

# Santa Clara County Vector Control District Operations and Surveillance Report September 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

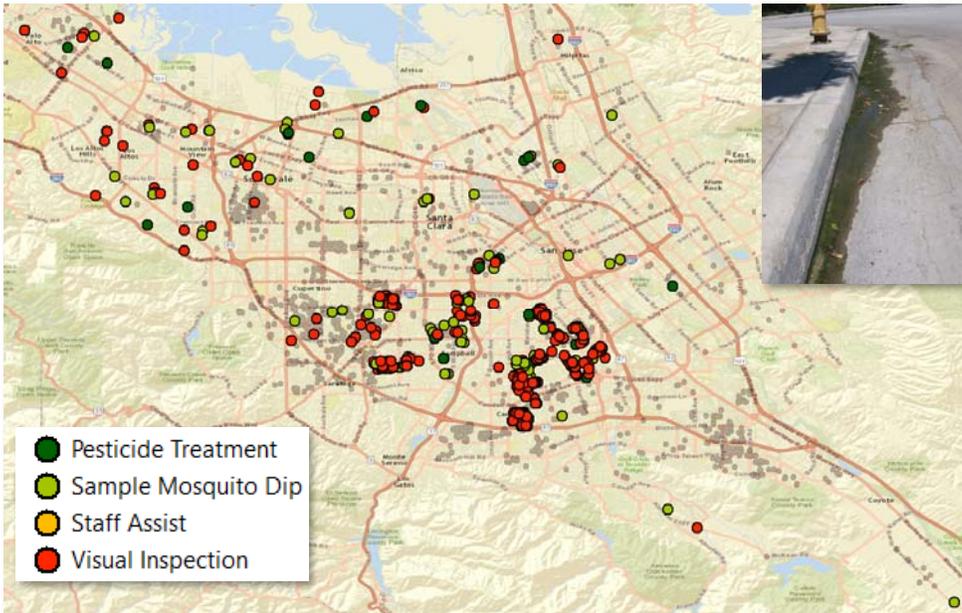
- Detection of the presence/prevalence of vector borne diseases, such as Plague, West Nile Virus, Hantavirus, Rabies, & Lyme disease, through ongoing surveillance and testing
- Routine inspections, and treatment as necessary, of known mosquito and rodent sources
- Response to customer initiated service 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

The Fall will soon be here and the District is reaching the end of the West Nile Virus season without the need for a single fogging event. Staff have worked hard throughout the Summer to proactively reduce mosquito larvae within each work zone and conducted surveillance for infected adult mosquitoes as well as trapping for invasive mosquito species.

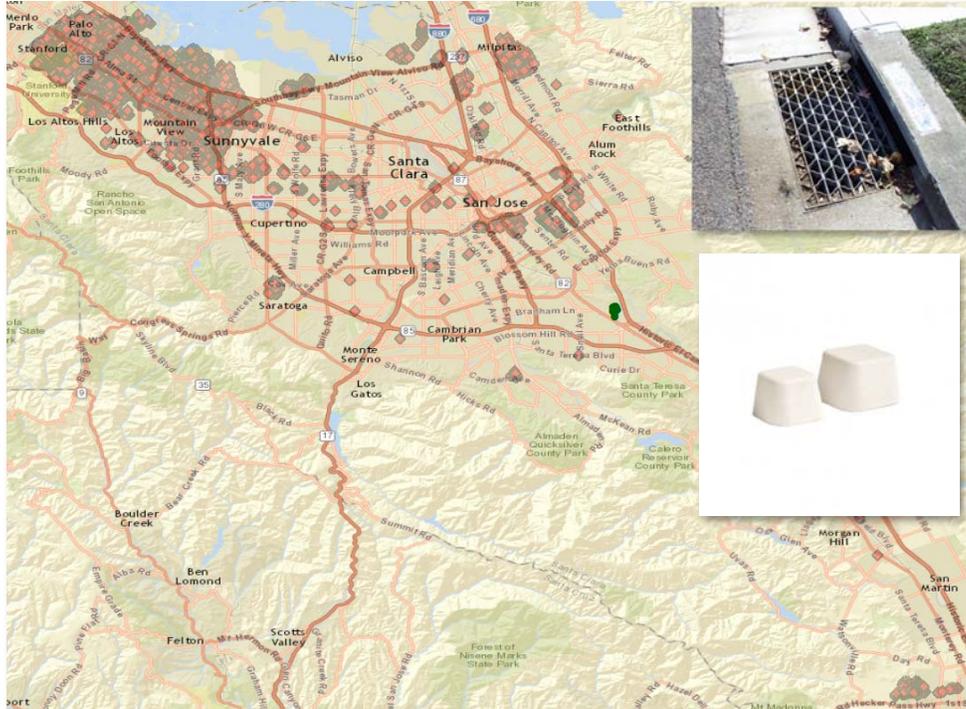
## Operations Report: Curbs and Catchbasins

### Street curbs



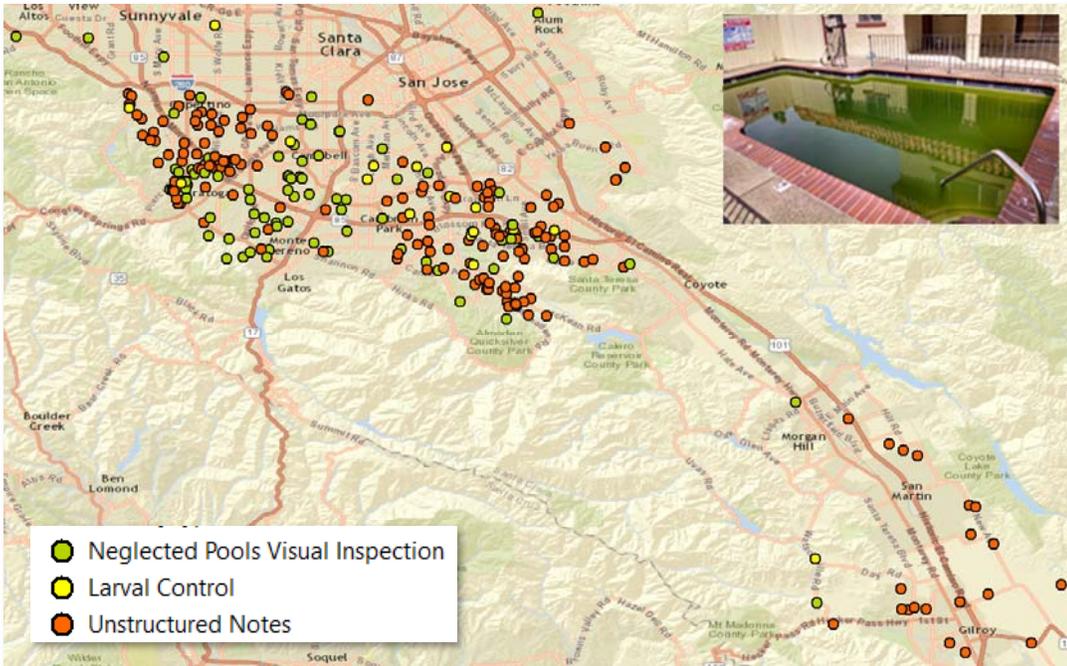
*The District employs seasonal staff to check and treat mosquitoes in flooded street curbs and stormwater catchbasins. These sites hold standing water due to rainfall or urban runoff from domestic water usage. During September, 515 street curbs and 36 catchbasins were treated for larval and pupal stage mosquitoes using biorational pesticides. To date in 2017, 2,227 curb locations and 15,596 catchbasins have been inspected.*

### Stormwater Catch basins



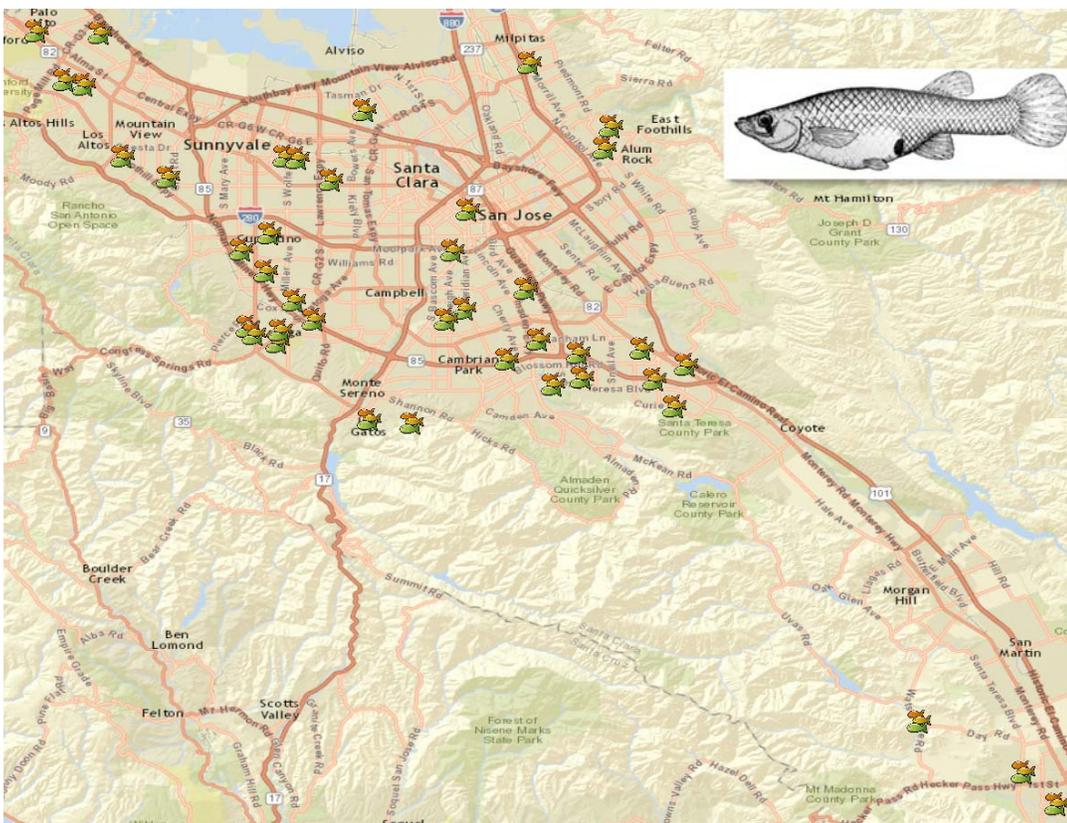
*Bacillus thuringiensis var. israelensis and Bacillus sphaericus in a slow release briquette formulation can provide up to 180 days of mosquito control without harming aquatic life, humans, livestock or wildlife.*

## 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 285 pool locations during September. To date in 2017, 1,886 pool locations have been inspected. There are currently 3,684 neglected pool locations logged in the District's data system.*

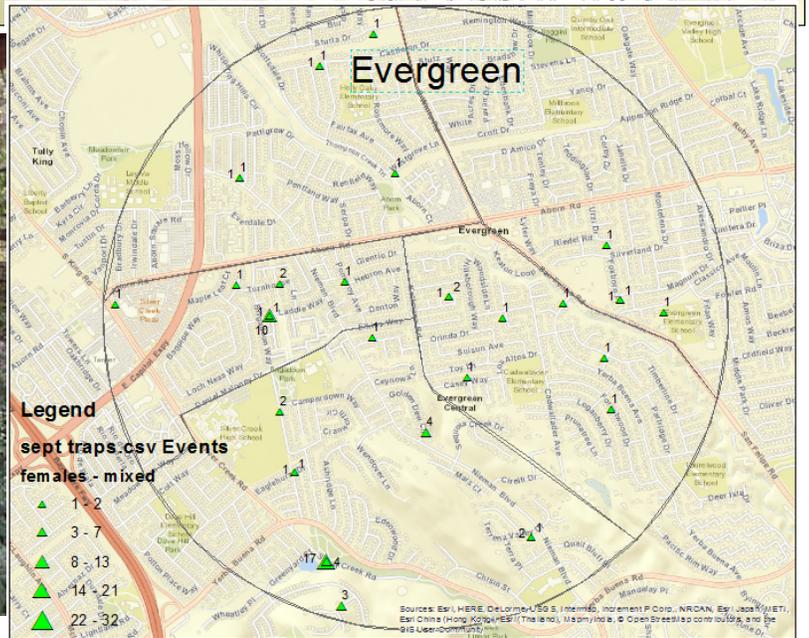
## Operations Report: Biological Control with Mosquitofish



*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 663 mosquitofish to 42 properties during September. To date this year, 8,433 fish have been delivered to 615 locations.*

### 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 biweekly 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.



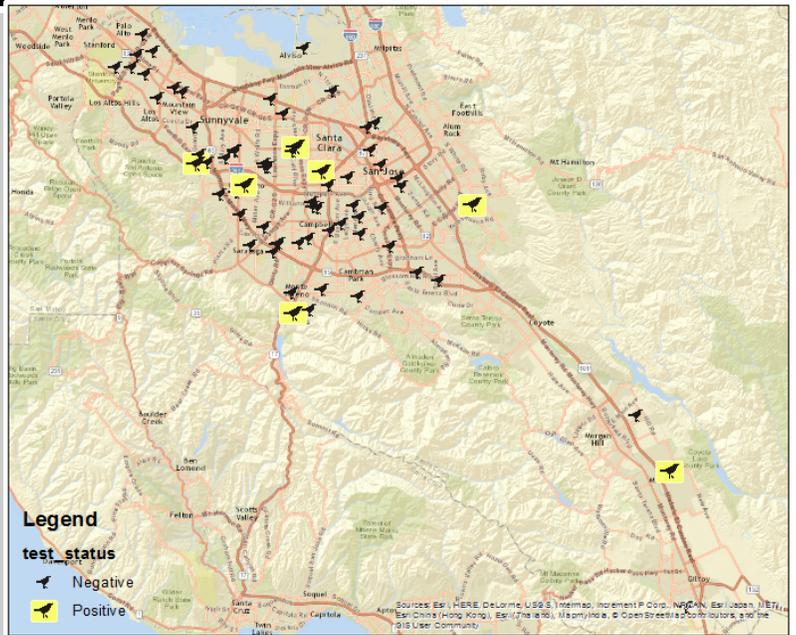
Eight flocks of sentinel chickens are maintained to check for antibodies for WNV, Saint Louis Encephalitis and Western Equine Encephalitis virus.

EVS or Carbon Dioxide-baited trap attracts host seeking female mosquitoes that are tested for virus.

WNV/SLE Surveillance

Detection Method	Samples Tested Sep. (total count)	# Pos. for WNV
Total Dead Birds	17 (73)	7
American Crow	10 (50)	5
American Robin	0 (1)	0
American Goldfinch	1 (1)	0
Western Scrub Jay	1 (4)	0
Common Raven	0 (1)	0
Songbird	1 (2)	1
Sparrow	2 (3)	1
California Towhee	0 (1)	0
Northern Mockingbird	2 (2)	0
Mosquito Pools (count)	17 (111)	0
Culex pipiens	9 (56)	0
Culex tarsalis	8 (55)	0
Sentinel Chickens	54	0
Palo Alto	7 (14)	0
Sunnyvale	6 (12)	0
Milpitas	7 (14)	0
Campbell	7 (14)	0
San Jose HQ	7 (14)	0
San Jose Hellyer Park	7 (14)	0
San Martin	6 (12)	0
Gilroy		
Humans	0	0

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



West Nile Virus Update



**Statewide:**

As of September 29, 2017, 428 dead birds have tested positive for West Nile Virus (WNV) in California (see map at right). At this time last year, 1,288 positive birds had been reported.

Twenty six Counties have submitted a total of 3,182 positive mosquito samples to the state so far this year. To date, 211 human cases have been reported from 18 counties.

Saint Louis Encephalitis Virus (SLE) was found in 166 mosquito pools from 13 counties, including 27 from neighboring Stanislaus County.

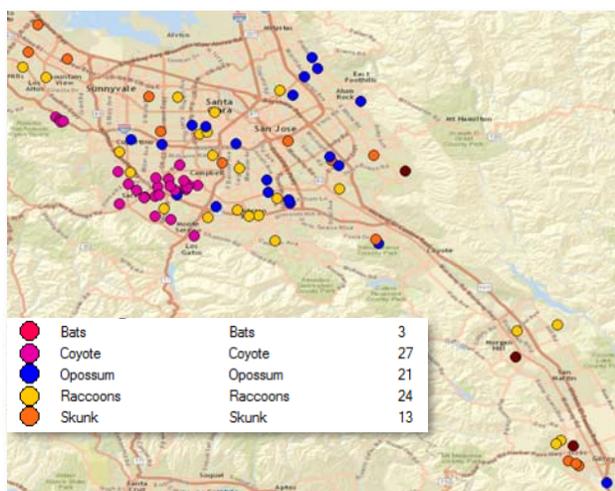
**Santa Clara County:**

As of October 2, 2017, 421 dead birds have been reported in Santa Clara County. Of these reported birds, 73 have been tested for WNV and seven were found positive. Sentinel chickens continue to be maintained at eight locations, and blood samples are tested on a bi-weekly basis. To date, none have tested positive for WNV.

## Public Service Requests

Row Labels	Count
Bats	3
Bed Bug	5
Bees	7
Cockroaches	8
Coyote	27
Fogging Questions	1
Gambusia (Mosquito Fish)	23
Mosquitoes	21
Neglected Pool	6
Opossum	21
Other (see description)	17
Other Invertebrate	7
Other Vertebrate	6
Raccoons	24
Rodents	93
Skunk	13
Snake	6
Squirrels	5
Wasps/Yellowjackets	79
<b>Grand Total</b>	<b>372</b>

During September there were 372 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 rodent or yellowjacket issues were highest in frequency. The map below shows wildlife service calls for September.



## Insect Identification Service



Public submissions for identification included this small thrip (~1 mm) known to occasionally bite or annoy people. Dorsal view (top) and lateral view (bottom).

## Hantavirus Surveillance Program

On September 6th, the Surveillance Team placed 130 live-capture traps for sampling rodents to detect hantavirus risk to residents of Redwood Estates and Loma Prieta. On the following day, the traps were recovered and yielded five Pinyon mice (*Peromyscus truei*), one wood rat (*Neotoma fuscipes*) and two shrews. The mice and wood rat were serologically tested by California Dept. Public Health and found to be negative. The two fog shrews were released on site without testing. 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) 	23	0
Autocidal Gravid Trap (AGO or MAGO) 	30	0
Public Submission of Day-biting mosquitoes Travel Cases (Zika, Chikungunya, dengue)	0 4	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."*