

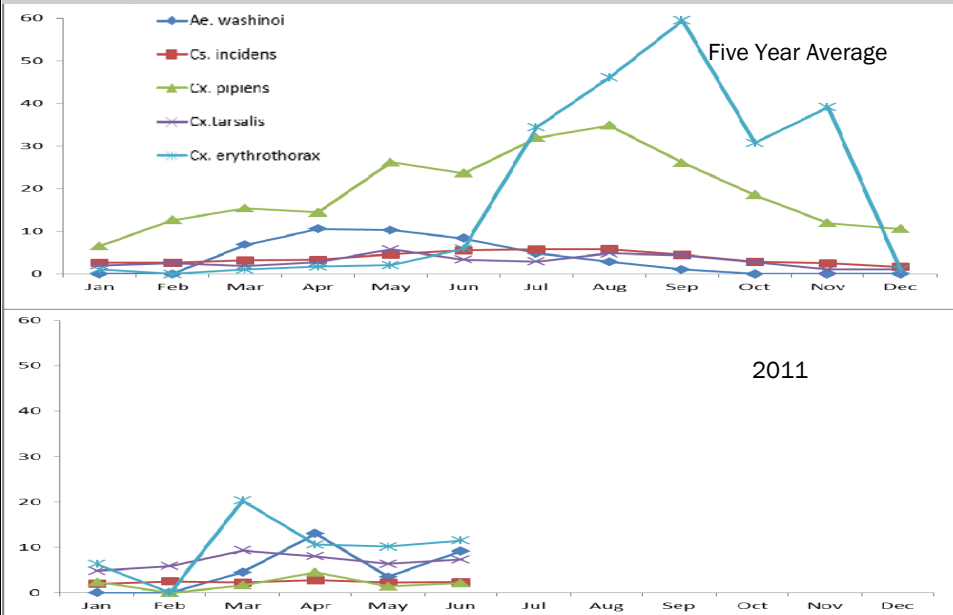


Entomology Report



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Adult Mosquito Populations in CO2 Traps



Mosquito Control Operations

Underground sources of standing water were the major focus of mosquito control operations in June. Treatment of storm drains and catch basins increased, with almost 50,000 treated this month. This is 15,000 more than the number treated in May. There are currently 6 seasonal staff working full time on catch basin treatment.

Vector control technicians also treated standing water in 1,510 utility vaults and 1,481 backyard fountains and fishponds this month. They began treating pockets of standing water in creeks in urban areas, particularly on the eastern side of the county. Creeks are inspected every 3-4 weeks from June through October when water flows are low.

Most of the salt marsh impounds are dry now, with the exception of the restored area of outer Bair Island, which now holds water year round. Helicopter work in cattail marshes begins on July 12.

Number of Sources Treated Per Month by Source Type

	June	Monthly Average
Fishponds & Fountains	1,481	1,066
Containers	774	497
Ditches & Drain lines	148	120
Creeks	150	40
Catch basins	49,500	24,712
Utility Vaults	1,510	102
Marshes & Impounds	195 (39 acres)	187 (1,461 acres)
Neglected Swimming Pools	104	73
Water under Buildings	19	17
Total	53,881	31,151

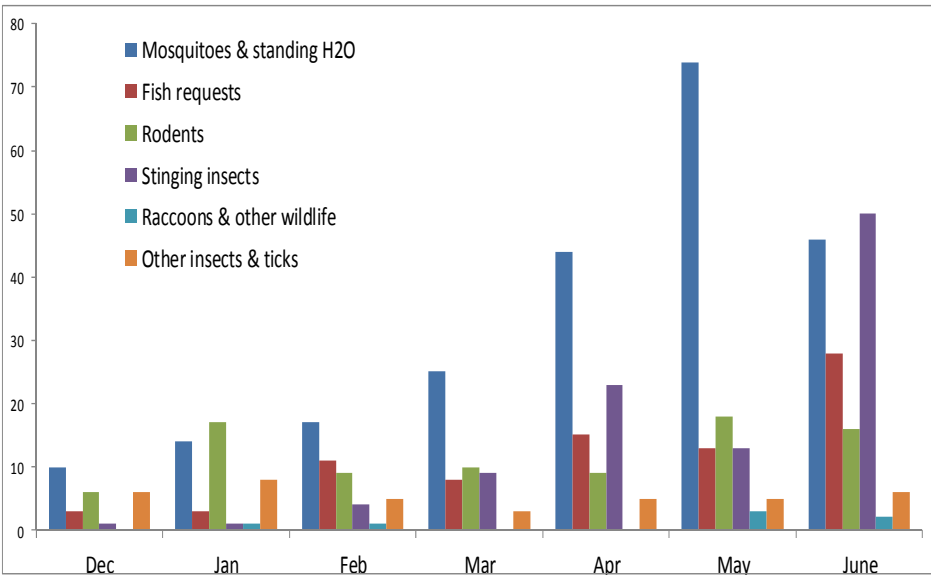


Service Requests

Although calls for service related to mosquitoes declined in June, the total number of service requests increased. Much of this increase can be attributed to the dramatic rise in the number of service calls relating to stinging insects such as yellowjackets which is typical for this time of year.

As seen in the chart below, the number of service requests in other categories remained more or less constant, with the exception of a slight uptick in fish requests in the past month.

Service Requests by Month, Dec 2010– June 2011



Reason for Request	June
Mosquitoes & Standing Water	46
Fish Requests	28
Rodents	16
Stinging Insects	50
Raccoons & Other Wildlife	2
Other Insects & Ticks	6
TOTAL:	148

West Nile Virus Surveillance

Statewide:

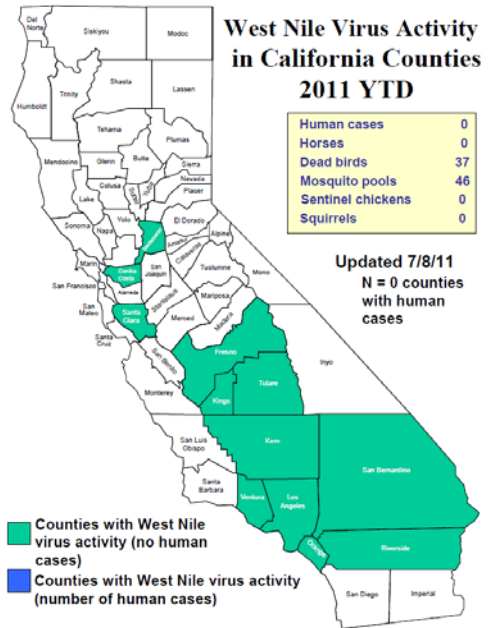
As of July 8, 2011, 37 dead birds have been found positive for West Nile virus (WNV) in California. Additionally, 46 mosquito samples have tested positive in the state. Locally, West Nile virus has been detected in the Bay Area counties of Santa Clara and Contra Costa in 2011.

There have not been any human cases of WNV reported so far this year in California. Similarly, no cases had been reported at this time last year.

San Mateo County:

One-hundred and eleven (111) dead birds have been reported by the public in San Mateo County to date this year. Fourteen (14) of these birds were in suitable condition for testing; none have tested positive for WNV.

The district asks residents to call in to report dead birds or tree squirrels. Specimens that appear to have been dead for less than 24 hours and are in good condition will be tested for WNV. Residents should contact the state WNV hot line at **877-WNV-BIRD (968-2473)**. Reports can also be made online at <http://westnile.ca.gov>.





Rat Control in County Unincorporated Areas



Non-toxic bait blocks may be used to assess rat activity as part of a rodent IPM program.

In June, laboratory and operations staff began conducting rat control in selected county unincorporated sites. As part of the transfer of vector control responsibilities from the environmental health division of San Mateo County, the district assumed oversight of rodent control activities in these areas this year.

The district is administering its baiting program in adherence to the principles of integrated pest management, or IPM. Integrated Pest Management dictates that pest control be conducted using the least-toxic methods available that are both effective and environmentally responsible. To this end, non-toxic "DETEX" bait is initially being utilized to monitor for rats in environmentally sensitive areas. In this way, the district can focus control on specific areas of rat activity, avoiding harm to native, non-target rodents.

In order to prevent children or pets from encountering bait, only anchored, tamper-proof bait stations are being placed at all sites. Each station bears a conspicuous warning label with information on active ingredients, as well as the district name and phone number. For more information on district rodent control programs, contact Laboratory Director Chindi Peavey at the district office at **(650) 344-8592**.



Tamper-proof bait stations prevent children and pets from encountering rat bait.

Raccoons in Attics and Crawl Spaces



Roof damage caused by a raccoon trying to gain access to the attic

Raccoons living in attics and crawl spaces can be a problem for county residents this time of year. Mother raccoons seek safe, enclosed spaces to have their young, and attics or wall voids might look like just the ticket if there is an easy access point. Raccoons will enter basements, crawl spaces or attics through un-screened vents or open access doors. Once inside, they set up dens in attics or wall voids.

If you suspect that a raccoon has taken up residence inside your walls, attic, or under the house, **it is EXTREMELY IMPORTANT not to simply close the opening, without first checking to see whether there are any animals left inside.** Sealing the hole during the day will trap the animals inside. Sealing it after the mother has gone out may still leave baby raccoons trapped inside. A mother raccoon will go to extreme measures to get to her babies. She may rip out vent screens, tear shingles off the roof, or pull siding or doors from the exterior of a house, in order to reach her young. The best approach is to contact an experienced wildlife trapper, who can remove the whole family. The district offers advice on where raccoons are entering buildings, how to prevent them from coming in, and how to find a trapper.

Preventative exclusion should be done in winter, before raccoons take up residence in the building. Additional information on dealing with raccoons can be found at the UC Davis IPM website at www.ipm.ucdavis.edu/PMG/PESTNOTES/pn74116.html.



Baby raccoon leaving an attic through a vent under eaves. This opening was too small for the mother raccoon to enter



"An Independent Special District
Working for You Since 1916"

SAN MATEO COUNTY
MOSQUITO AND VECTOR CONTROL

1351 Rollins Road
Burlingame, CA 94010

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www.smcmad.org

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

Most Cockroaches are Right-handed

A recent study published in the Journal of Insect Behavior¹ reveals that American cockroaches (*Periplaneta americana*), like people, seem to be predominately right-handed...or at least "right-antennaed."

Researchers at Texas A&M University placed lab-reared cockroaches in a Y-shaped tube, where the insects had a choice of which direction to scurry. Vanilla and ethanol scents were randomly emitted at the far ends of the tube to entice the cockroaches past the fork in the road.

While it turns out that roaches had no statistically significant preference for either the scent of vanilla or the alcohol, they did tend to choose the right-hand fork in the tube 57% of the time.

The experiment was then repeated after removing sections of one or both of the insects' antennae, which are used for tactile and scent detection. If a roach's right antennae is removed, for instance, one would expect the sense of smell to be diminished on that side and cause the insect to turn left more often. While removal of the right antennae did indeed cause the roaches to veer left more often (59%), removal of the right antennae caused the roach to choose the right-hand path a much larger proportion of the time (71%). After rigorous data analysis of all trials, an overall right-side bias was confirmed.

For those concerned about the ethics of mutilating cockroaches, rest assured that the scientists anesthetized all insects to reduce stress before altering the antennae, and that prior research has shown that roaches are unable to feel pain.² So the next time you find yourself chasing down a madly scurrying cockroach, you might try to veer right...and squash with a clear conscience.



Photo by Gary Alpert

American cockroach (*Periplaneta Americana*)

1. Cooper R. et al. Side-Dominance of *Periplaneta americana* Persists Through Antenna Amputation. Journal of Insect Behavior (2011) 24:175-185.
2. Wigglesworth V.B. Do insects feel pain? Antenna (1980) 1:8-9