



COUNTY OF SANTA CLARA VECTOR CONTROL DISTRICT

Operations and Surveillance Report

APRIL 2019

IN THIS ISSUE

MANAGER'S MESSAGE	2
SERVICES AVAILABLE	3
OPERATIONS REPORT	4 - 7
WEST NILE VIRUS SURVEILLANCE	8
INVASIVE MOSQUITO SURVEILLANCE	9
HANTAVIRUS SURVEILLANCE	10
PUBLIC SERVICE REQUESTS	11
OUTREACH PROGRAM	12

DUMP AND DRAIN

Learn how to prevent mosquito breeding in your yard.

Did you know mosquitoes can breed in a bottle cap of water? Don't give them a chance to reproduce! Dump and drain water from:

- Old tires
- Buckets
- Tarps
- Bird baths

Visit sccvector.org for more information.



MESSAGE FROM THE MANAGER



Nayer Zahiri
County of Santa Clara
Vector Control District Manager

The Santa Clara County Vector Control District (SCCVCD) continues to detect and minimize vector-borne diseases through several surveillance programs, and assist with public reports of mosquito breeding, rodent infestations, and neglected pools.

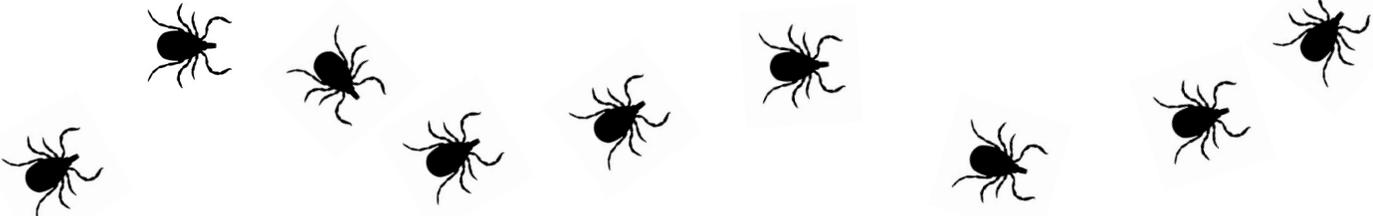
The prevention of vector-borne disease outbreaks remains the District’s primary goal, which is why outreach and surveillance play a very important roll in all that we do.

Our Surveillance programs are one way the District is proactively monitoring for vector-borne diseases we know might occur in the County, have occurred in the past, or are currently taking place in neighboring counties. Our outreach program helps us educate the public on how to be proactive against vectors. Together, as we each do our part, we increase the chances of making our County free of vector-borne diseases.

This month’s report highlights the surveillance programs we reinitiated with the current mosquito season, surveillance for hantavirus, and our outreach campaign for the 2018-2019 fiscal year.

Respectfully,

Nayer Zahiri



SERVICES AVAILABLE

SCCVCD is committed to protecting the public from vectors that are capable of transmitting diseases or creating a nuisance.

The services listed below are available for free to the public in Santa Clara County:

- Customer service requests for identification, advice, and/or control measures for mosquitoes, rodents, wildlife, and miscellaneous invertebrates (ticks, yellowjackets, cockroaches, bees, fleas, flies, and others).
- Delivery of mosquitofish to control mosquito populations. Mosquitofish are a topminnow (*Gambusia affinis*) that is a natural predator of larval and pupal stage mosquitoes.
- K-12 educational presentations and hands-on activities tailored for individual classroom settings or school assemblies.
- Educational presentations for homeowner associations, private businesses, civic groups, and other interested organizations.
- Educational booths for community, corporate, or school events
- Informational material on all vectors and vector-borne diseases.



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

OPERATIONS REPORT

The District employs seasonal staff to check and treat mosquito larvae in flooded street stormwater catch basins, curbs, naturally breeding sources, and ponds.

These sites hold standing water due to the rainfall or urban runoff from domestic water usage.

Stagnant water in these areas, and in neglected swimming pools, can breed mosquitoes that can carry dangerous human diseases like West Nile virus.

The County of Santa Clara Vector Control District actively monitors such locations to prevent these local nuisances from emerging and potentially spreading diseases.



April Updates

- Staff inspected 1,789 basins and treated 297 that were found to contain mosquito larvae (Figure 1).
- Four of five inspected curbs were treated to control mosquito breeding (Figure 2).
- Inspected 18 reported neglected pools and treated 13 that were found to be breeding mosquitoes (Figure 3).
- Inspected 104 different locations, including man-made habitats such as ponds, creeks, and marshes, treating 77 that were breeding mosquitoes (Figure 4).
- Delivered a total of 1,288 mosquitofish during 101 service requests (Figure 5).

OPERATIONS REPORT DATA

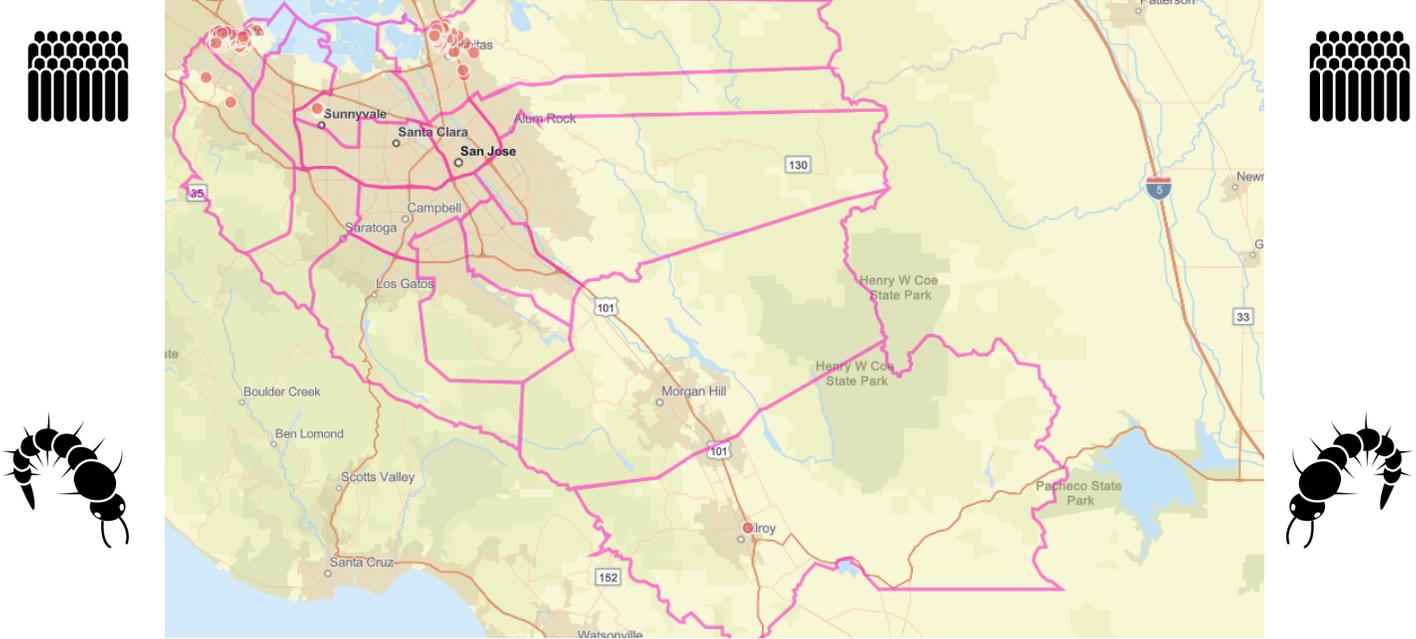


Figure 1. Location of catch basins that were positive for mosquito larvae and treated to decrease mosquito populations.

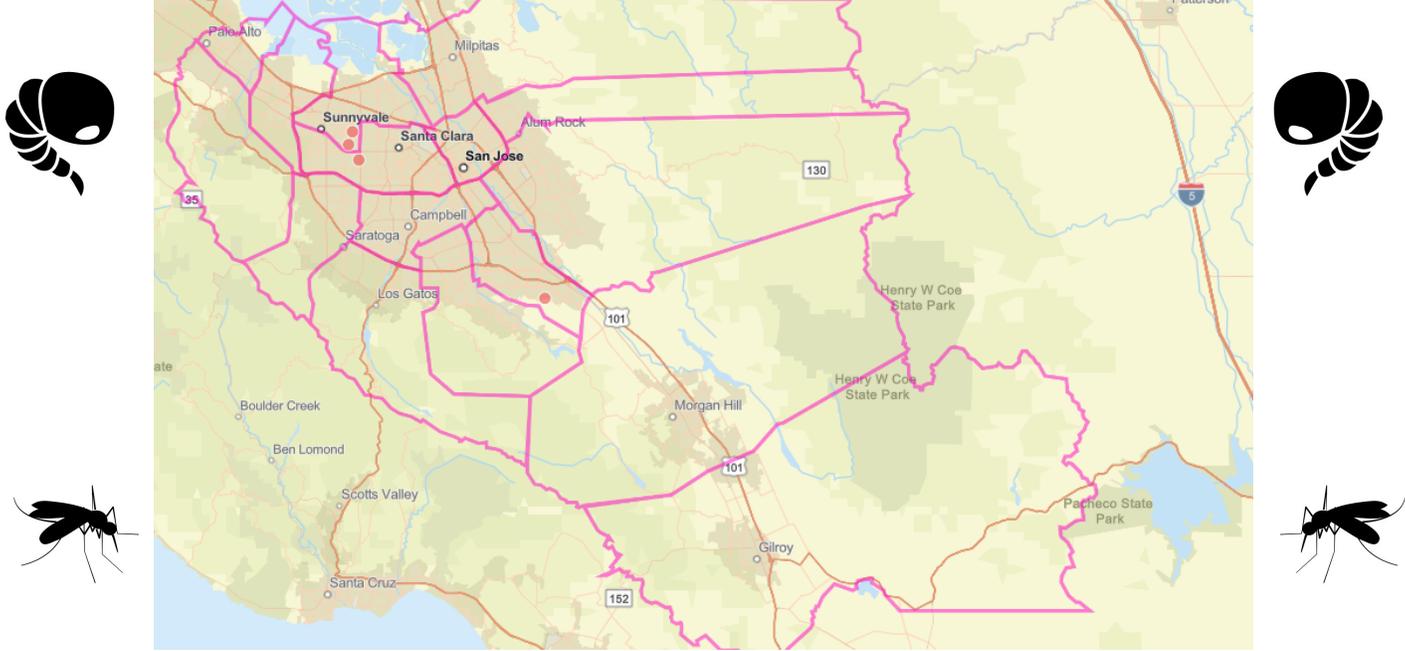


Figure 2. Curbs that were treated to control mosquito breeding.

OPERATIONS REPORT DATA

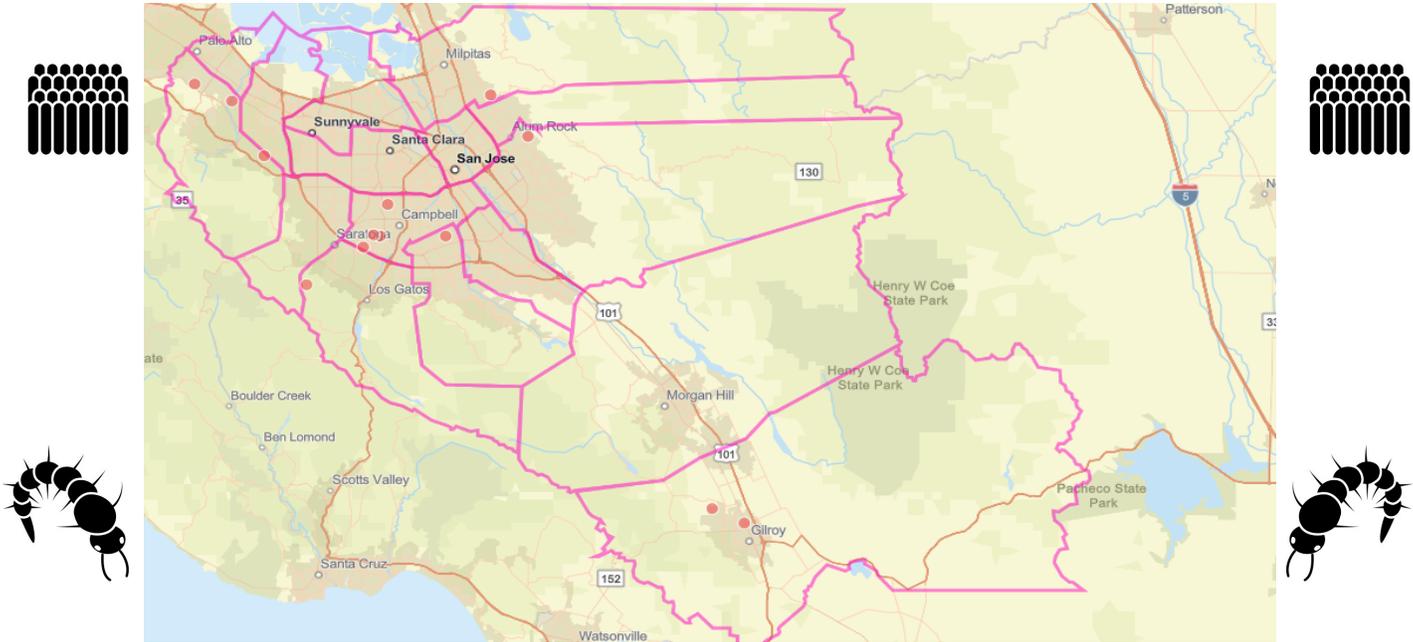


Figure 3. Locations of abandoned/neglected pools that were treated to control mosquito larvae populations.

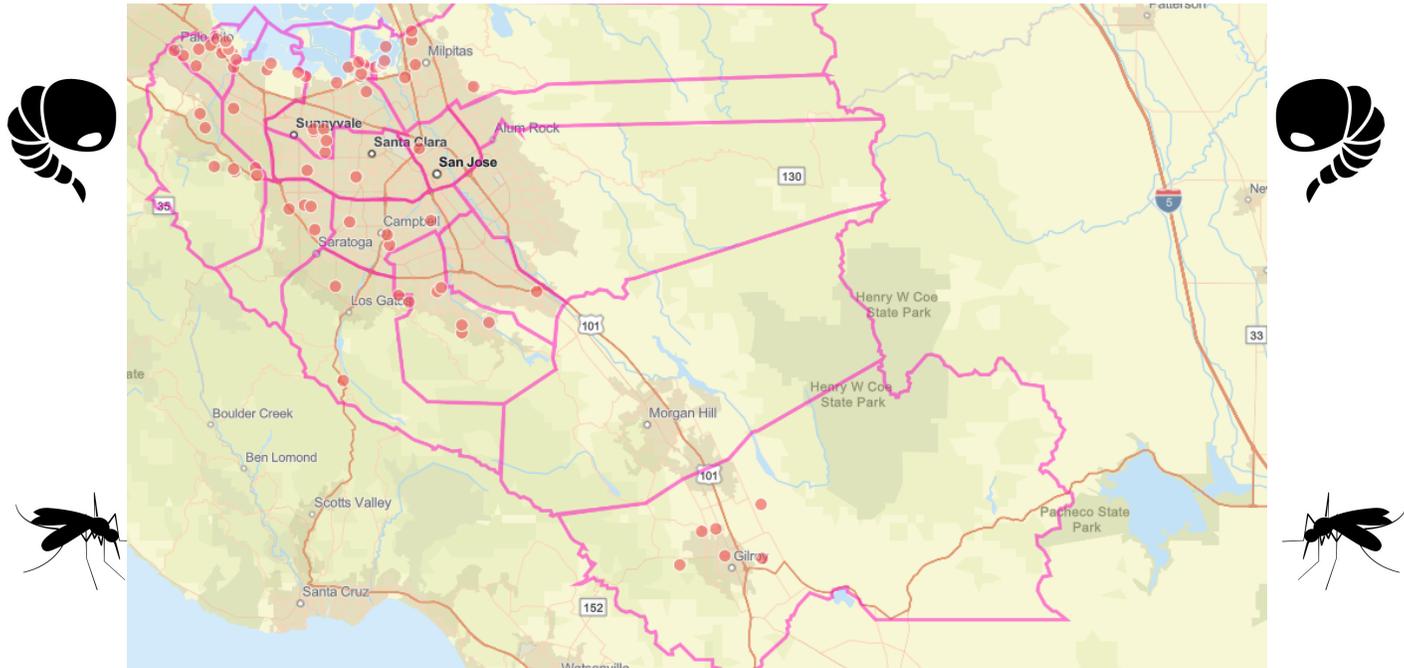


Figure 4. Natural and man-made habitats that were treated for mosquito larvae in April.

OPERATIONS REPORT DATA



Figure 5. Mosquitofish (*Gambusia affinis*) are natural predators of mosquito larvae and pupae.

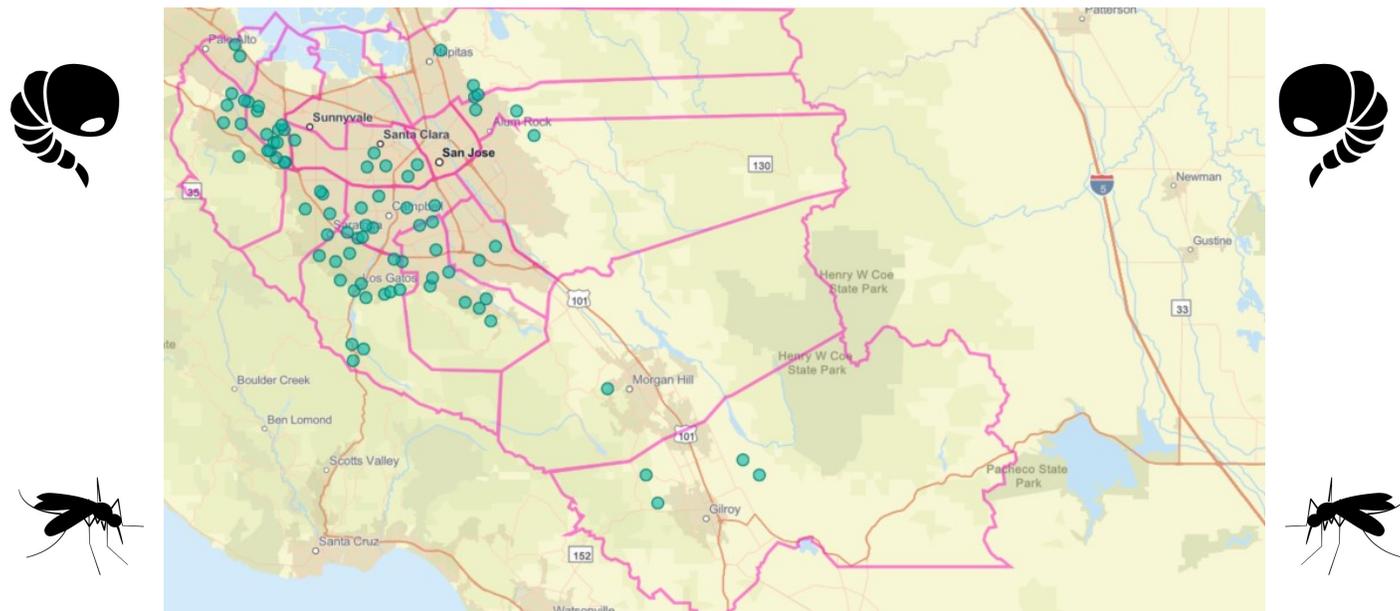


Figure 6. Areas where mosquitofish were stocked and/or delivered during the month of April.

WEST NILE VIRUS SURVEILLANCE

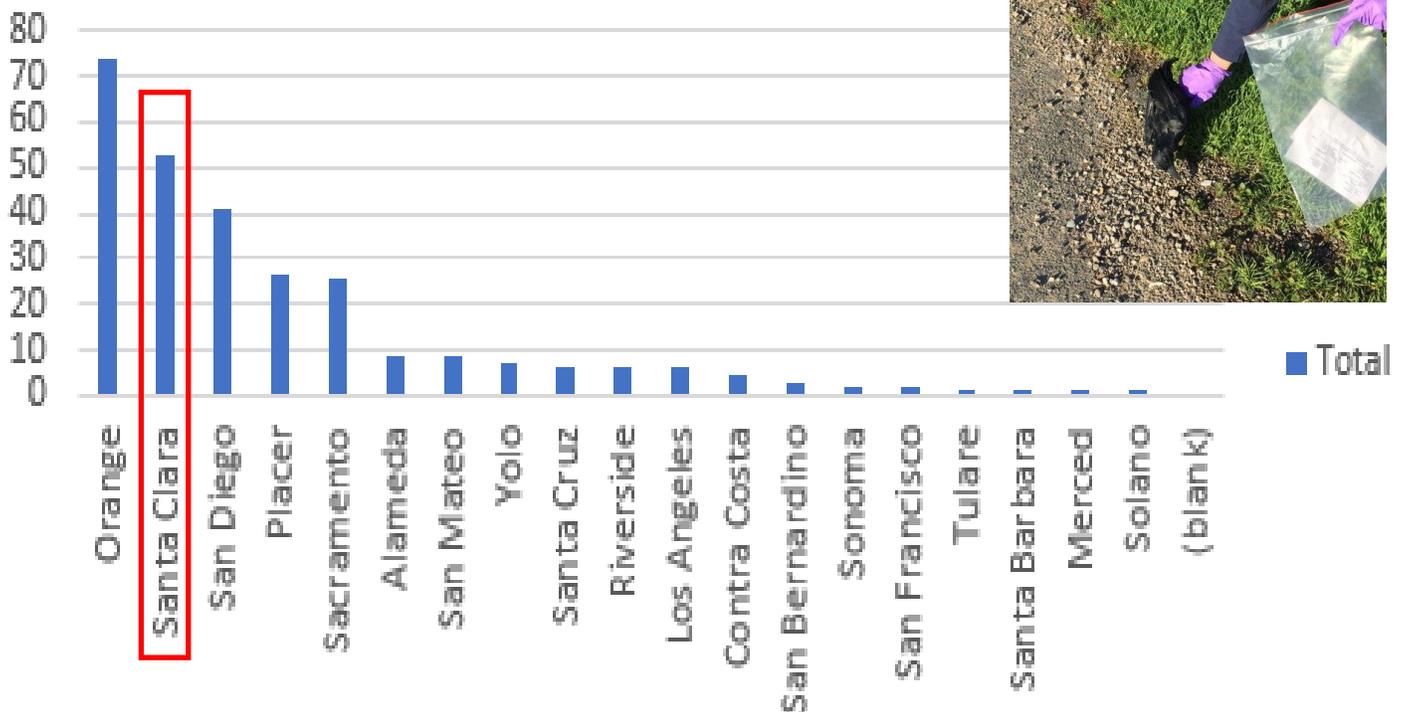
STATE WIDE

As of May 1, 2019, the County of Santa Clara Vector Control District is one of two districts that has received the most dead bird submissions this seasons, with Orange County in first place. Surveillance for West Nile virus is greatly enhanced by the public reporting dead birds through the state hotline (1-877-WNV-BIRD) or directly to the District. Thanks to the engaged public, Orange County and Santa Clara County have been able to increase surveillance efforts. Public engagement may be a result of effective outreach programs that remind residents of the need to report dead birds. So far, all of the bird submissions have tested negative for West Nile virus, Saint Louis Encephalitis, and Western Equine Encephalitis.

SANTA CLARA COUNTY

There have been no positive bird or mosquito detections in the County as of May 1, 2019. Surveillance programs are constantly running to ensure early detection of viruses.

Birds Submissions



INVASIVE MOSQUITO SURVEILLANCE

AEDES AEGYPTI MONITORING

Trapping was re-initiated in April for *Aedes aegypti*, the Yellow Fever Mosquito, which has already established populations in Southern California and the Central Valley. The Autocidal Gravid Ovitrap (AGO trap) appeals to these visually oriented species that are attracted to lay eggs in the trap's five gallon bucket. They become trapped on an adhesive pad lining inside the bucket's edge. The District hasn't detected this species in the County yet. *Aedes albopictus*, also known as the Asian Tiger Mosquito, is another invasive mosquito that has been previously detected in Santa Clara County twice (once in 2001 and again in 2003) in nurseries associated with selling lucky bamboo and/or Dracena. In both those cases, the District was able to successfully eradicate the infestations on time.



Top: *Aedes aegypti*
Bottom: *Aedes albopictus*



HANTA VIRUS SURVEILLANCE

MONITORING HANTAVIRUS

The District conducted a rodent survey at Bernal-Gulnac-Joice Ranch County Park in April. Bernal Ranch is located near Santa Teresa County Park in south San Jose. Hantavirus is a rare, yet potentially life threatening disease (hantavirus pulmonary syndrome) that is carried by deer mice and spread through their urine and droppings. Routine rodent surveys target wild mice and help the District detect the presence of hantavirus across the County. On April 23, about 100 live capture traps were placed in three areas of the park. On the following morning, the traps were retrieved and 11 pinyon mice (*Peromyscus truei*) were sampled with the assistance of the California Department of Public Health (CDPH). Those blood samples were tested at the CDPH lab in Richmond, with all mice testing negative for hantavirus.



PUBLIC SERVICE REQUESTS

SERVICE REQUESTS

In April, the District received 429 public service requests regarding a variety of issues. Due to mosquito season, the most frequent requests were for mosquito control and predatory mosquitofish, followed by rodents. The above normal rainfall has created additional mosquito developmental sites in backyards, watersheds, catch basins,

REQUEST	TOTAL
Mosquitoes	126
Gambusia (Mosquitofish)	114
Rodents	71
Neglected Pool	26
Skunk	15
Opossum	10
Other Vertebrate	10
Coyote	9
Other Invertebrate	8
Racoons	8
Bats	7
Bed Bug	5
Bees	5
Cockroaches	5
Snakes	4
Wasps/Yellowjackets	3
Other (see description)	2
Squirrels	1
TOTAL	429

INSECT IDENTIFICATION

Complaints for biting mites, particularly the Tropical rat mite (*Ornithonyssus bacoti*) and the Norther fowl mite (*Ornithonyssus sylviarum*) have continued. These mites have five life stages, with the larval stage having six legs and eight legs in the following stages. It only takes 13 days to complete a generation of rat mites (measured from egg stage to egg stage), and eggs hatch into larvae after only one and a half days. They are also capable of parthenogenic reproduction—a type of asexual reproduction where each mite can produce 200 eggs. Thankfully, they prefer their natural hosts (roof rats and birds) and once those hosts are removed or excluded, the mites and mite bites will subside within a week or two. Tropical rat mites will bite people and produce itchy bite marks that can last days—worse than mosquito or flea bites.



Tropical rat mite

OUTREACH PROGRAM

OUTREACH PROGRAMS

The District launched this year’s outreach campaign with themes focused on mosquito prevention and how to avoid ticks. Our message began running through radio stations local to Santa Clara County, Spanish print ads, and public service announcements. Our school program continues, and during April our Health Education Specialist taught over 200 students on the importance of vectors.

Presentations and educational booths are available to schools, community groups, homeowner associations, and other interested parties for FREE. If you are interested in scheduling a presentation or educational booth, please call our Health Education Specialist, Hung Pham, at (408) 918-4794.





Mosquito larvae in water
(photo for educational purposes only)

MISSION

To detect and minimize
vector-borne diseases,
to abate mosquitoes,
and to assist the public
in resolving problems that
can cause disease,
discomfort, or injury to
humans in Santa Clara
County.

www.sccvector.org



@sccvcd