

July—August 2011



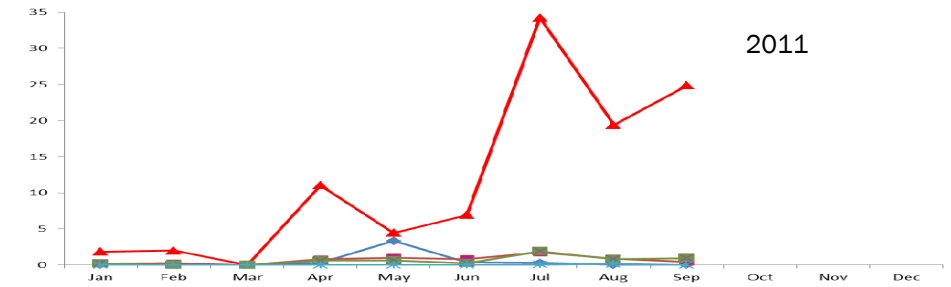
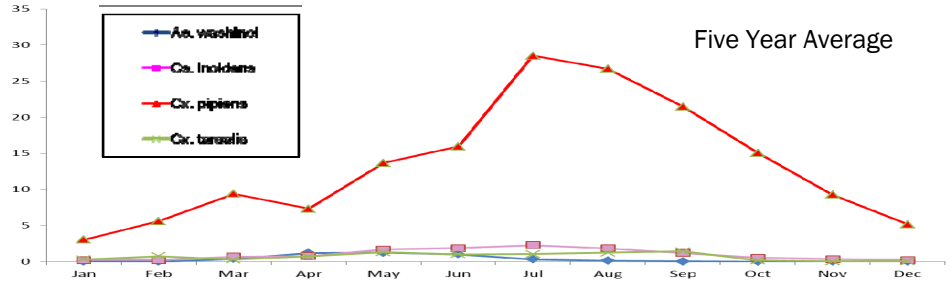
Entomology Report



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Adult Mosquito Populations in CO2 Traps



Mosquito Control Operations

During July and August, catch basins and utility vaults were a major focus of mosquito control efforts. A total of 58,815 basins were treated in July and 92,345 in August. Quarterly treatment of utility vaults was done on August 28 with 1,372 vaults completed. Three teams accomplished the work, treating 400 to 460 vaults each day. The work was completed September 11. The season's first treatment of cattail marshes by helicopter occurred on July 12. Additional applications were made on August 2 and 23. The final helicopter treatment for this season is scheduled for October 4.

Cordgrass control work was carried out on four dates in July and five in August. Most of the work is being done on foot with backpack sprayers this year, while the airboat is being used to ferry people to difficult-to-reach sites.

Number of Sources Treated Per Month by Source Type

| | July | August | Monthly Average |
|--------------------------|----------------|-----------------|-------------------|
| Fishponds & Fountains | 719 | 1174 | 1,066 |
| Containers | 292 | 497 | 497 |
| Ditches & Drain lines | 169 | 802 | 120 |
| Creeks | 45 | 259 | 40 |
| Catch basins | 58,815 | 92,345 | 24,712 |
| Utility Vaults | 104 | 1,372 | 102 |
| Marshes & Impounds | 93 (187 acres) | 221 (468 acres) | 187 (1,461 acres) |
| Neglected Swimming Pools | 57 | 63 | 73 |
| Water under Buildings | 12 | 13 | 17 |
| Total | 60,306 | 96,746 | 31,151 |

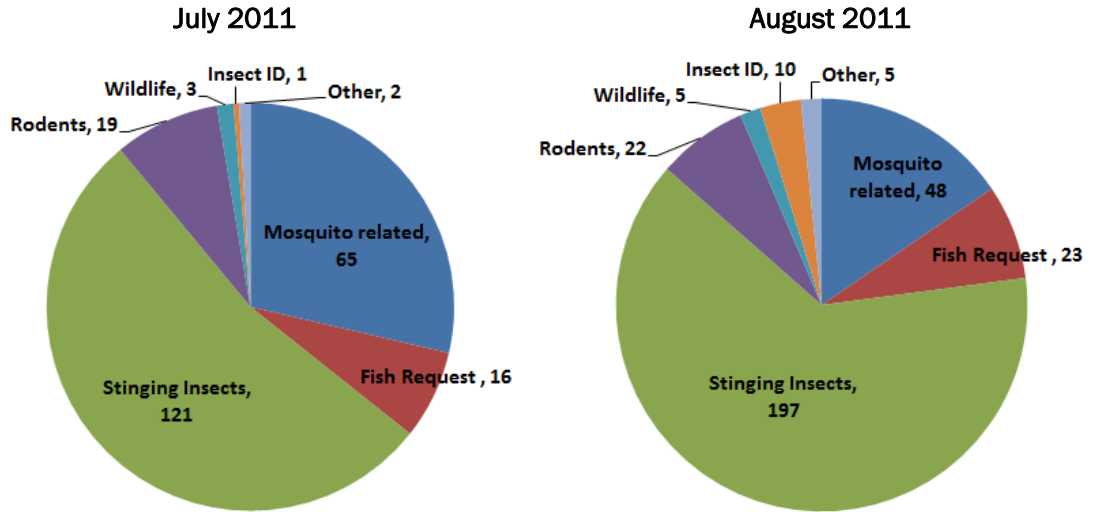


Service Requests

District staff responded to 227 and 310 requests for service in the months of July and August, respectively (total of 537 over two months). This represents a 46% increase in the number of requests compared to this time last year (369).

Service requests for yellow-jackets and other stinging insects (318) accounted for the largest proportion of calls (59%). The spike in the number of insect ID requests in August consisted primarily of residents calling about fly infestations.

Requests for Service



West Nile Virus Update

San Mateo County:

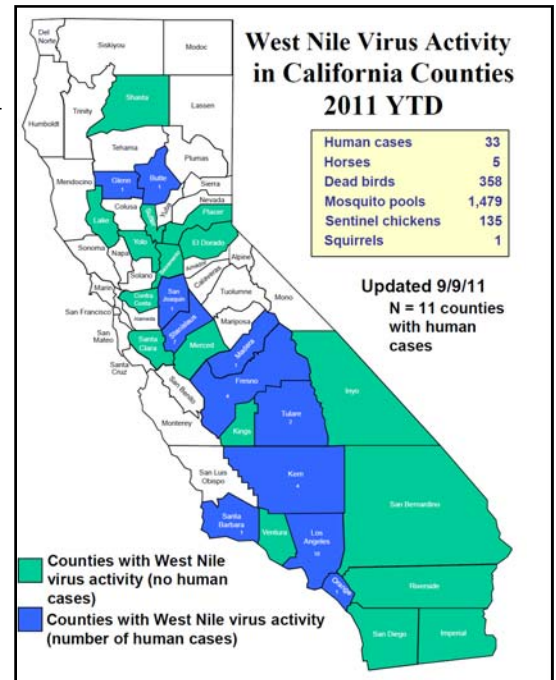
West Nile virus (WNV) has not been detected in San Mateo County yet in 2011. One hundred thirty-eight (138) dead birds have been reported by the public in San Mateo County to date this year. However, only 18 of these birds were in suitable condition for testing. None have tested positive for WNV.

The district asks residents to call in to report dead birds and 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>.

Statewide:

As of September 12, 2011, twenty-eight counties in California have detected WNV. This past month, Lake County and Shasta County detected WNV for the first time this year.

There have been 33 human cases of WNV in California this year from eleven counties (see counties shaded blue in map on right). None of the human cases were fatal. Twenty-three counties have submitted a total of 1,479 positive mosquito samples to the state so far this year. Three hundred fifty-eight (358) dead birds (22% of birds tested) have been found positive for WNV in California. Additionally, five horses and one squirrel have tested positive in the state. In the coastal region, Santa Clara and Contra Costa counties have detected West Nile Virus in 2011. Both counties are fogging for adult mosquitoes.





Flushing Drainlines—IPM in Action

The district recently purchased new equipment for flushing drain lines. During the summer months, mosquitoes developing underground are one of the biggest problems the district faces. In low-lying, flat areas like the Shoreline neighborhood of San Mateo, larvae develop in great numbers in the drain lines between catch basins. The best solution to this problem is to flush the lines on a monthly basis. The water board requires that cities be covered under a National Pollution Discharge Permit (NPDES) for storm water runoff. Under this permit, fire hydrant water is considered a pollutant because it contains chloramine (a sterilant that has replaced chlorine to make water safe to drink). In order to flush storm drains with hydrant water, the chloramines must be removed. This is done by running the water through an attachment shown below. The device was tried for the first time in early September and worked well.



PHOTOS

Top right: Vector Control Technicians Danielle Hern and Brian Weber flush mosquitoes out of underground drainlines.
 Above left: Technician Brian Weber turns on the water supply. A metered valve tracks water flow out of the hydrant.
 Above center: A special nozzle attachment dechlorinates and diffuses the water prior to it entering the city drainage system.
 Above right: Moving water in high enough volumes restores flow to blocked drainage systems, disrupting mosquito breeding.

Tularemia in San Mateo County

In July, the district learned of a human case of tularemia that may have been acquired from exposure to a dead squirrel in Foster City. Tularemia is a serious but rare disease caused by the bacterium *Francisella tularensis*. It affects small mammals and humans. People are infected by:

- A bite by an flea, tick or deer fly carrying the bacteria
- Handling infected animals, usually cats, rodents or wild rabbits
- Eating undercooked infected animals
- Inhaling dusts with the bacteria (for instance, if an infected carcass is hit by a lawn mower)
- Drinking water contaminated with the bacteria

Symptoms include sudden onset of high fever and body aches. Other symptoms vary depending on how the disease was acquired. They can include swollen lymph nodes, skin ulcers, sore throat, cough, difficulty breathing, eye swelling, and chest pain. Tularemia is treatable with antibiotics. A person who suspects he or she has tularemia should see their doctor. A blood test will confirm the diagnosis.

The district is asking anyone who finds dead squirrels or rabbits to notify us so that the animal can be collected and tested—(650) 344-8592.



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"An Independent Special District
Working for You Since 1916"

SAN MATEO COUNTY
MOSQUITO AND VECTOR CONTROL

1351 Rollins Road
Burlingame, CA 94010

Phone: 650-344-8592
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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.

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

Giant Wasps

A newly identified species of wasp, *Dalara garuda*, is an especially large and intimidating insect recently discovered in Indonesia. The wasp is about five times larger than the yellowjackets commonly seen in San Mateo County, measuring 2.5 inches long. Additionally, it has impressive jaws that are longer than its front legs. The wasp has two methods of attack: using its massive jaws to bite and using its formidable stinger. Females are smaller than males, but still ferocious.

The wasp species was discovered and collected by entomologist Dr. Lynn Kimsey, director of the Bohart Museum of Entomology of the University of California, Davis during a biodiversity expedition to Sulawesi Island of Indonesia. The species was discovered and identified simultaneously by entomologist Michael Ohl of the Natural History Museum of Berlin, who found the wasp specimens among the museum collections.



Pinned specimens of male and female *Dalara garuda*.
Photo credit: Kathy Keatley Garvey

Because the species has never been observed in the wild, very little is known about its biology. Males of similar wasp species use their jaws in combat while guarding nests and holding females while mating, and it is likely that *D. garuda* uses its extra large jaws for similar behaviors.

Dalara garuda is only known to occur on Sulawesi Island. The island is known as a hotspot for biodiversity, due to its tropical climate and isolation. The large size of *D. garuda* is unusual for the tropics, because wasps tend to be bigger in regions that are cooler.