

Santa Clara County Vector Control District Operations and Surveillance Report October/November 2017



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District Mission

To detect and minimize vector-borne diseases, to abate mosquitoes, and to assist the public in resolving problems with rodents, wildlife and insects of medical significance.

Services Provided

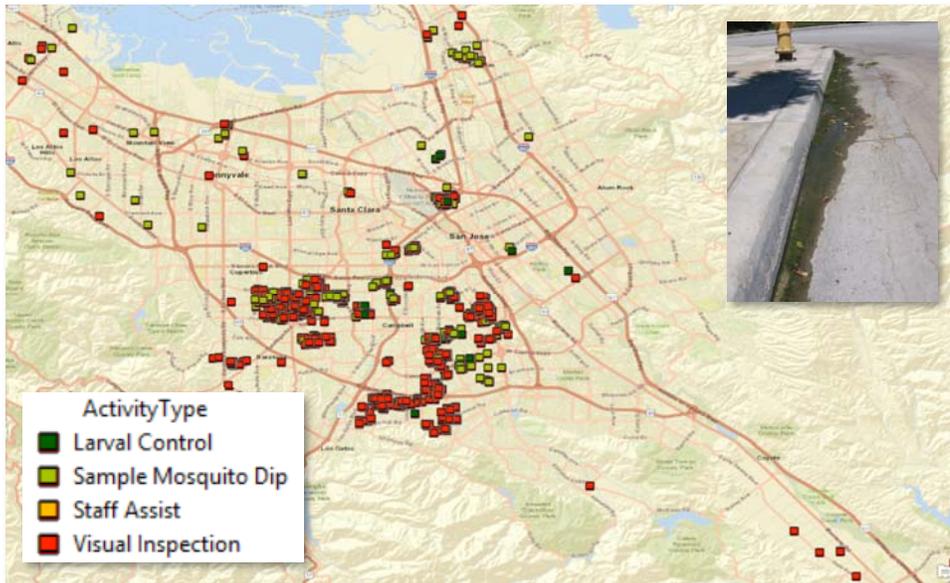
- Detection of the presence/prevalence of vector borne diseases, such as Plague, West Nile Virus, rabies, & Lyme disease, through ongoing surveillance and testing
- Routine inspections, and treatment as necessary, of known mosquito and rodent sources
- Response to customer initiated service requests for identification, advise, and/or control measures for mosquitoes, rodents, wildlife, and miscellaneous invertebrates (ticks, yellow jackets, cockroaches, bees, fleas, flies, etc.)
- Free educational presentations for schools, homeowners associations, private businesses, civic groups and other interested groups
- Free informational material on all vectors and vector borne diseases

Manager's Message

In 2017 the invasive mosquito species *Aedes aegypti* and *Ae. albopictus* continued to spread throughout the state and creating new challenges for mosquito control district. In addition, news of Zika virus dominated active headlines as "new disease" came to California, a virus that is carried by the invasive mosquitoes. While the two invasive mosquito were not detected in our county, they are public health concern that must be addressed which Vector Control District is preparing for.

Operations Report: Curbs and Catchbasins

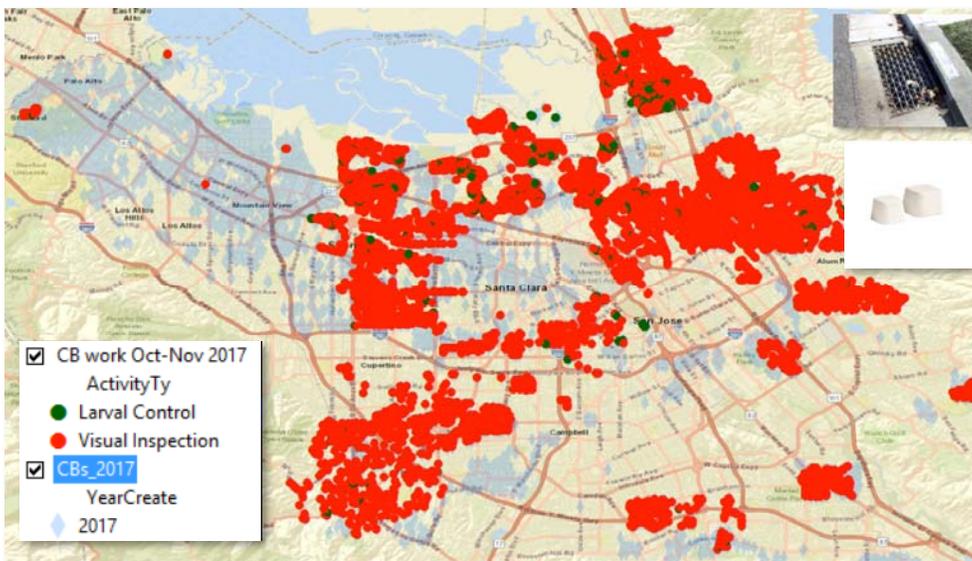
Street curbs



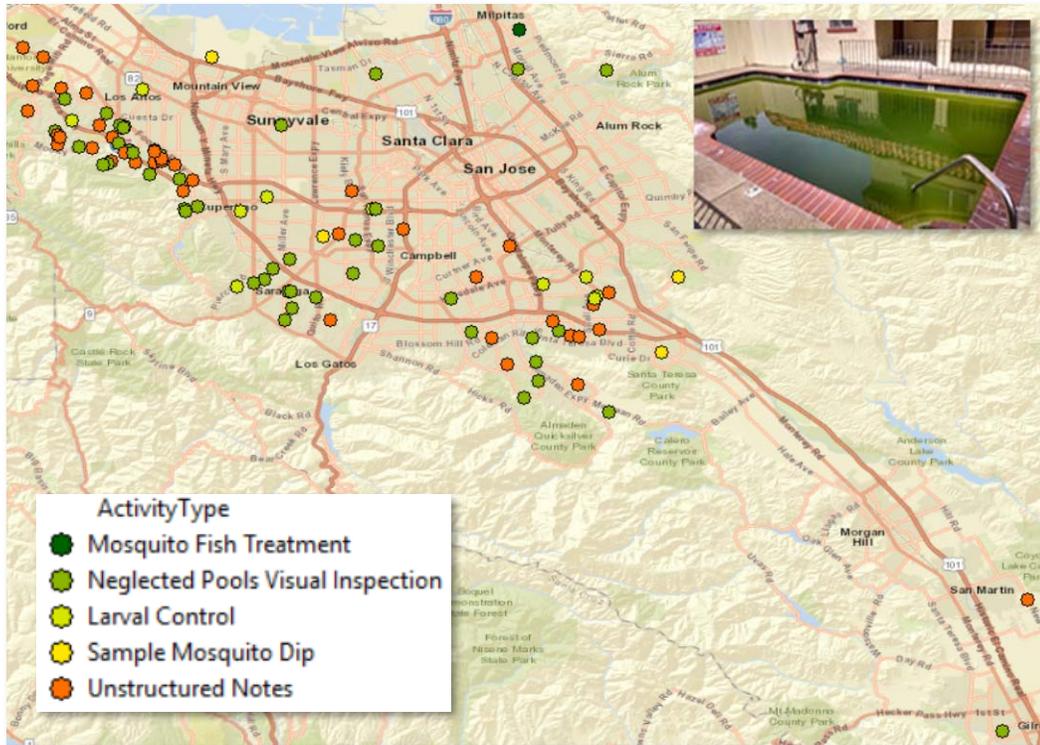
The District employs seasonal staff to check and treat mosquitoes in flooded street curbs and stormwater catchbasins. These sites hold standing water due to rainfall or urban runoff from domestic water usage. During October-November, 1,176 street curbs and 5,870 catchbasins were inspected or treated for larval and pupal stage mosquitoes using biorational pesticides.

Bacillus thuringiensis var. israelensis and *Bacillus sphaericus* in a slow release briquette formulation can provide up to 180 days of mosquito control without harming aquatic life, humans, livestock or wildlife.

Stormwater Catchbasins

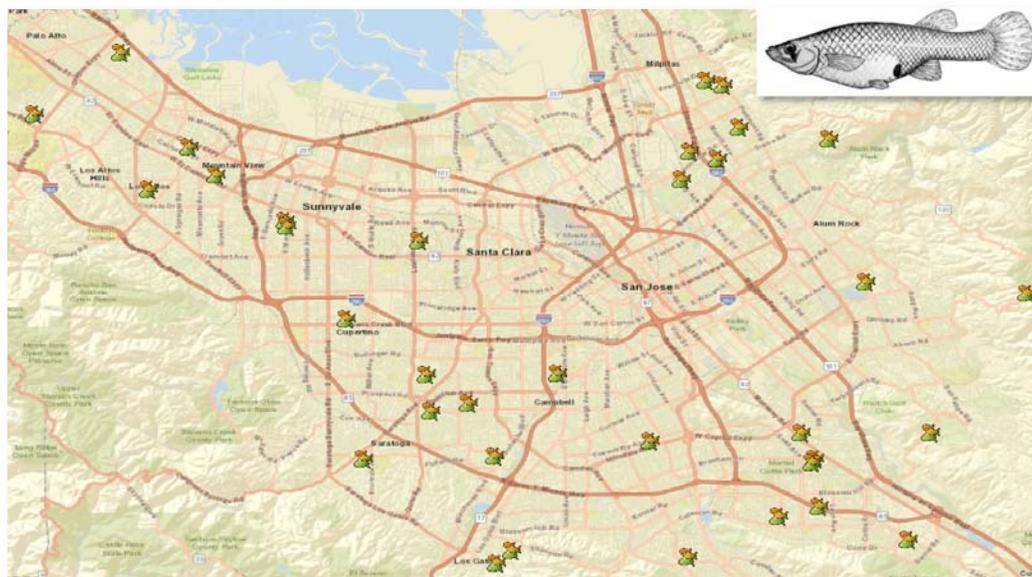


Operations Report: Neglected Pools



Stagnant water in neglected swimming pools can produce hundreds of mosquitoes and cause a local nuisance to neighborhoods. The District inspected 100 pool locations during October-November.

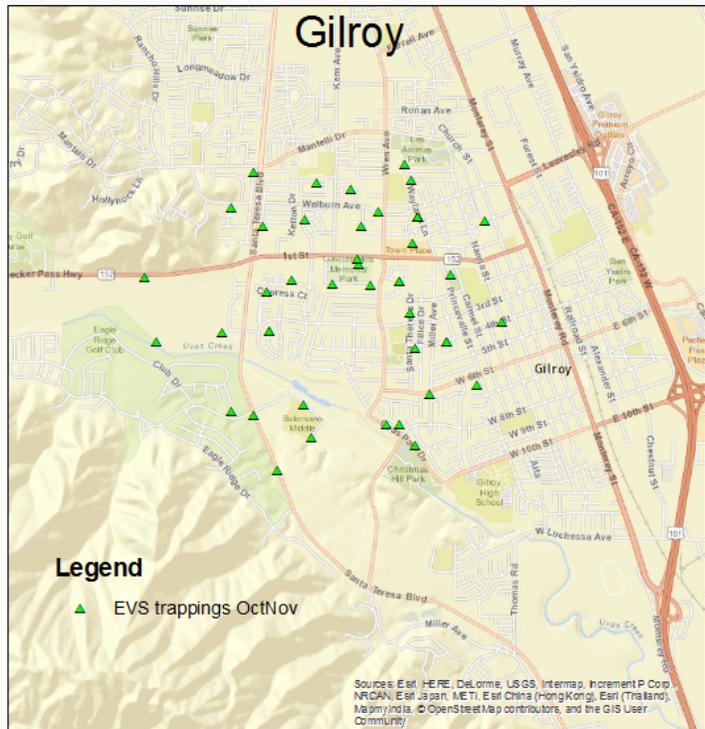
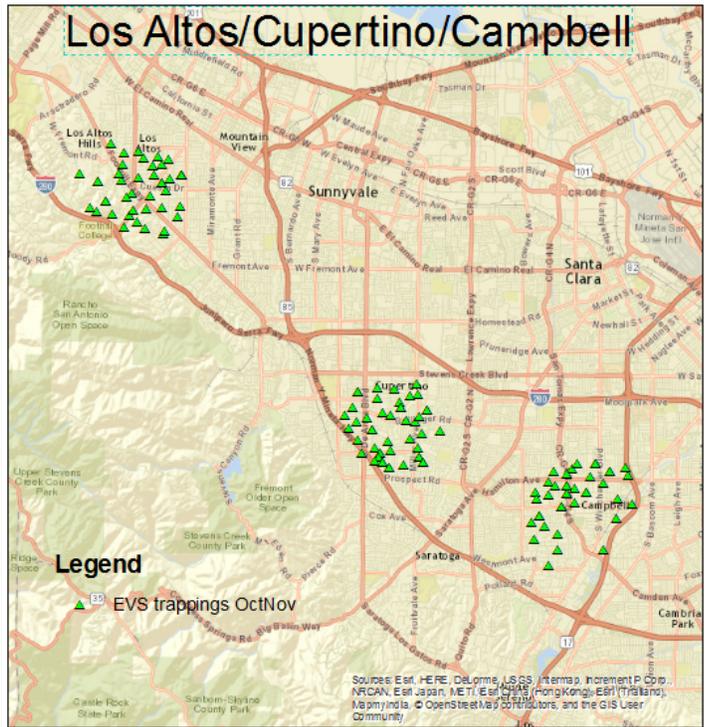
Operations Report: Biological Control with Mosquitofish



The mosquitofish is a topminnow (*Gambusia affinis*) that is a natural predator of larval and pupal stage mosquitoes. District staff deliver fish for stocking backyard sites like fountains, ponds, and rain barrels. The District delivered 446 mosquitofish to 35 properties during October.

Adult Mosquito Populations in Carbon Dioxide Traps

The District has a multifaceted response plan for West Nile Virus (WNV) based on dead bird reports, sentinel chickens and community-wide mosquito trapping. Reports of dead birds by the public provide samples for in-house testing at the District Laboratory. Mosquito trapping typically targets areas where positive birds were detected and 40 traps are set within a 1-mile radius. Sentinel chickens (red legerns) are kept at stationary sites across the county and serologically tested bi-weekly for WNV, Saint Louis Encephalitis and Western Equine Encephalitis virus between May and November each year. We will continue to respond to dead bird requests throughout the fall and winter.

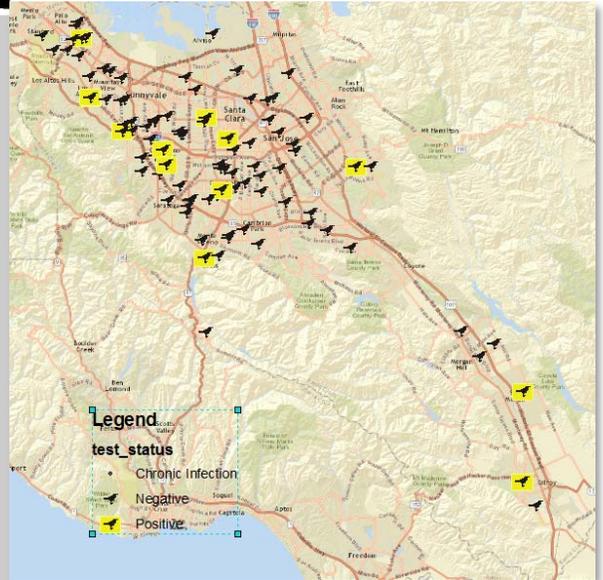


Eight flocks of sentinel chickens are maintained to check for antibodies for WNV, Saint Louis Encephalitis and Western Equine

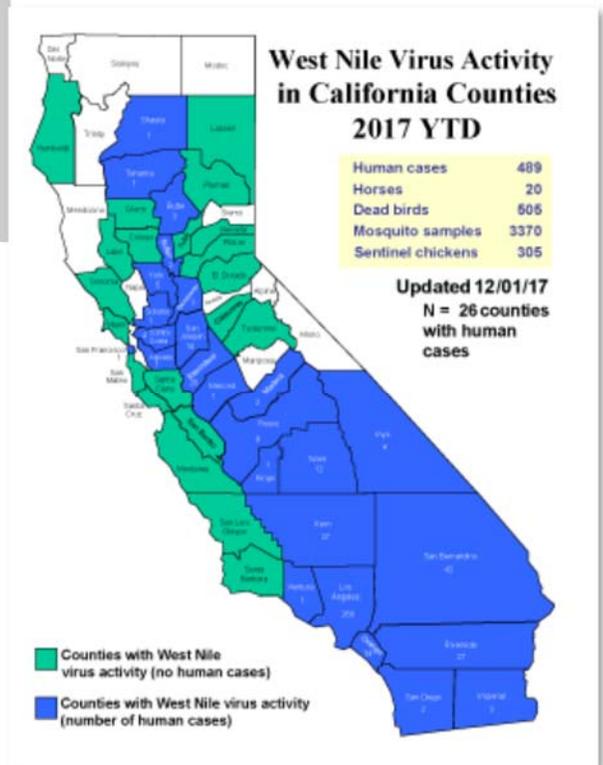
WNV/SLE Surveillance

Detection Method	Samples Tested Sep. (total count)	# Pos. for WNV
Dead Birds	59	10
American crow	2	1
American robin	1	0
Common Raven	5	0
Western Scrub jay	1	0
Coopers Hawk	8	1
Sparrows	1	1
Unknown songbird	2	0
Finches		
Others (Acorn woodpecker, black-headed grosbeak, California towhee, northern mockingbird, Swainsons thrush, unknown)	10	0
Total	89	13
Mosquito Pools Tested (# of mosq.)		
Culex pipiens	72 (814)	0
Culex tarsalis	63 (632)	0
Sentinel Chickens	2064 (WNV/SLE WEE)	0
Palo Alto	273	0
Sunnyvale	231	0
Milpitas	258	0
Campbell	273	0
San Jose HQ	273	0
San Jose Hellyer Park	246	0
San Martin	237	0
Gilroy		
Humans	0	0

Birds Sampled to Date in 2017 (positive birds are highlighted)



West Nile Virus Update



Statewide:

As of December 1, 2017, 505 dead birds have tested positive for West Nile Virus (WNV) in California (see map at right). At this time last year, 1,346 positive birds had been reported.

Twenty six counties have submitted a total of 3,370 positive mosquito samples to the state so far this year. To date, 489 human cases have been reported from 26 counties.

One human case of Saint Louis Encephalitis Virus (SLE) was found in Kern County this year.

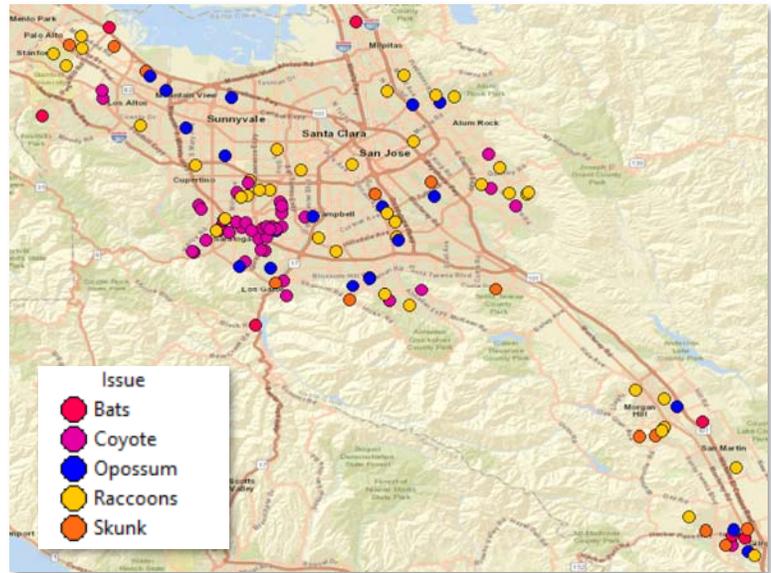
Santa Clara County:

As of December 1, 2017, 497 dead birds have been reported in Santa Clara County. Of these reported birds, 102 have been tested for WNV and 12 were found positive. The Sentinel Chickens Program was concluded for this year were at the end of October. In 2017, none of the chickens tested positive for WNV.

Public Service Requests

Row Labels	Count
Bats	7
Bed Bug	12
Bees	10
Cockroaches	6
Coyote	48
Fogging Questions	0
Gambusia (Mosquito Fish)	29
Mosquitoes	82
Neglected Pool	8
Opossum	21
Other (see description)	22
Other Invertebrate	5
Other Vertebrate	5
Raccoons	43
Rodents	190
Skunk	14
Snake	3
Squirrels	11
Wasps/Yellowjackets	34
Grand Total	553

During October and November there were 553 calls for service among a wide range of issues including mosquitoes, requests for mosquitofish, stinging insects (bees and yellowjackets) and wildlife. Services provided include home inspections for rodents or wildlife and phone consultations. Calls regarding rodents and mosquitoes were highest in frequency. The map below shows 131 wildlife service calls for October-November.



Insect Identification Service



Tropical rat mite sampled by affected residents from their iphone display.

Body lice submitted from resident following travel to Europe.

Insect Identification

25

Insects submitted by residents for identification during October and November included: biting midges, warehouse beetles, stink bug, mites, springtail, cat flea, booklice, Indian meal moth, cockroach, cigarette beetle, bedbug, subterranean termites, moth fly, body lice, tropical rat mite and drugstore beetles.

Hantavirus Surveillance Program

On November 7th, the Surveillance Team placed 100 live-capture traps for sampling rodents to detect hantavirus risk to county parks staff at the Mendoza Ranch facility on Roop Road, Gilroy. On the following day, the traps were recovered and yielded four Pinyon mice (*Peromyscus truei*) and one deer mouse (*Peromyscus maniculatus*). The mice were serologically tested by California Dept. Public Health and found to be negative. Hantavirus or Sin Nombre virus is believed to occur in 10 percent of deer mice of the species, *Peromyscus maniculatus*, but sometimes “spills over” into other deer mouse populations when they occur together.



Invasive Mosquito Detection Methods

Detection Method	Trap Nights	Positive Detections
Ovicup Trap 	56	0
Biogents Sentinel Trap (BG-Sentinel) 	61	0
Autocidal Gravid Trap (AGO or MAGO) 	57	0
Public Submission of Day-biting mosquitoes Travel Cases (Zika, Chikungunya, dengue)	0 16	0 0



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Our District Mission is to detect and minimize vector-borne diseases, to abate mosquitoes, and to assist the public in resolving problems with rodents, wildlife, and insects of medical significance in Santa Clara County.



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