



SAN MATEO COUNTY MOSQUITO & VECTOR CONTROL DISTRICT

Protecting public health since 1916



ANNUAL REPORT FISCAL YEAR 2015-2016

Dear Residents,

I'm excited to share with you our annual report for Fiscal Year 2015/2016. This report showcases work done between July 2015 and June 2016, and shares updates on some key issues affecting your risk of vector-borne disease in San Mateo County.

Fiscal Year 2015/2016 saw the continuation of the global Zika virus outbreak. As the disease spread through Central America, Mexico, and the Caribbean, the risk of local transmission in San Mateo County remained low due to the lack of a competent mosquito vector. The District continued monitoring for the presence of invasive *Aedes* mosquitoes, including previously detected *Aedes aegypti* (2013-2015), but found no evidence of invasive mosquitoes during the fiscal year.

Also at the forefront of residents' minds during FY 2015/2016, was another mosquito-borne illness: West Nile virus. Transmitted by native *Culex* genus mosquitoes, West Nile virus is a common threat during the summer and early fall in San Mateo County. Fortunately, the 2015 and 2016 West Nile virus seasons were relatively mild, perhaps in part due to the easing of drought conditions in the area.

Despite these challenges, the District enjoyed several successes during FY 2015/2016, including the implementation of a new data management system, MapVision. This system came with expanded mapping capabilities, allowing vector control technicians and supervisory staff to view service requests, surveillance results, and treatment records in real-time. By the end of FY 2015/2016, MapVision had begun to streamline technicians' day-to-day work, saving hours of work time and improving mosquito control efforts countywide.

Along with improvements in data management, increased public outreach on behalf of the District resulted in approximately a 25% increase in the number of resident service requests fulfilled during FY 2015/2016. Although the volume of requests increased, the District's average response time of 1-2 business days and high satisfaction ratings by residents remained unchanged.

These and many other successes were made possible by the hard work and dedication of the District's staff and board of trustees. Thanks to their efforts, San Mateo County is a safer and healthier place to live, work, and visit.

Sincerely,

Chindi Peavey

District Manager

San Mateo County Mosquito and Vector Control District

ANNUAL REPORT FISCAL YEAR 2015–2016

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ABOUT THE DISTRICT

Our Mission

“To safeguard the health and comfort of the citizens of San Mateo County through a planned program to monitor and reduce mosquitoes and other vectors.”

Our Goals

- Prevent the emergence of biting adult mosquitoes by applying control to the larval stage.
- Monitor adult mosquito populations to uncover new sites of larval development and assess the effectiveness of control.
- Monitor the distribution of vector-borne diseases and prevent the occurrence of these diseases among district residents.
- Evaluate new pesticides and methods of control for mosquitoes.
- Increase public awareness of District services with an active educational program.

This report includes accomplishments from July 2015 through June 2016.

The Board of Trustees

As an independent special district, San Mateo County Mosquito and Vector Control District delivers specific services to citizens within its boundaries under the guidance of its own Board of Trustees. The District's Board of Trustees consists of one resident from each city, appointed by their respective City Council, to govern the Mosquito and Vector Control District knowledgeably and effectively. They serve for a term of two or four years and are highly dedicated to this community service.

CITY	REPRESENTED BY
Atherton	Mason Brutschy
Belmont	Wade Leschyn
Brisbane.....	Robert Maynard
Burlingame.....	Joe Galligan
Colma.....	Carrie Slaughter
Daly City.....	Christine Fuller
East Palo Alto.....	Donna Rutherford
Foster City.....	Rick Wykoff
Half Moon Bay.....	Kati Martin
Hillsborough	Dr. D. Scott Smith
Menlo Park.....	Justin Evans
Millbrae.....	Muhammad Baluom
Pacifica	Peter DeJarnatt
Portola Valley.....	Ray Williams
Redwood City	Kathryn Wuelfing Lion
San Bruno	Robert Riechel
San Carlos.....	Betsey Schneider
San Mateo	Ed Degliantoni
South San Francisco.....	Dr. Alvin Zachariah
San Mateo County, at Large.....	Jason Seifer
Woodside	Vacant

BOARD OFFICERS

Jan 2015 –Dec 2016

Board President
Rick Wykoff

Board Vice President
Joe Galligan

Board Secretary
Kati Martin

Board Assistant Secretary
Kathryn Wuelfing Lion

District Staff

ADMINISTRATION

Chindi Peavey, Ph.D., *District Manager*
 Brian Weber, *Assistant Manager*
 David Randall, MPA, *Finance Director*
 Megan Sebay, MPH, *Public Health Education & Outreach Officer*
 Mary Leong, *Accountant*
 Devina Walker, *Office Administrator*
 Paul Weber, *Facility Maintenance Technician*

LABORATORY

Nayer Zahiri, Ph.D., *Laboratory Director*
 Warren Macdonald, *Vector Ecologist*
 Cheryl Tina Sebay, *Vector Ecologist*
 Theresa Shelton, *Vector Ecologist*

OPERATIONS

Casey Stevenson, *Field Operations Supervisor*
 David Allen, *Vector Control Technician*
 Walter Bruj, *Vector Control Technician*
 Stephanie Busam, *Vector Control Technician*
 Hector Cardenas, *Vector Control Technician*
 Eric Eckstein, *Vector Control Technician*
 Sean Jones, *Vector Control Technician-Mechanic*
 Kim Keyser, *Vector Control Technician*
 James P. O'Brien, *Vector Control Technician*
 Ryan Thorndike, *Vector Control Technician*

SERVICE REQUESTS

Resident Services

The District provides a variety of services directly to residents upon request, including residential mosquito surveillance and larval control, delivery of mosquito fish to backyard water features, control of ground-nesting yellowjackets and wasps, property inspections and information for rodent infestations and nuisance wildlife, pick-up of dead bird or squirrel specimens for disease testing, identification of insects or ticks, and presentations and public outreach at events.

Fiscal Year 2015/2016 saw an overall increase of approximately 25% in the number of service requests made by residents. This was likely due to changes in weather; the number of requests for yellowjacket and wasp nest removal decreased, while requests related to mosquitoes and standing water increased.

Notably, the number of rodent-related service requests more than doubled from the previous fiscal year, in part due to increasing resident complaints of roof rat infestations in two local cities.

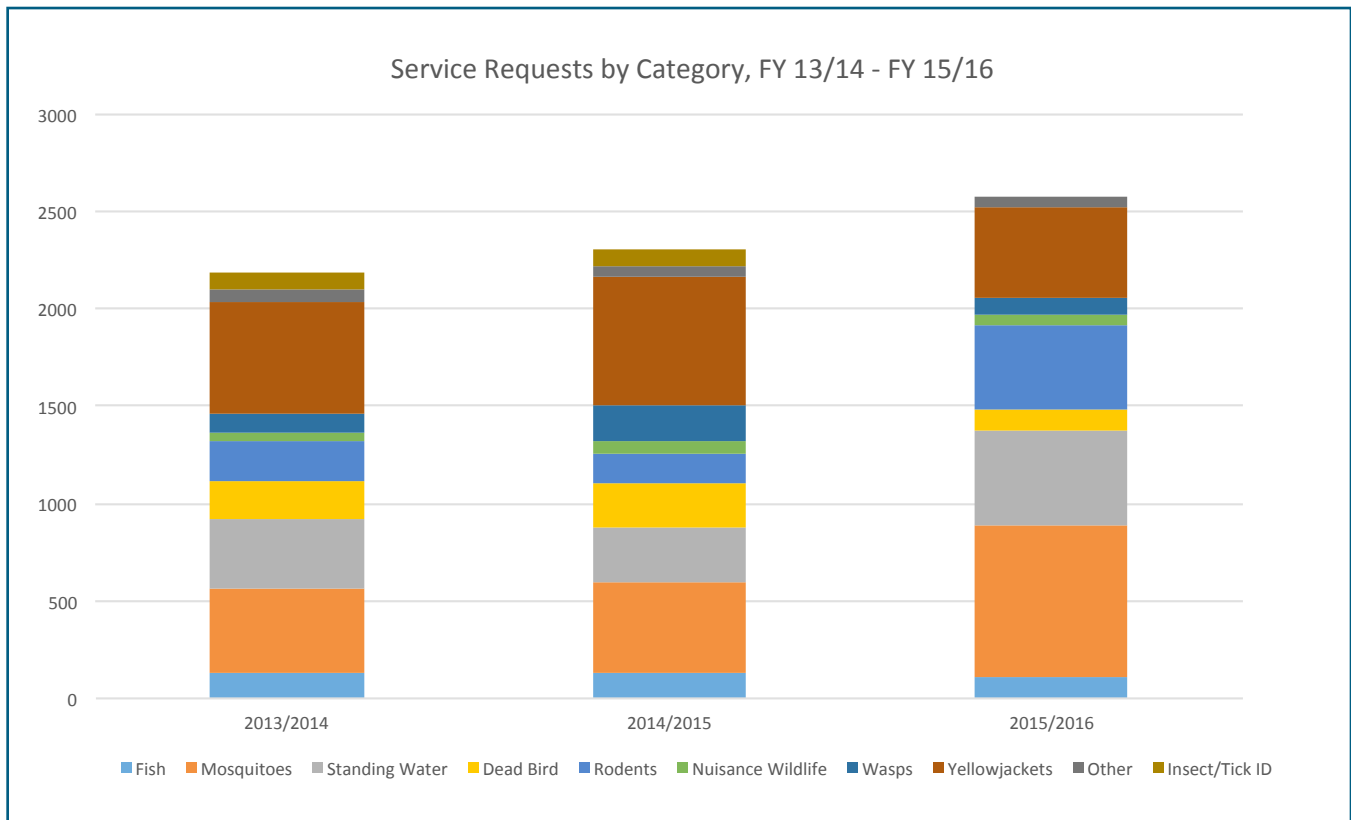
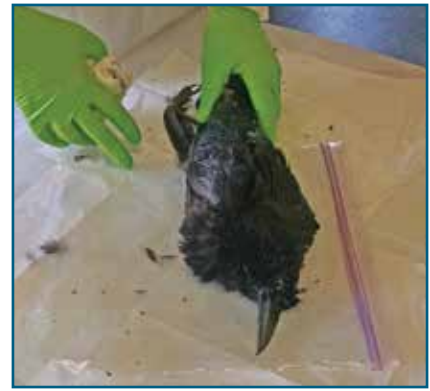


Figure 1: Service Requests by Category, FY 2013/2014 to FY 2015/2016

MOSQUITO PROGRAMS

Mosquito Population Surveillance

The District laboratory conducts surveillance year-round for both native and invasive mosquito species. These results are used to estimate population levels of various mosquito species in San Mateo County and to provide comparative data on changing mosquito population levels of each species from year to year. Mosquito population data is compared over time and seasonally at specific locations. This data is used to optimize mosquito control efforts and disease surveillance in response to specific seasonal challenges throughout the year.

Although mosquitoes are present in San Mateo County throughout the year, each season brings new challenges. For example, *Aedes washinoi*, which breeds in shallow woodland pools, is most common in May, while *Culex erythrothorax*, the tule mosquito, begins emerging in June and requires a large larvicing effort to prevent its natural peak in the fall. However, *Culex pipiens*, the mosquito that most commonly transmits West Nile virus, makes up a large portion of local mosquito populations year-round, and is the biggest cause of mosquito-related complaints.

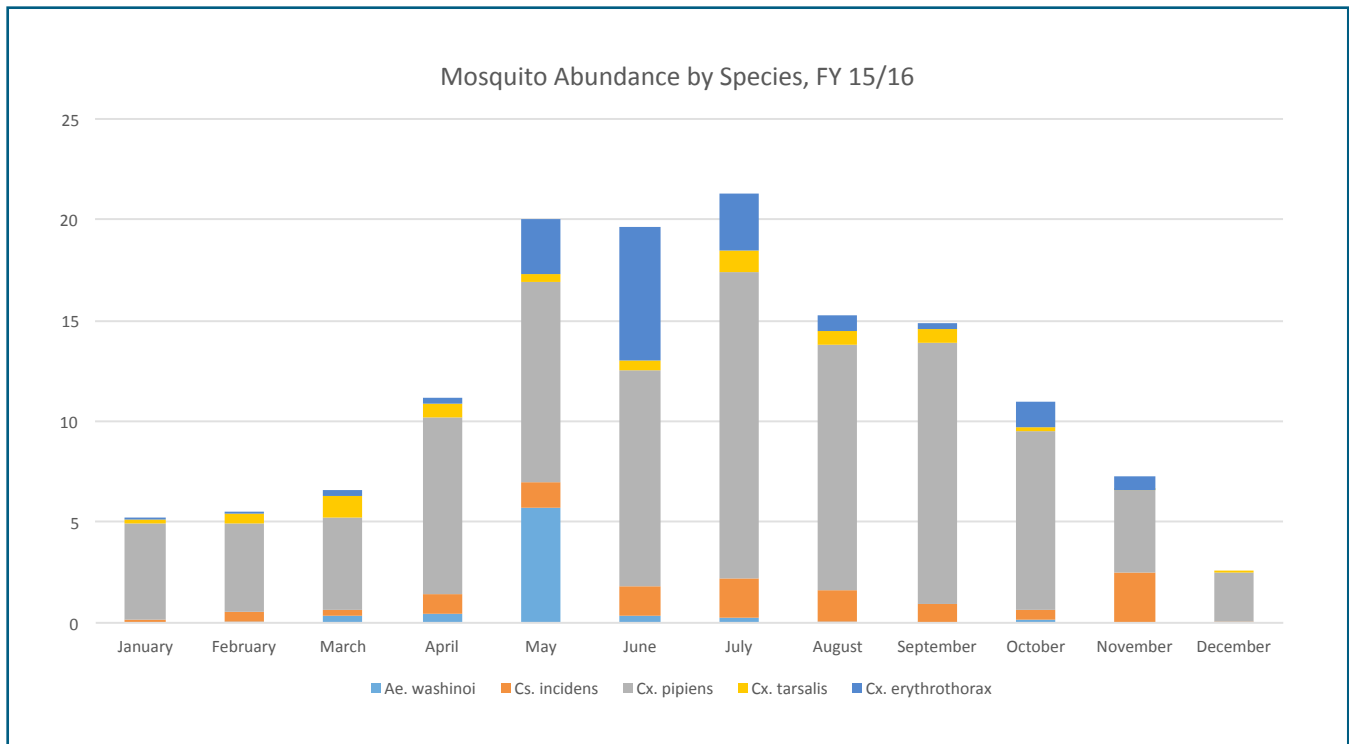


Figure 2: Average relative and total seasonal abundance of common mosquito species from CO2 traps, 2016

West Nile Virus Surveillance

The District's year-round West Nile virus surveillance program is part of the California Department of Public Health's mosquito-borne encephalitis surveillance program, which includes surveillance for western equine encephalitis, St. Louis encephalitis, and other mosquito-borne viruses. Surveillance for these viruses is done in several ways. The District tests mosquitoes directly and also tests carcasses of dead birds and tree squirrels, as these animals are a source of virus for mosquitoes. In addition, the District maintains three flocks of sentinel chickens as a method for monitoring the transmission of virus by local mosquitoes.

During fiscal years 2013/2014 and 2014/2015 the overall risk of West Nile virus infection in San Mateo County remained low. However, the virus was detected in bird carcasses and mosquito samples in both years.

DETECTION TYPE	2016	2015	2014	2013	2012
Human Case	0	0	0	0	0
Sentinel Chicken Seroconversion	0	0	0	0	0
Mosquito	5	5	15	0	0
Bird	15	23	21	4	5
Squirrel	0	0	0	1	2

Table 1: West Nile virus detections in San Mateo County 2012-2016

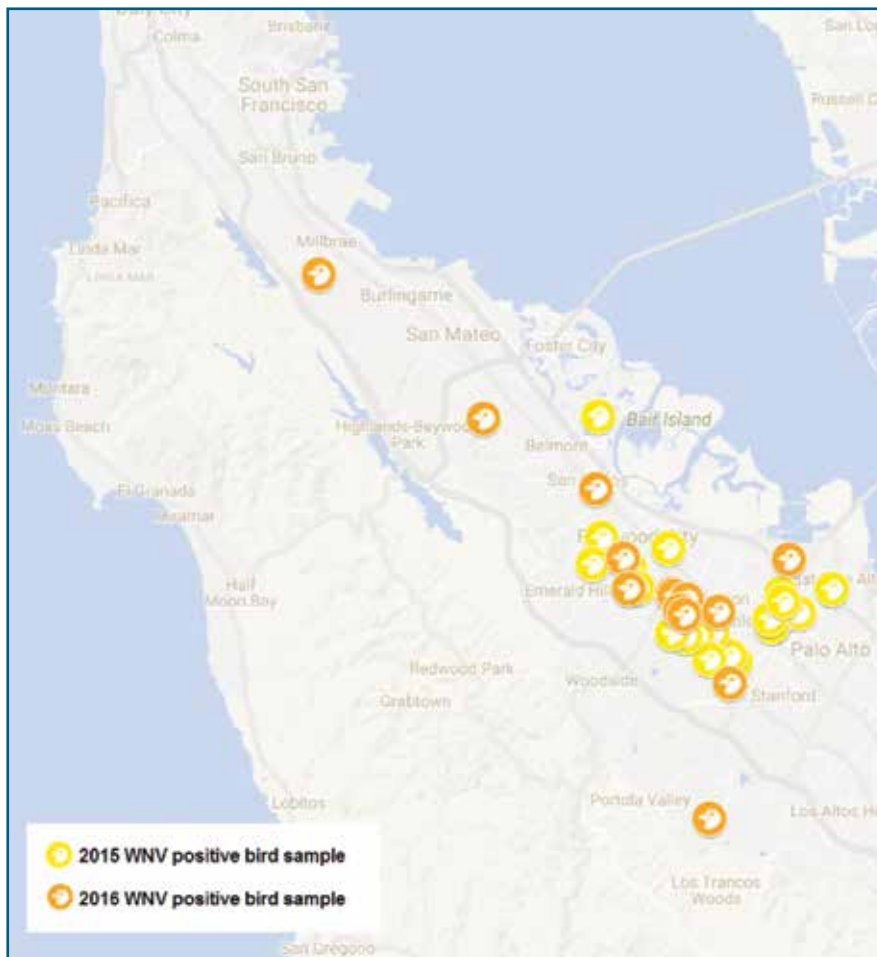


Figure 3: Map of dead birds positive for West Nile Virus in San Mateo County in 2015 & 2016

Mosquito Trapping and Testing

Mosquito trapping for West Nile virus surveillance is typically conducted when there is reason to believe the virus is present in adult mosquitoes in a particular geographical area, such as when bird carcasses test positive for West Nile virus or when a human West Nile virus case is reported. *Culex* mosquitoes (the genus that transmits West Nile Virus) are separated by species and pooled from each trap for testing. The results of mosquito testing for West Nile virus are used to plan mosquito control treatments.

SAN MATEO COUNTY	2015	2016
Mosquito Pools Tested	204	291
Positive Mosquito Pools	5	5
Percent Positive Mosquito Pools	2.5%	1.7%
CALIFORNIA	2015	2016
Mosquito Pools Tested	36,382	43,955
Positive Mosquito Pools	3,287	3,509
Percent Positive Mosquito Pools	9.0%	8.0%

Table 2: West Nile Virus Surveillance of Mosquito Samples, 2015-2016



Control of Mosquito Larvae

The vast majority of the District's mosquito control program consists of larviciding, or killing mosquitoes in the larval stage. Mosquito larviciding is both efficient and cost-effective. This tactic eliminates mosquito larvae before they develop into adult mosquitoes capable of transmitting diseases to humans. Products used for control of mosquito larvae include bacterial larvicides, insect growth regulators, and mosquito fish.

The type of water source treated varies seasonally, with natural water sources – creeks, ponds, marshes, and impounds – treated frequently in response to spring rain. In summer and fall, backyard water sources and municipal sources – including water treatment plants and ditches – make up the majority of the District's mosquito larvicide treatments. The county's storm water system also requires extensive treatment during the dry season (April through October); the District hires seasonal staff to complete the more than 20,000 treatments needed annually to keep these storm water catch basins mosquito-free.

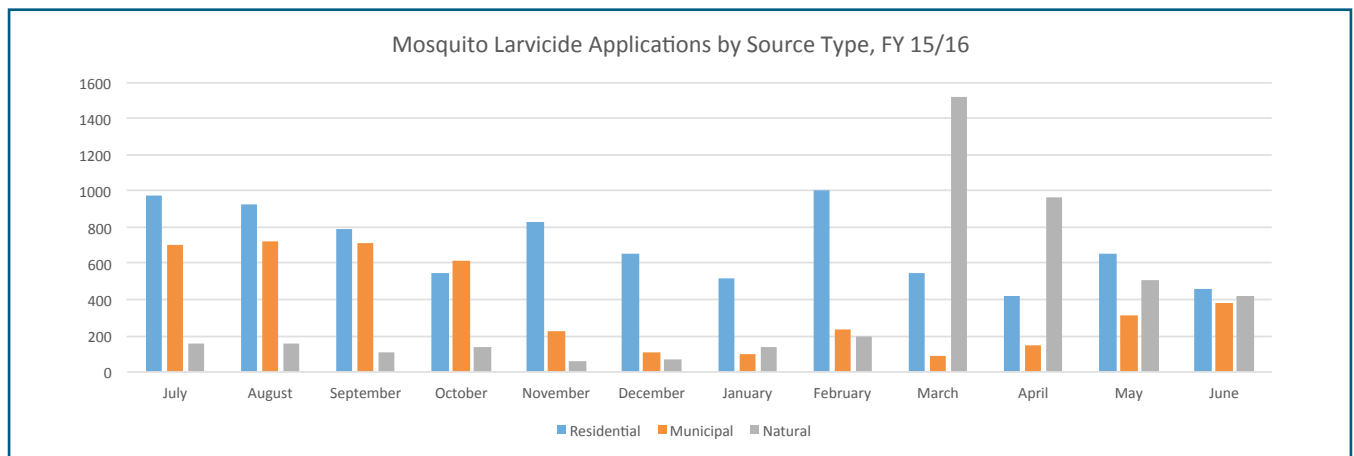


Figure 4: Mosquito larvicide applications by source type, FY 2015/2016

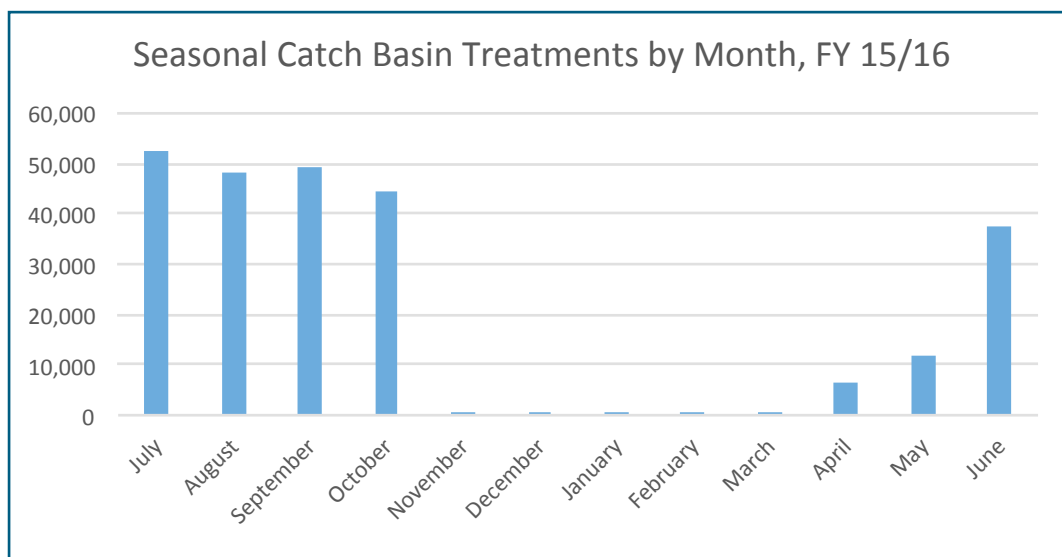


Figure 5: Number of seasonal catch basin larvicide treatments by month, FY 2015/2016

Control of Adult Mosquitoes

San Mateo County Mosquito and Vector Control District takes a preventative approach to mosquito control. Whenever possible, mosquitoes are controlled in their immature stages, before they emerge as biting adults capable of transmitting disease to humans. Sometimes, however, adult mosquito populations become a threat to human health, including when they are found to be infected with West Nile virus.

When this happens, information collected through mosquito surveillance is used to make the decision to reduce adult mosquito populations by conducting an adult mosquito control treatment. Adult mosquito control, or adulticiding, is always conducted in conjunction with intensified efforts to locate and reduce mosquito larvae in standing water so that additional adult mosquitoes cannot emerge.

During Fiscal Year 2015/2016, the District conducted six truck-mounted ULV adulticide treatments to reduce the immediate risk posed by adult mosquitoes infected with West Nile virus. The District laboratory evaluates the success of adult mosquito control treatments by trapping adult mosquitoes before and after treatment. These results are reported as an overall reduction in adult mosquitoes in the treatment area.

During the 2015 and 2016 West Nile virus seasons, the District's adult mosquito control treatments achieved an average 81% reduction in adult mosquitoes in treated areas.



TREATMENT YEAR	TREATMENT DATE	TREATMENT LOCATION	PERCENT REDUCTION IN ADULT MOSQUITO POPULATIONS
2015	August 2nd	Menlo Park	93%
2015	August 5th	Redwood City	75%
2015	September 2nd	Menlo Park	81%
2016	July 30th	Atherton and Redwood City	N/A*
2016	August 4th	Atherton	70%
2016	August 14th	Foster City and San Mateo	87%

*No data is available for the July 30th, 2016 treatment due to technical difficulties with the laboratory-raised control group mosquitoes.

Table 3: Adult Mosquito Control Treatments, 2015-2016

Surveillance for Invasive Aedes Mosquitoes

Three species of non-native *Aedes* genus mosquitoes – *Aedes aegypti*, *Aedes albopictus*, and *Aedes notoscriptus* – have been identified in California to date. These species are concerning for vector control agencies across the state because they are highly invasive, difficult to control, and are the primary vectors for a variety of diseases affecting humans, including Zika virus, chikungunya, dengue, and yellow fever. Allowing large populations of these invasive *Aedes* species to become established creates the risk that travel-acquired human cases of these diseases may lead to local outbreaks in California.

In order to reduce the risk of invasive *Aedes* mosquitoes becoming established in San Mateo County, the District conducts surveillance for invasive *Aedes* species throughout the county using a variety of traps specific to invasive *Aedes*, including ovicups, Autocidal Gravid Ovitrap (AGOs), BG-Sentinel traps, and carbon dioxide traps. This surveillance program focuses on areas of Menlo Park and Atherton where invasive *Aedes aegypti* mosquitoes were previously detected in 2013 through 2015, but also includes county-wide surveillance for new introductions of invasive mosquito species. Additional surveillance is conducted in areas where travel-acquired human cases of *Aedes*-vectored illnesses – including chikungunya, dengue, Zika, and yellow fever – are reported to the San Mateo County Health System. This ensures that there is no risk that the infection will be transmitted locally.

During Fiscal Year 2015/2016, invasive *Aedes* mosquitoes were not detected in any area of San Mateo County.

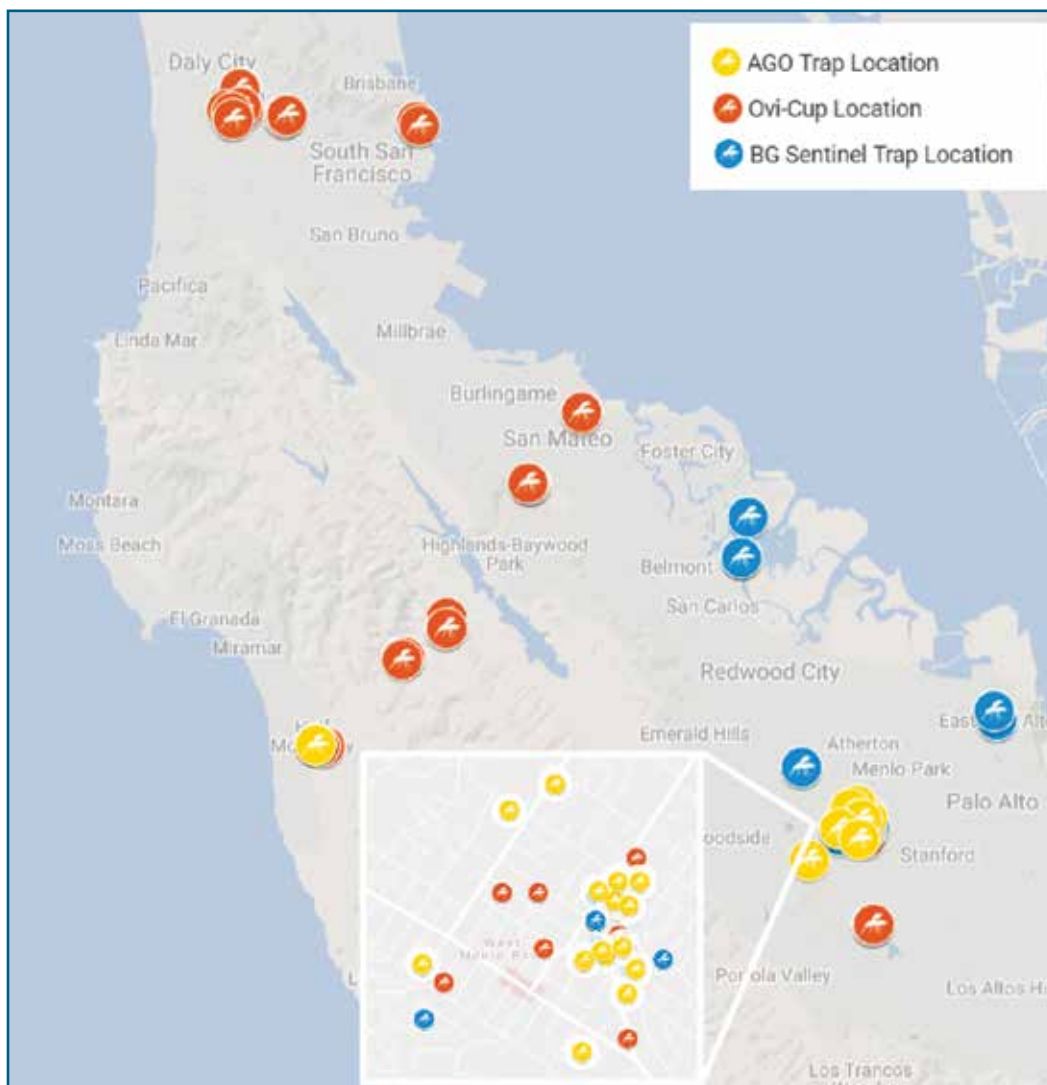


Figure 6:
Invasive *Aedes*
surveillance
locations,
FY 2015-2016

RODENT PROGRAMS

Rodent Service Requests

The District's vector control technicians responded to an average of 175 service requests per year related to rodents during Fiscal Years 2013 through 2015. During Fiscal Year 2015/2016, the District responded to more than twice the average annual number of rodent-related service requests. While some of this increase is attributable to improved public outreach, most requests came from a single city within the District that was experiencing issues with roof rats.



Beginning in July of 2015, the District received a large number of service requests for rodent inspections from residents of San Carlos. The initial source of these requests was a discussion on neighborhood social network Nextdoor.com about the District's rodent inspection services, but after speaking with residents, it became apparent that the area was experiencing an increase in local roof rat populations. In response, the District implemented additional public outreach on rodent prevention and control in this area, including a well-attended community meeting in August 2015. The District also contracted with the City of San Carlos to begin rodent control in three local creeks.

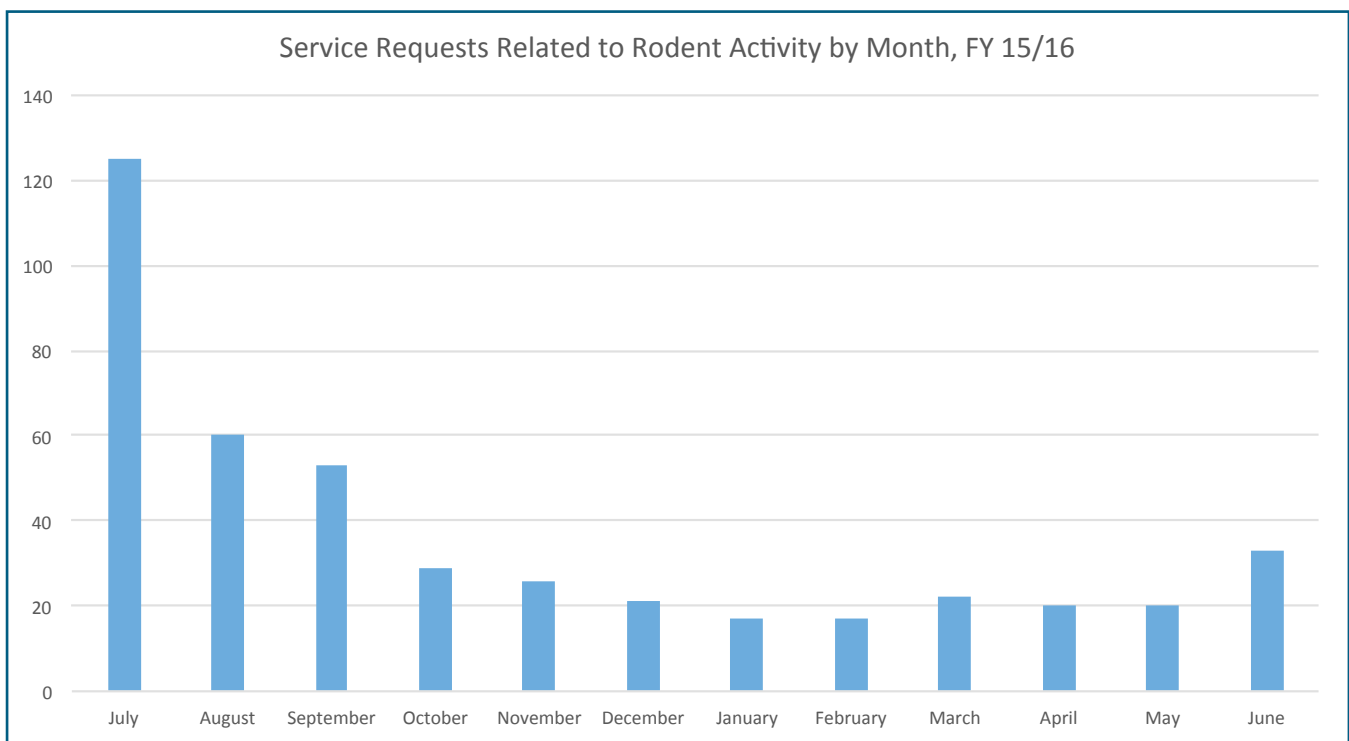


Figure 7: Service Requests related to rodent activity by month for FY 2015/2016

Rodent Control in Sewers and Creeks

In 2004, San Mateo County turned over a large portion of residential rodent control to the District. The District oversees contracts between Dewey Pest Control and several local cities and sanitary districts to provide rodent control in sewers and creeks. These control programs use tamper-resistant bait stations and a reduced-risk rodenticide to control commensal rats. The cities of San Mateo and San Carlos contract directly with the District for rat control services along creek and waterways.

Surveillance for Rodent-borne Disease

The District conducts surveillance annually for pathogens in wild rodents that may cause disease in humans, including hantavirus and plague. Hantavirus causes fatal respiratory disease in humans. The virus is carried by wild mice and can be acquired by inhalation or ingestion of virus particles from the urine or feces of infected animals. There are several different strains of Hantavirus; each is carried by a different species of wild mice. Only Sin Nombre hantavirus, which occurs in deer mice, has been associated with human disease cases. Plague is an infectious disease caused by the bacterium *Yersenia pestis*. It is most commonly transmitted through the bites of fleas that have previously fed on infected rodents.

The District laboratory selects locations surveyed for rodent-borne disease surveys based on historical patterns of disease detection. Staff conduct humane live trapping at these sites in order to collect biological samples for testing. During 2016, the District laboratory tested samples from wild rodents for hantavirus and plague at San Bruno Mountain and Montara, where these diseases had previously been detected. Six rodents from San Bruno Mountain and one rodent from Montara tested positive for hantavirus. No samples tested positive for plague.



DATE	TRAIL NAME	RESULTS	SPECIMEN
March 2016	Picnic Area/Saddle loop (V16-336)	>1:6400	<i>Peromyscus maniculatus</i>
March 2016	Picnic Area/Saddle loop (V16-341)	>1:6400	<i>Peromyscus maniculatus</i>
March 2016	Picnic Area/Saddle loop (V16-342)	1:6400	<i>Peromyscus maniculatus</i>
July 2016	Picnic Area/Saddle loop (V16-625)	1:400	<i>Peromyscus maniculatus</i>
July 2016	Picnic Area/Saddle loop (V16-630)	>1:6400	<i>Peromyscus maniculatus</i>
July 2016	Picnic Area/Saddle loop (V16-631)	>1:6400	<i>Peromyscus maniculatus</i>
May 2016	Montara Trail #6	>1:6400	<i>Peromyscus maniculatus</i>

Table 4: Detection of Hantavirus in Rodent Samples, 2015-2016

OTHER PROGRAMS

Surveillance for Ticks and Tick-Borne Disease

The District conducts annual surveillance for tick-borne pathogens that may cause disease in humans, including Lyme disease. Tick-borne disease surveillance is conducted on trails at 15 city and county parks each year. Surveillance is also conducted when locally-acquired human cases of tick-borne disease are reported to the San Mateo County Health System.

All ticks collected by the District are tested for the causative pathogens of Lyme disease and Hard Tick-borne Relapsing Fever (HTBRF). Lyme disease, caused by a bacterium called *Borrelia burgdorferi* (B.b.), is a chronic disease that can lead to severe joint pains and neurological problems. The closely related bacterium, *Borrelia miyamotoi* (B.m.), is a newly emerging tick-borne disease, and can cause reoccurring fever symptoms. Ticks are tested in groups of five and results are reported as a minimum infection rate, or MIR. This is the standard way of expressing the proportion of vectors tested that are infected with a particular pathogen and assumes that only one tick in a given pool is infected. A MIR of 2-3% is considered normal for our county, and does not indicate an elevated level of risk. Results are presented from parks where at least 150 ticks were collected.



PARK NAME	CITY	TICKS COLLECTED	# POOLS	POSITIVE B.B. POOLS	POSITIVE B.M. POOLS	B.B. MIR	B.M. MIR	TOTAL BORELLIA SPP. MIR
Thornewood OSP	Woodside	344	70	2	7	0.6%	2.0%	2.6%
Los Trancos OSP	Portola Valley	152	31	2	1	1.3%	0.7%	2.0%
Huddart Park	Woodside	197	42	0	2	0.0%	1.0%	1.0%
Pulgas Ridge OSP	Redwood City	347	71	1	2	0.3%	0.6%	0.9%
Edgewood Park	Redwood City	246	52	0	2	0.0%	0.8%	0.8%
Crystal Springs RT	Millbrae/Burlingame	182	37	0	1	0.0%	0.5%	0.5%
Water Dog Lake Park*	Belmont	269	269	0	1	0.0%	0.4%	0.4%
Memorial County Park	Pescadero	185	37	0	0	0.0%	0.0%	0.0%
Big Canyon Park*	San Carlos	234	234	0	0	0.0%	0.0%	0.0%
Eaton Park*	San Carlos	154	154	0	0	0.0%	0.0%	0.0%
*Ticks from these parks were tested individually								

Table 5: Borrelia Tick-borne disease surveillance results by park for 2015-2016

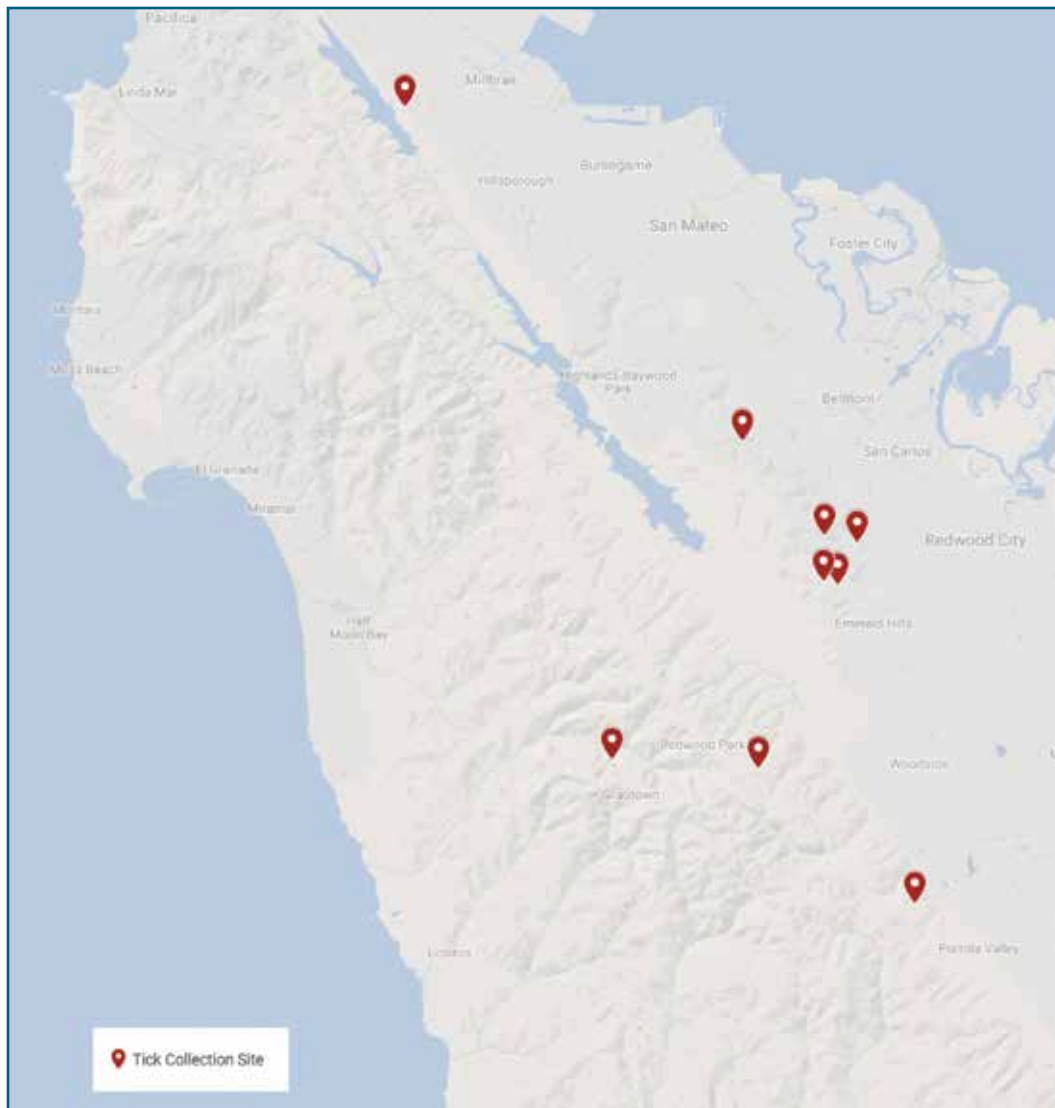


Figure 8:
Tick collection sites,
FY 2015/2016

Anaplasmosis is a disease caused by the bacteria *Anaplasma phagocytophilum*, which can be transmitted to humans by tick bites. It is less common than Lyme disease in California but is transmitted by the same tick, the western black-legged tick (*Ixodes pacificus*). During FY 2015/2016, the District tested ticks from six parks in close proximity to an area where anaplasmosis has been detected in the past. *Anaplasma phagocytophilum* was detected in ticks collected from one location.

PARK NAME	CITY	TICKS COLLECTED	# POOLS	POOLS POSITIVE	A.P. MIR
Thornewood OSP	Woodside	344	70	3	0.9%
Huddart Park	Woodside	197	42	0	0.0%
Pulgas Ridge OSP	Redwood City	347	71	0	0.0%
Memorial County Park	Pescadero	185	37	0	0.0%
Crystal Springs RT	Millbrae/Burlingame	182	37	0	0.0%
Edgewood Park	Redwood City	246	52	0	0.0%
Edgewood Park	Redwood City	246	52	0	0.0%

Table 6: Anaplasma disease surveillance results by park for 2015-2016

PUBLICATIONS AND PRESENTATIONS

CHERYL SEBAY

Happy Hens 101: Keeping Sentinel Chicken Flocks Healthy
2016 Mosquito and Vector Control Association of California Annual Conference

Sentinel chicken flocks are an integral component of the statewide West Nile Virus surveillance program, which begins in spring and extends until fall. To maintain their effectiveness, sentinel chicken flocks require ongoing care, monitoring, proper nutrition, clean housing, and an effort toward disease prevention.

MEGAN SEBAY, MPH

Getting Started on Social Media
2016 Mosquito and Vector Control Association of California Annual Conference

It takes only a small investment of time and effort for small public agencies to begin to reap the rewards of an official social media presence, but many agencies face barriers such as confusion about the role of social media, lack of staff time and expertise, and uncertainty about how to begin. Fortunately, social media success is only a few simple steps away. This presentation will provide basic guidance for agencies getting started on social media, from planning and strategy through evaluating the results, along with helpful tips and resources that will minimize time and effort and maximize success.

THERESA L. SHELTON, CHERYL SEBAY, NAYER ZAHIRI

Timing of mosquito activity of West Nile Virus vector species in San Mateo County
2016 Mosquito and Vector Control Association of California Annual Conference

Mosquitoes of genus Culex, vectors of West Nile Virus, are known to be crepuscular. However, the eastern side of San Mateo County, along San Francisco Bay, is typically windy during summer months, particularly at dusk, with moderate temperatures throughout the night. During summer of 2015, two collection bottle rotator traps were deployed to verify the timing of activity of Culex mosquitoes in San Mateo County. Traps set at three-hour intervals throughout 24 hour periods showed almost all Culex pipiens and Culex tarsalis activity during 6:00 PM to 9:00 AM. Traps subsequently set for hourly collections during that time period revealed a peak of Culex pipiens from 2:00 AM to 5:00 AM and a peak of Culex tarsalis from 11:00 PM to 12:00 AM. Other Culex species were not captured abundantly enough for meaningful analysis. Both collection periods consisted of three weeks of continuous trapping. Determining the time of activity of West Nile Virus vectors allows for more effective timing of adulticide applications when necessary during West Nile Virus season.

NAYER ZAHIRI, THERESA SHELTON, CHERYL SEBAY, AND WARREN MACDONALD

West Nile Virus Surveillance in San Mateo County, California: 2013 – 2015
2016 Mosquito and Vector Control Association of California Annual Conference

San Mateo County Mosquito and Vector Control District updated its program to detect and operationally respond to West Nile Virus (WNV) during the past 3 years. In response to WNV activities, intensive larval habitat inspection, reduction and treatment, and ground ULV applications for adult control in selected areas were conducted during the active transmission season. During the last 3 years, 8,433 samples consisting of birds, mosquitoes, and squirrels were collected from 21 incorporated and unincorporated cities of San Mateo County and resulted in 72 positive detections of WNV. This paper discusses the WNV activities and the efficacy of adulticide applications in 2013 – 2015.

Public Health Education and Outreach

The District's integrated pest management program includes extensive public outreach aimed at improving public participation in vector-borne disease prevention, including vector attractant and source reduction and behaviors to reduce the risk of vector-borne disease transmission.

During Fiscal Year 2015/2016, the District's public outreach program continued to expand rapidly. Based on data collected from residents who requested service from the District, the internet – including internet searches, social media posts, and email subscriptions – and word-of-mouth remain the most common sources of referrals to the District. During FY 2015/2016, other sources of information, including advertising, also emerged as important sources of referrals to the District.

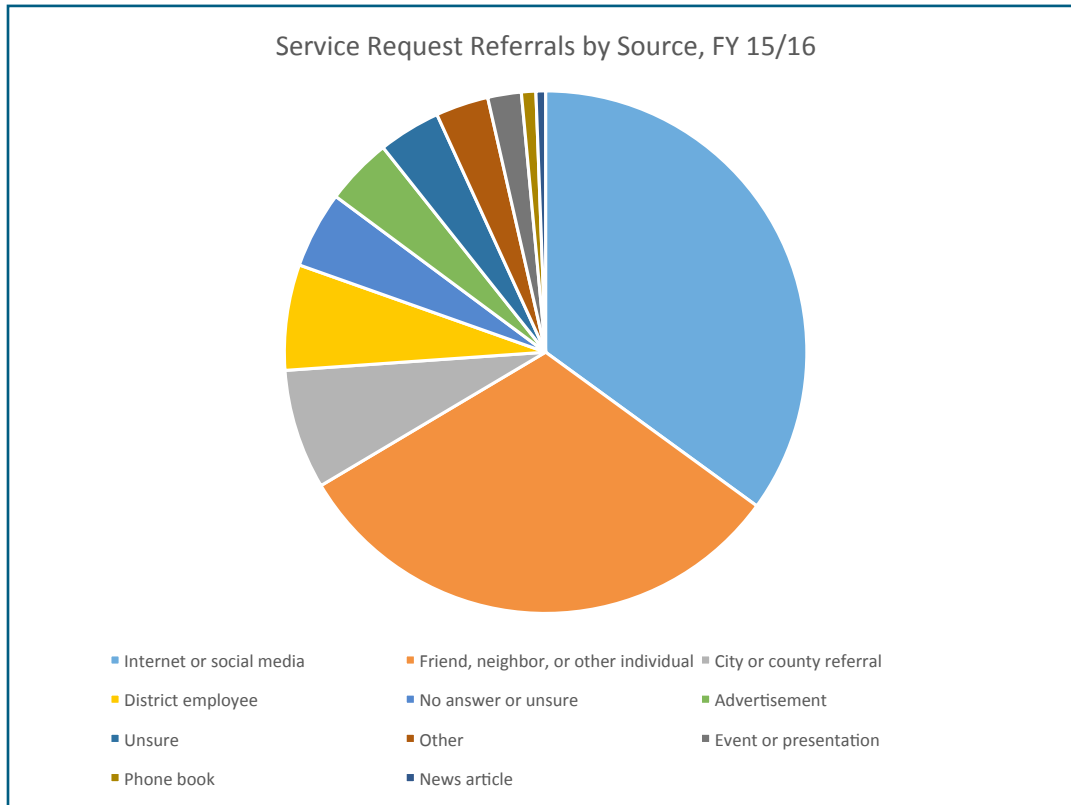


Figure 9: Resident-reported source of referrals to the District during FY 2015/2016



The District website received nearly 25,000 visits during Fiscal Year 2015/2016, more than twice the number recorded in Fiscal Year 2014/2015. The most popular pages were the homepage (15,000 visits), the adult mosquito control updates page (2,500 visits), and the online service request form (2,400 visits). Website traffic was highest during July and August, when adult mosquito control treatments are most frequently conducted.

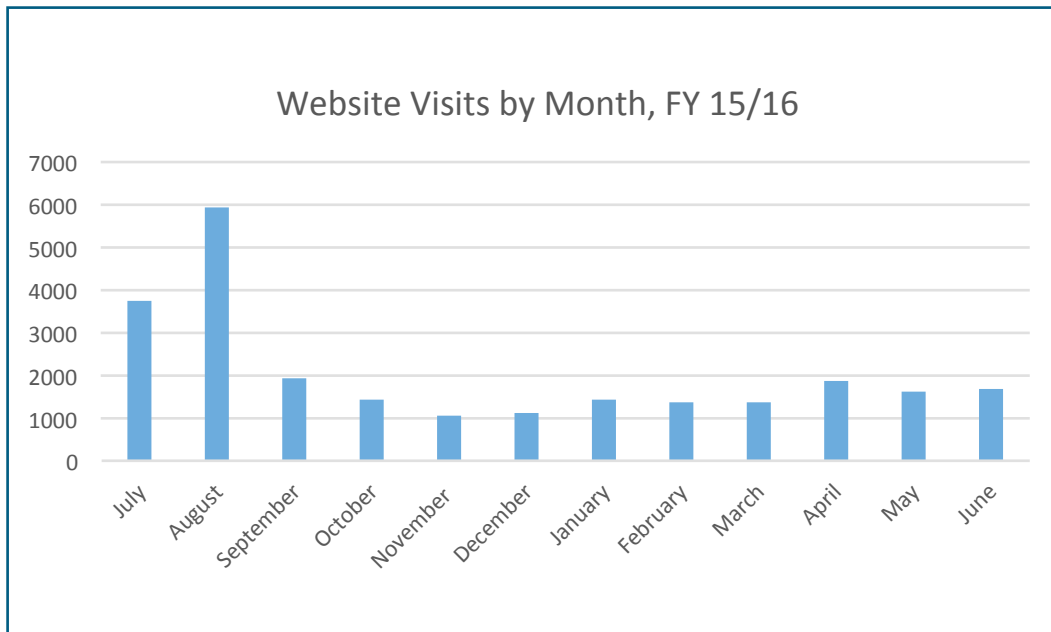


Figure 10:
Visits to the District website by month during FY 2015/2016

The District's online Resident Survey, sent to every resident who provides an email when requesting service, received more than 300 responses during fiscal year 2015/2016, with more than 85% of respondents reporting that they were 'very satisfied' with the service they received from District staff. Residents repeatedly noted the quick response time, friendliness, and expertise of the District's field staff.

Celebrating 100 Years of Public Health

The District celebrated its centennial in 2016, marking 100 years of service to the people of San Mateo County. The celebration kicked off in January with an open house at the District office in Burlingame featuring educational displays, interactive games, equipment demonstrations, and facility tours. More than 200 visitors attended the event, and the District received proclamations honoring its centennial from many of the cities within the county, as well as from local legislators.

In January through April 2016, the San Mateo County History Museum hosted an exhibit featuring images from the District's photo archive. The exhibit was featured in the building's rotunda, where the six historical photos were seen by more than 20,000 museum visitors over the course of 4 months.

Mosquitoes: It Only Takes One

Beginning in May 2016, the District placed posters at Millbrae, Colma, and San Bruno BART transit stations. These posters featured messaging intended to highlight awareness of the risk of mosquito-borne disease in San Mateo County. A total of 17 posters were placed over two 8-week campaigns. This campaign was timed to coincide with the peak of West Nile virus season in California.

FINANCIAL REPORTS

Revenue by Category

The District's total revenue in Fiscal Year 2015/16 was \$4.7 million. 84% of revenue in FY2015/2016 came from three sources: property tax, special mosquito tax, and benefit assessment. The largest source of revenue was property tax (44%), followed by benefit assessment (30%), and special tax (10%).

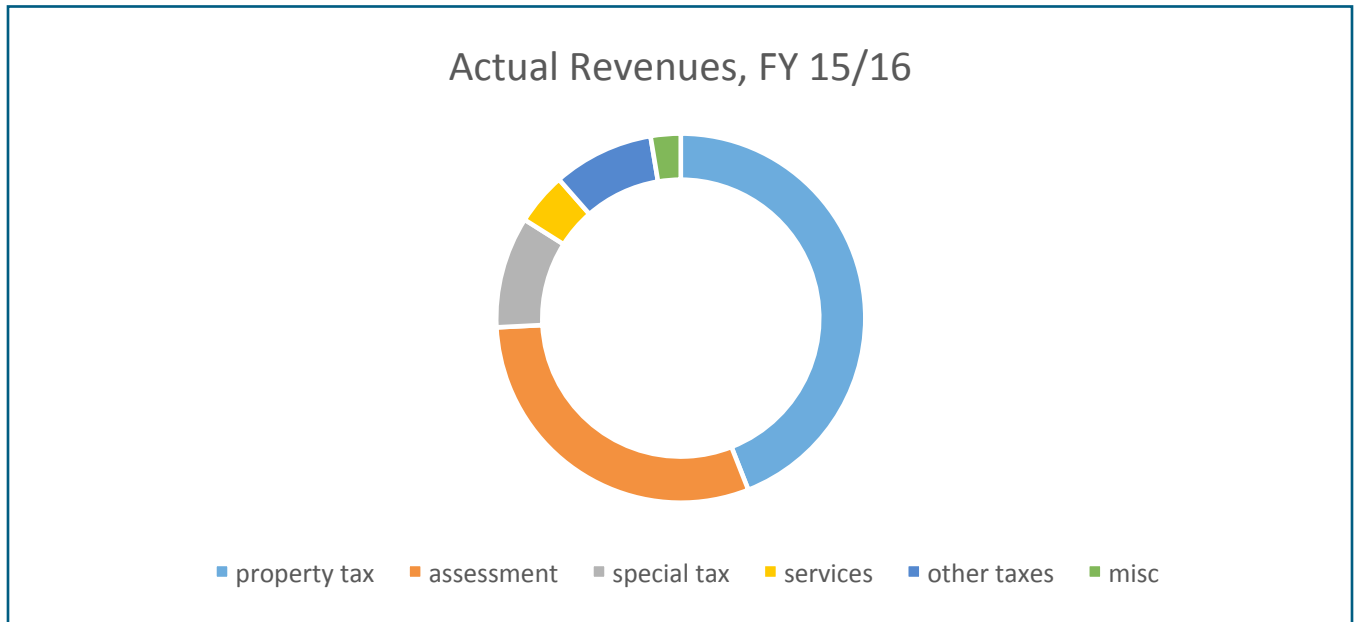


Figure 11: Actual revenue by source, FY 2015/2016

Who Pays for Services

District services are paid for by property taxes. The District receives a small portion of ad valorem property taxes from properties in the Southeast part of San Mateo County. Properties in this area also pay a special mosquito control tax of \$3.74 per parcel. Revenues from ad valorem property tax and mosquito special tax were \$2.6 million or 54% of total revenue in FY 2015/2016.

Property owners in the North and Western (coastal) portions of San Mateo County pay a benefit assessment for mosquito and rodent abatement and vector control. Assessment revenue was \$1.4 million or 30% of total revenue.

Expenditures by Category

Total annual operating expenditures in Fiscal Year 2015/16 were \$4.2 million. As is typical for local government agencies, most District expenditures were for employee salaries and benefits. In addition to annual salaries and benefits, the District made a one-time deposit of \$1.5 million from its reserves into a supplemental account with the San Mateo County Employee Retirement Association (SamCERA) to reduce its long term unfunded liability for employee pension expense. This payment reduces the District's required employer contribution to the pension fund in future years. The District also made a required deposit of \$1.8 million into an OPEB (Other Post Employment Benefits) trust to cover retiree health benefit costs. The trust is now fully funded and future expenditures for retiree medical benefits can be paid from the trust rather than from the District's annual operating budget. These two deposits reduce the district's long-term liabilities and will substantially reduce future annual employee expenditures. Together these deposits totaled \$3.3 million, bringing total expenditures for FY 2015/2016 to \$7.5 million.

Remaining expenditures during FY 2015/2016 were for the materials and supplies used to provide services to the residents of San Mateo County.

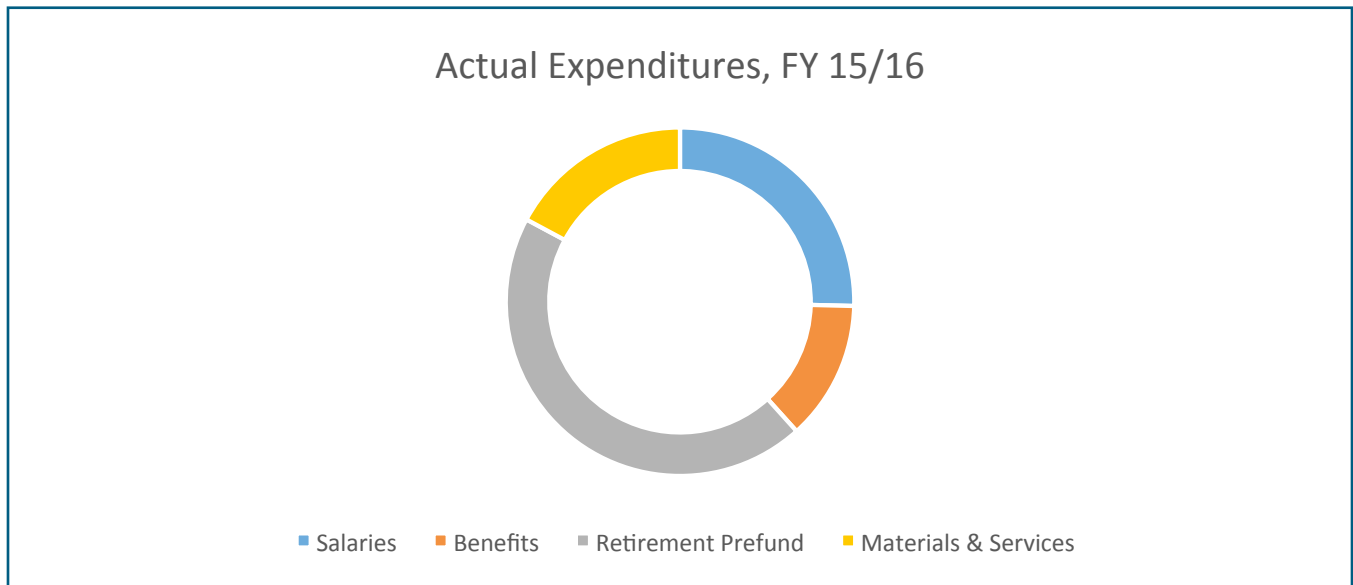


Figure 12: Actual expenditures by source, FY 2015/2016



San Mateo County Mosquito & Vector Control District

Protecting Public Health since 1916

The mosquito control program in San Mateo County is one of the oldest in the United States. Control work was initiated in 1904, when the Burlingame Improvement Club asked entomologists from the University of California to assist them in developing a plan to fight the city's mosquito infestations. A control plan was developed which included ditching, repair of existing dikes and tide gates, and filling of low areas. These physical control measures were to be supplemented with oiling of the remaining standing water.

On April 8th, 2008, San Mateo County Board of Supervisors passed a resolution to transfer specific vector control operations and responsibilities to San Mateo County Mosquito Abatement District. Our Board of Trustees reviewed and approved the transfer of services resolution during the board meeting on April 9th, 2008. San Mateo County Mosquito Abatement District Board of Trustees also approved a name change to San Mateo County Mosquito and Vector Control District.

OUR SERVICES

for San Mateo County Residents

Mosquito Control

FREE Mosquitofish

**Tick Identification
& Education**

**Public Education
& Treatment
Notifications**



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