services; others who were not as familiar were

pleased to learn about our services. District staff are always well received at these events and value the opportunity to personally reach out to the community.

Open House

On Friday, May 29, the district office was open to visitors interested in learning about services available to residents. Displays highlighted various programs, such as catch basin treatment, mosquito monitoring, rat inspection and yellow jacket control. District staff were available to answer questions and give tours of the district. Although attendance was sporadic throughout the day, those who visited gained a better understanding of the value of district services and the range of vector control issues within the county.



A historical display in the conference room outlined the district's past



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The San Mateo County Mosquito and Vector Control 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.

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Robert B. Gay, Manager_____	12
Chindi A. Peavey, Vector Ecologist_____	32
Angie Nakano, Assistant Vector Ecologist_____	31
Tina Sebay, Assistant Vector Ecologist_____	38
Theresa Shelton, Assistant Vector Ecologist_____	44
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***"A VECTOR is any animal that can transmit
disease to animals or people."***

Fire Ant Zombies

The red imported fire ant (RIFA) is an aggressive ant species with a painful bite. It has become a problem, particularly in the southern part of the United States, where populations are higher. The ants can cause hundreds of painful stinging bites at a time, damage electrical equipment by biting through cords and block motors with sand they use to build their nests. One way fire ants are combated is by releasing species of phorid flies which are native to the same area of South America as the ants.

Researcher Dr. Scott Ludwig, an integrated pest management specialist of Texas AgriLife Extension Service, has released a species of phorid fly, *Pseudacteon obtusus*, previously unused in fire ant control. This phorid fly is unique to previously used species because it will attack fire ants that are foraging, rather than only the dirt mounds where the ants live. If attacked, a fire ant will retreat into the nest where other ants will kill parasites they detect, limiting the growth of the fly populations. More good news: this phorid fly will only target RIFA.

This new species will cause the foraging ant to wander off in another direction, where the fly can develop within the ant away from the colony. The phorid fly deposits eggs in the ant, then the maggots hatch and eat the ant brain. While the maggots feed, the ant wanders aimlessly, like a zombie. About a month after the eggs were laid, a maggot has had time to pupate, and become an adult. The ant head pops off, and an adult phorid fly emerges.



Red imported fire ants are an invasive pest in the southern United States. Photo by Scott Bauer of USDA.