2023

CONTRA COSTA
MOSQUITO
&VECTOR
CONTROL
DISTRICT

ANNUAL REPORT


HERCULES
PINOLE
MARTINEZ
PITTSBURG
ANTIOCH
OAKLEY
SAN PABLO
CONCORD
PLEASANT HILL
RICHMOND
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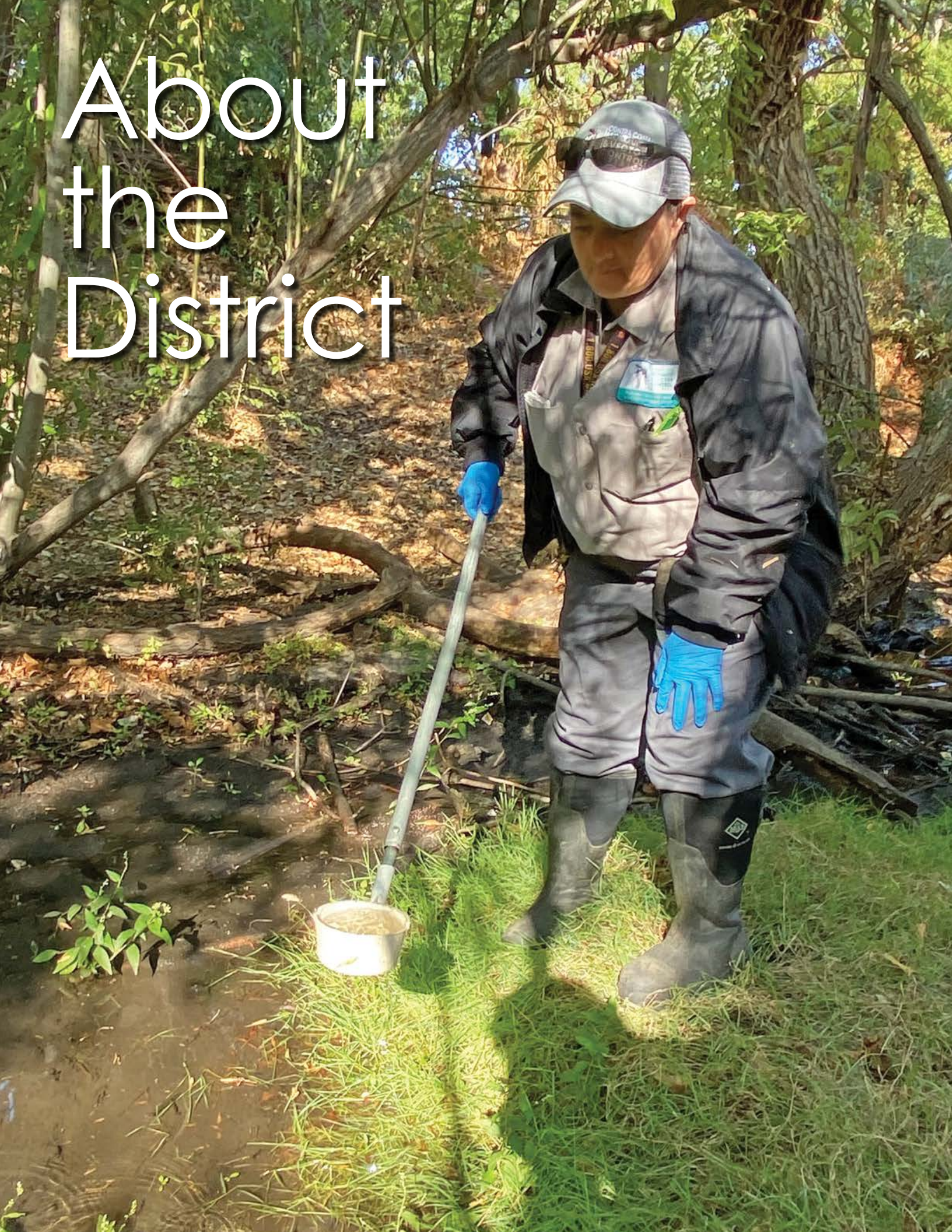
LAFAYETTE
ORINDA
WALNUT CREEK
MORAGA
DANVILLE
SAN RAMON

Contra Costa Mosquito and Vector Control District
Annual Report 2023

About the District

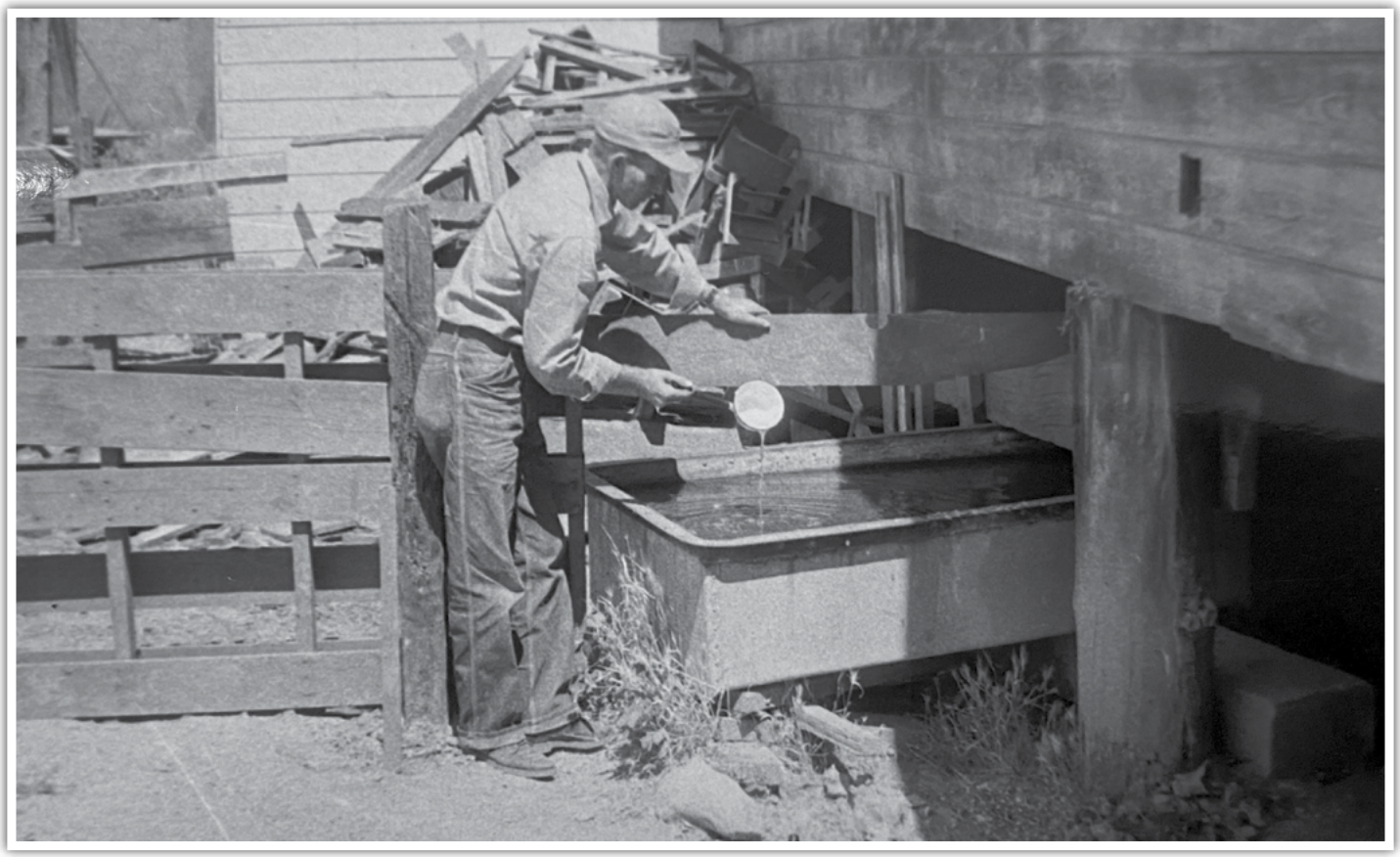


Our History

Historical records show mosquitoes plagued the first Europeans to visit Contra Costa County in the 1770s. More than 140 years later, the California State Legislature voted to create the framework for mosquito abatement districts across California.

By 1926, the people of Contra Costa County voted to create the Contra Costa Mosquito Abatement District (CCMAD) and in 1927, CCMAD began operations to control marsh mosquitoes in north central Contra Costa County. Within 60 years, CCMAD became a county-wide public health agency. Then, in 1993, Contra Costa County transferred its rat and rabies risk reduction programs to CCMAD.

Subsequently, the District changed its name to the current name, the Contra Costa Mosquito and Vector Control District (District).



Our Mission Statement

The Contra Costa Mosquito and Vector Control District is a public health agency dedicated to protecting the community from mosquitoes and other vectors of disease.

Our Principles

The Contra Costa Mosquito and Vector Control District is committed to:

PUBLIC HEALTH We use Integrated Vector Management (IVM) as our core approach to reducing risk to the community.

ENVIRONMENTAL STEWARDSHIP We use materials and methods that meet or exceed all applicable regulatory requirements.

SCIENCE AND TECHNOLOGY We work diligently with the scientific community to ensure that our methods are scientifically sound and to advance the state of the art of our discipline.

PUBLIC EDUCATION We educate and help our residents understand the role they play in assisting us in reducing the risk from vectors of disease.

SAFETY We are committed to the safety of employees and the public through ongoing attention to facilities, equipment, and training.

MANAGEMENT EFFECTIVENESS We use management systems protocols, and methods that allow us to fulfill our mission in an efficient, transparent, and fiscally responsible manner.

TEAMWORK AND COLLABORATION We believe that a productive work environment requires teamwork, active collaboration, and clear and open communication within and across all entities to develop the future.

Our Special District Classification

The Contra Costa Mosquito and Vector Control District is classified as an independent special district and is not part of Contra Costa County's governmental system. Contra Costa County encompasses the District's physical jurisdiction for mosquito and vector control services. The District maintains membership in the California Special Districts Association.

SPECIAL DISTRICTS ARE:

1. **FORMED** by local residents to provide local services
2. **SANCTIONED** by State of California Government Codes
3. Often the most **ECONOMICAL** means of providing public service
4. **INDEPENDENT** agencies governed by a board of trustees
5. **OPERATED** as nonprofit organizations
6. **RESPONSIBLE** directly to the people
7. **ACCOUNTABLE ACCESSIBLE EFFICIENT**

California Special Districts Association

Districts Stronger Together

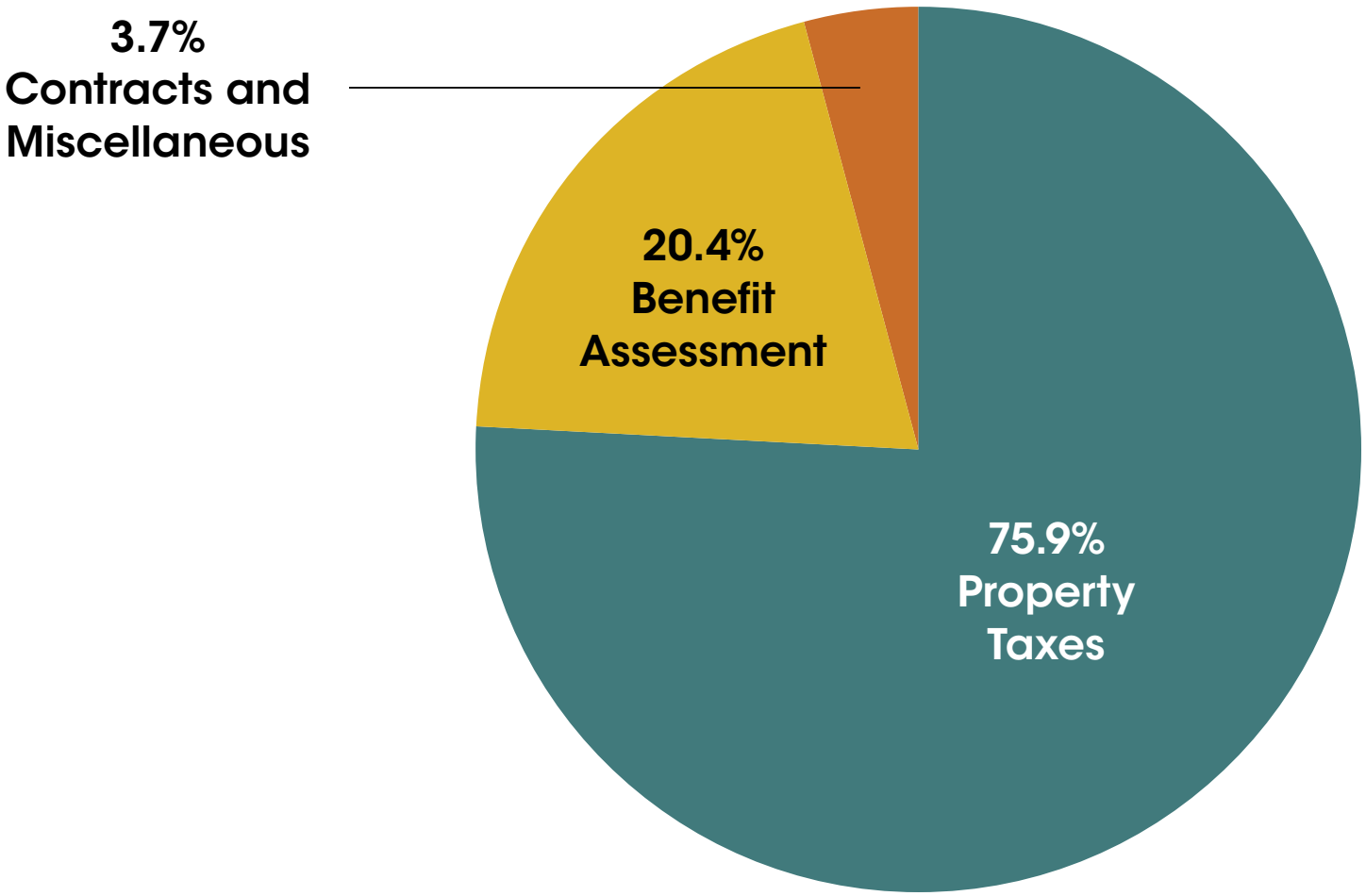
Our Financials

Who Pays for District Services

Contra Costa County property owners who pay property taxes along with benefit assessment charges fund all District operations. The countywide benefit assessment was implemented in 1996 and it varies among four zones in Contra Costa County according to the benefit of District services and generates revenue that is used to provide mosquito and vector surveillance and control services to the residents of Contra Costa County.

In 2023, the District received 96.3% of its annual revenue from property taxes and benefit assessment, with approximately 75.9% of funding coming from property taxes to county parcels and approximately 20.4% coming from the benefit assessment. This revenue stream rose 8.5% in fiscal year 2022/2023 compared to the prior fiscal year.

Total operating expenditures for the fiscal year were approximately $8 million. Most expenditures were for employee salaries and benefits.



AUDITED FINANCIAL STATEMENTS

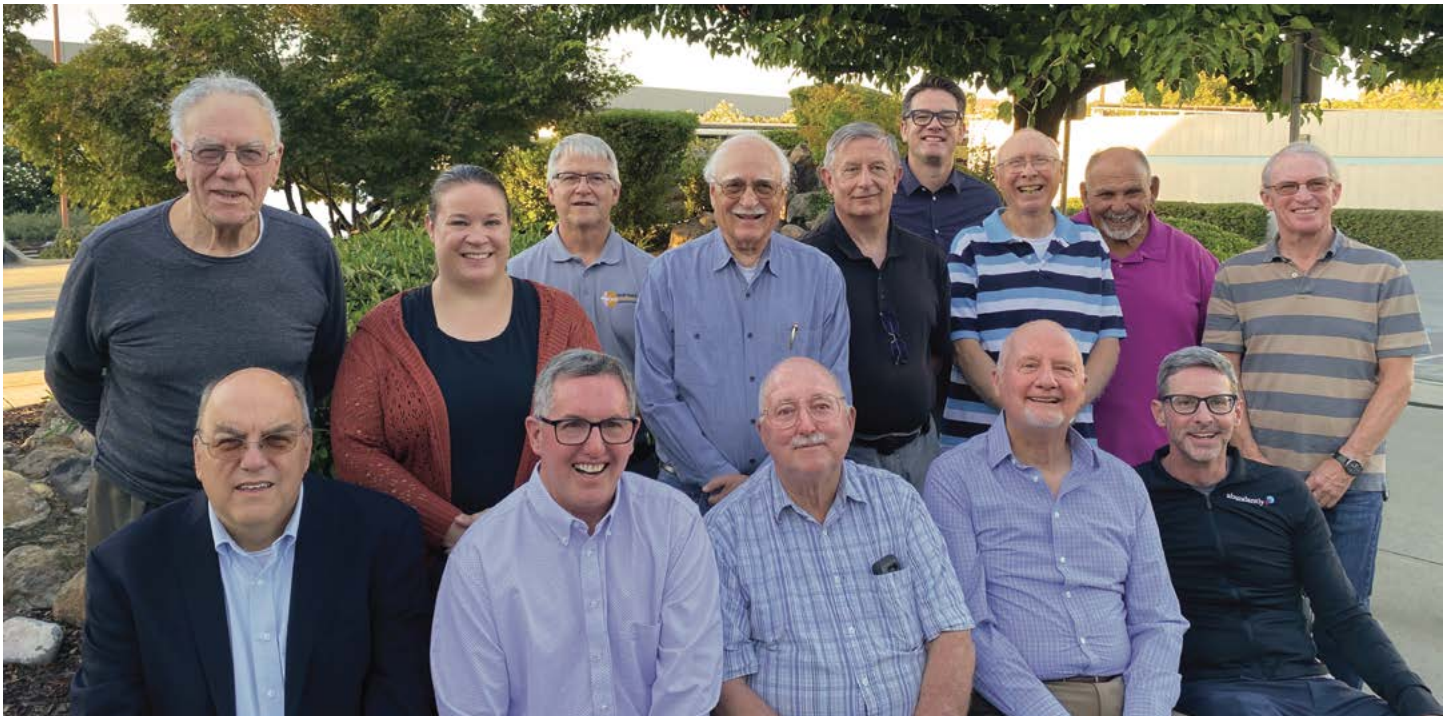
REVENUES	2021/2022	2022/2023
Property Taxes	6,976,161	7,735,112
Benefit Assessment	2,074,580	2,082,513
Contracts	21,693	14,501
Interest	-	309,398
Miscellaneous	20,050	51,339
TOTAL REVENUES	**9,092,484**	**10,192,863**

EXPENDITURES	2021/2022	2022/2023
Salaries, Wages, Benefits	6,907,793	6,120,934
Operations	1,789,100	1,571,367
Capital	51,842	267,055
TOTAL EXPENDITURES	**7,938,735**	**7,959,356**

As mandated by government code, the District is annually audited by an outside firm. The firm audits the District's financial statements to obtain reasonable assurance that the financial statements are free of material misstatement and that the District's financial statements conform to the generally accepted accounting principles (GAAP). They review the accounting principles used, all financial disclosures, and the overall financial statement presentation. The District annually receives an Unqualified Opinion, which is the best opinion bestowed.

Our Board of Trustees

The District's Board of Trustees consists of one resident from each Contra Costa County city, appointed by their respective City Council, and three appointed by the County Board of Supervisors to provide guidance to the Mosquito and Vector Control District knowledgeably and effectively. They serve for a term of two or four years and are dedicated to serving the community.



Seated Left to Right: Chris Dupin, Richmond; Chris Cowen, Contra Costa County; Richard Ainsley, Ph.D., Pittsburg; Michael Krieg, Oakley; and Randall Diamond, Danville

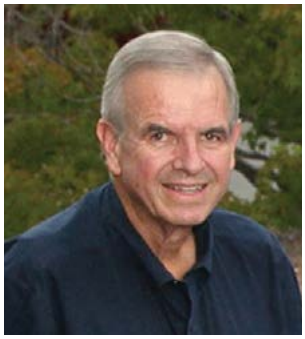
Back Row Left to Right: Warren Clayton, Pinole; Jennifer Hogan, Pleasant Hill; James Frankenfield, Moraga; Jim Dolgonas, El Cerrito; Peter Pay, 2023 Vice President, San Ramon; Wade Finlinson, Antioch; Perry Carlston, Concord; Daniel Pellegrini, 2023 Board Secretary, Martinez; and Kevin Marker, Orinda

Not pictured: Darryl Young, 2023 President, Contra Costa County; Vinoy Mereddy, Brentwood; Damian Wong, Hercules; James Pinckney, Contra Costa County

Board Vacancies as of December 31, 2023: Clayton, Lafayette, San Pablo, Walnut Creek

In Memoriam

The District is heartbroken over the passing of long-time Trustee Jim Fitzsimmons. Trustee Fitzsimmons represented the city of Lafayette for 35 remarkable years. Our sympathies extend to Trustee Fitzsimmons family and friends.

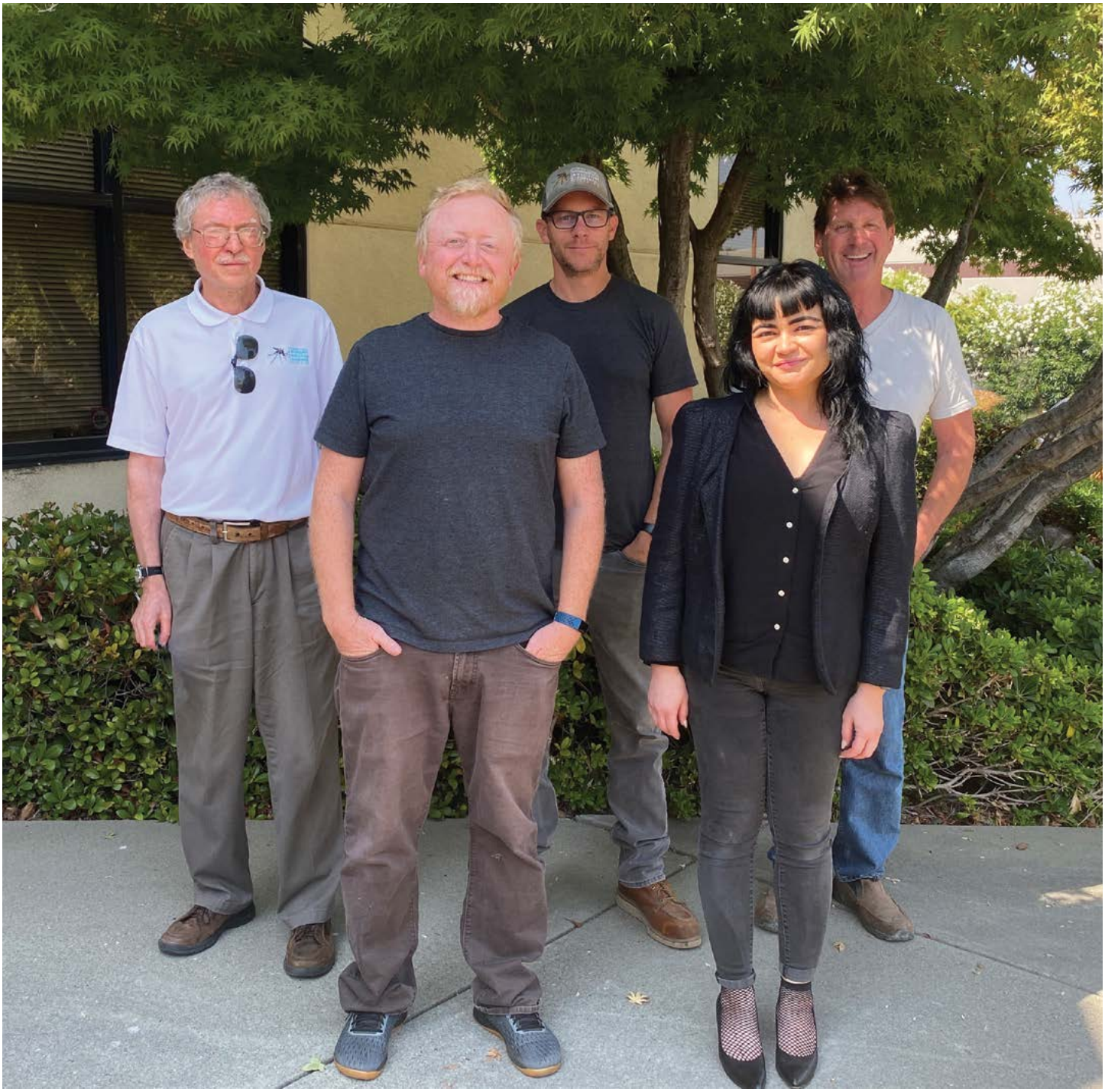


Our Personnel

Administration

Front Row Left to Right: Stacy Stark, Human Resources and Administration Manager, Wayne Sheih, IT Systems Administrator, and Nola Woods, Public Affairs Director

Back Row Left to Right: Natalie Martini, Financial Administrator, Paula Macedo, DVM, Ph.D., General Manager, Andrew Pierce, Public Information and Technology Officer, and Christine Widger, Customer Service Specialist



Scientific Programs

Front Row Left to Right: Damien Clauson, Vector Ecologist and Marie Cerda, Laboratory Technician

Back Row Left to Right: Steve Schutz, Ph.D., Scientific Programs Manager, Eric Ghilarducci, Vector Ecologist II, Chris Miller, Biologist/Fish Program

Operations

Front Row Left to Right: Josefa Cabada, Vector Control Inspector (VCI); Heidi Budge, VCI; Joe Cleope, VCI; Patrick Vicencio, VCI; Tim Mann, VCI; Miaja McCauley, VCI; Charles Baek, Vector Control Technician (VCT); and David Wexler, Operations Manager

Back Row Left to Right: Terry Davis, Program Supervisor; John Boyd, VCT; Steve Fisher, VCI; D.J. Regan, VCT; Chris Doll, VCI; Lawrence Brown, VCI; Cameron Oliver, VCT; David Obrochta, VCI; Brandon French, VCI

Not pictured: Jeremy Shannon, Program Supervisor; Shaun Redman, VCI; Olivia Zaragoza, VCT

District technicians and inspectors are certified through the Vector Control Technician Certification Program of the California Department of Public Health.

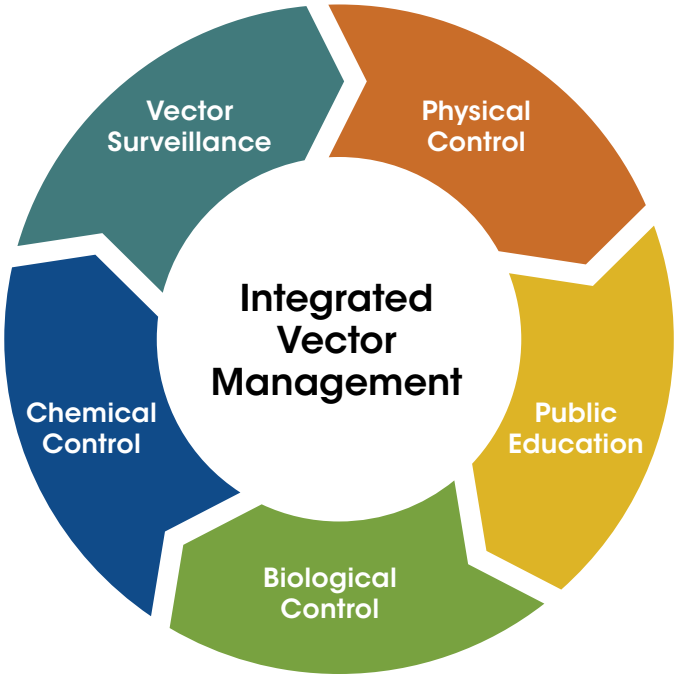
Programs and Services

Vector Control Inspector Steve Fisher inspects a crawl space for signs of rats and/or mice.

Our Programs

Integrated Vector Management

Integrated Vector Management (IVM) is a decision-making process for the optimal use of tools for efficient, cost-effective, and sustainable control of vectors. The District implements IVM practices to guide decisions using an evidence-based approach that is respectful to our environment. Interventions for a particular vector are based on the strengths, weaknesses, potential risks, and costs of each action, or a combination thereof, to determine what tactic is most appropriate for a given place, time, and risk to public health.



VECTOR SURVEILLANCE Investigating vector populations, vector habitats, and disease pathogens including trapping and laboratory analysis of vectors to evaluate populations and disease threats, and direct visual inspection of known or suspected vector habitats

PHYSICAL CONTROL Managing vector habitat, especially through vegetation management, water control and maintenance or improvement of channels and other water sources; the use of all-terrain vehicles, and maintenance of paths; and the use of trapping of vectors that pose a threat to public health and welfare

PUBLIC EDUCATION Encouraging reduction or prevention of vector habitats on private and public property through shared information

BIOLOGICAL CONTROL Rearing and stocking mosquitofish *Gambusia affinis*; and possibly using other predators or pathogens of vectors

CHEMICAL CONTROL Applying products including bacterial and selective insecticides to reduce populations of larval or adult mosquitoes and other invertebrate threats to public health, and rodenticides to control rats and other rodent threats to public health

Our Services

MOSQUITOES

Residential Service: Inspection and control for mosquitoes including placement of mosquitofish in water features when appropriate.

23 established mosquito species in Contra Costa County.

Bites can cause pain, allergic reaction and secondary infection.

Can transmit viruses such as West Nile, St. Louis Encephalitis, Western Equine encephalomyelitis and other pathogens such as dog heartworm.

The District regularly surveys 10,000+ acres of marshland, 60,000 acres of irrigated farmland and numerous ponds, creeks and residential sources countywide.

RATS AND MICE

Residential Service: Inspection to identify potential attractants or habitat locations for rats and mice and advice for prevention and control.

2 species of rats are common in Contra Costa County:
Norway Rat and Roof Rat.

1 species of mouse is common in Contra Costa County:
House Mouse.

Can transmit pathogens of disease through waste products and nesting material.

Viruses and Bacteria that can be transmitted from rats and mice to humans: Salmonelosis, Leptospirosis, Hantavirus, and Arenavirus.

SKUNKS

Residential Service: Inspection and assistance to advise residents on how to reduce potential contact/conflicts between humans and skunks to reduce the risk of rabies by discouraging skunks from visiting their property.

2 species of skunks are common in Contra Costa County:
Spotted Skunk
and Striped Skunk.

Natural predators of garden pests and rodents.

Rabies risk.

GROUND-NESTING YELLOWJACKETS

Residential Service: Inspection and control of ground-nesting yellowjackets only.

Ground-nesting yellowjackets build nests in abandoned rodent burrows, the hollow areas near the root systems of shrubs, under railroad ties or under wood piles.

Natural predators of garden pests.

Incidental pollinators.

Bites and stings are painful and can result in anaphylactic shock.

TICKS

District Service: The District provides a biting and stinging pest identification service that includes tick identification services and tips on tick bite prevention and tick removal for the public.

4 species of ticks commonly bite people in Contra Costa County.

Western black-legged tick (*Ixodes pacificus*) transmits Lyme disease.

BEES (EUROPEAN AND AFRICANIZED HONEY BEES)

Residential Service: Inspection and education about bees.

Beneficial insects.

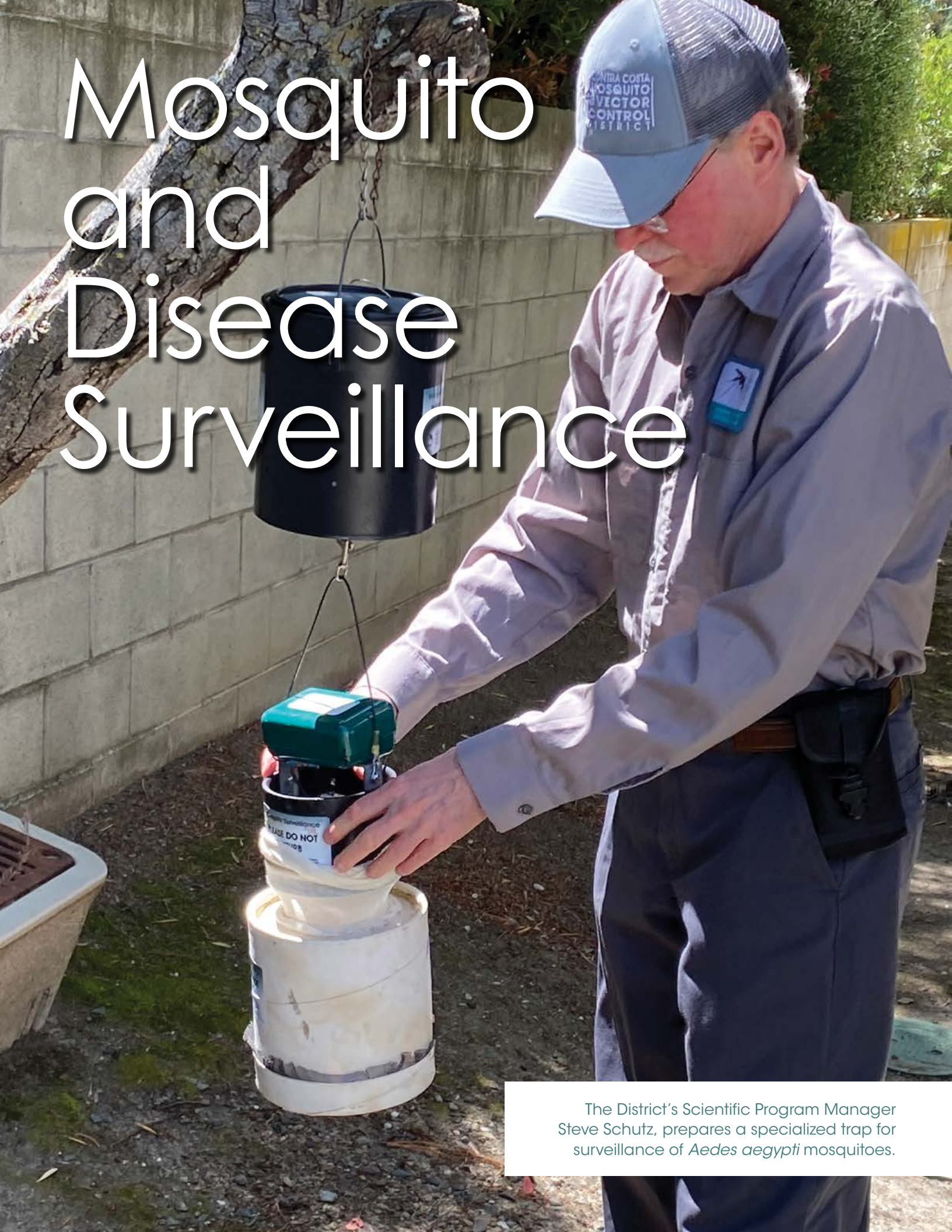
Essential for pollination of many native California crops and plants.

Bee swarms are most likely docile unless provoked.

Swarms typically move away in a day or two.

District employees may treat bee swarms or hives that are a threat to people in public areas.

Mosquito and Disease Surveillance



The District's Scientific Program Manager Steve Schutz, prepares a specialized trap for surveillance of *Aedes aegypti* mosquitoes.

Mosquito and Disease Surveillance

The District's surveillance program collects and analyzes data to assess mosquito and disease risks to the public and to focus available resources to manage those risks.

26 WNV+
MOSQUITOES

11 WNV+
CHICKENS

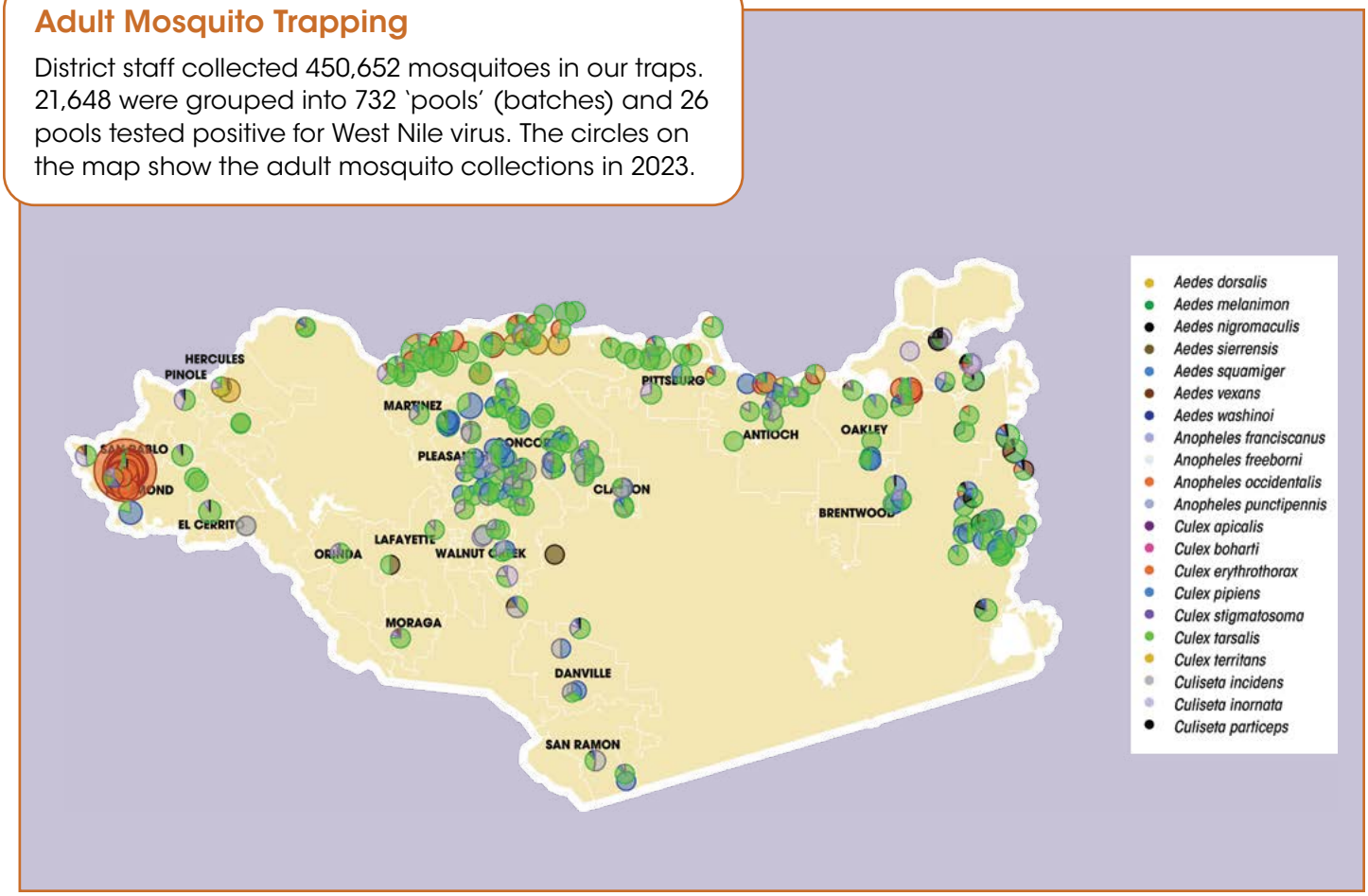
95 WNV+
DEAD BIRDS

West Nile virus

West Nile virus is carried by birds and transmitted by certain species of mosquitoes. Mosquitoes biting infected birds may transmit the virus to other birds, people and horses. Some species of birds (particularly crows and jays) are very sensitive to the virus and die, so monitoring public reports of dead birds and testing susceptible bird species is critical to our surveillance efforts. In 2023, 95 dead birds tested positive for West Nile virus, the most ever in a single year in Contra Costa County since the virus was first detected in 2004.

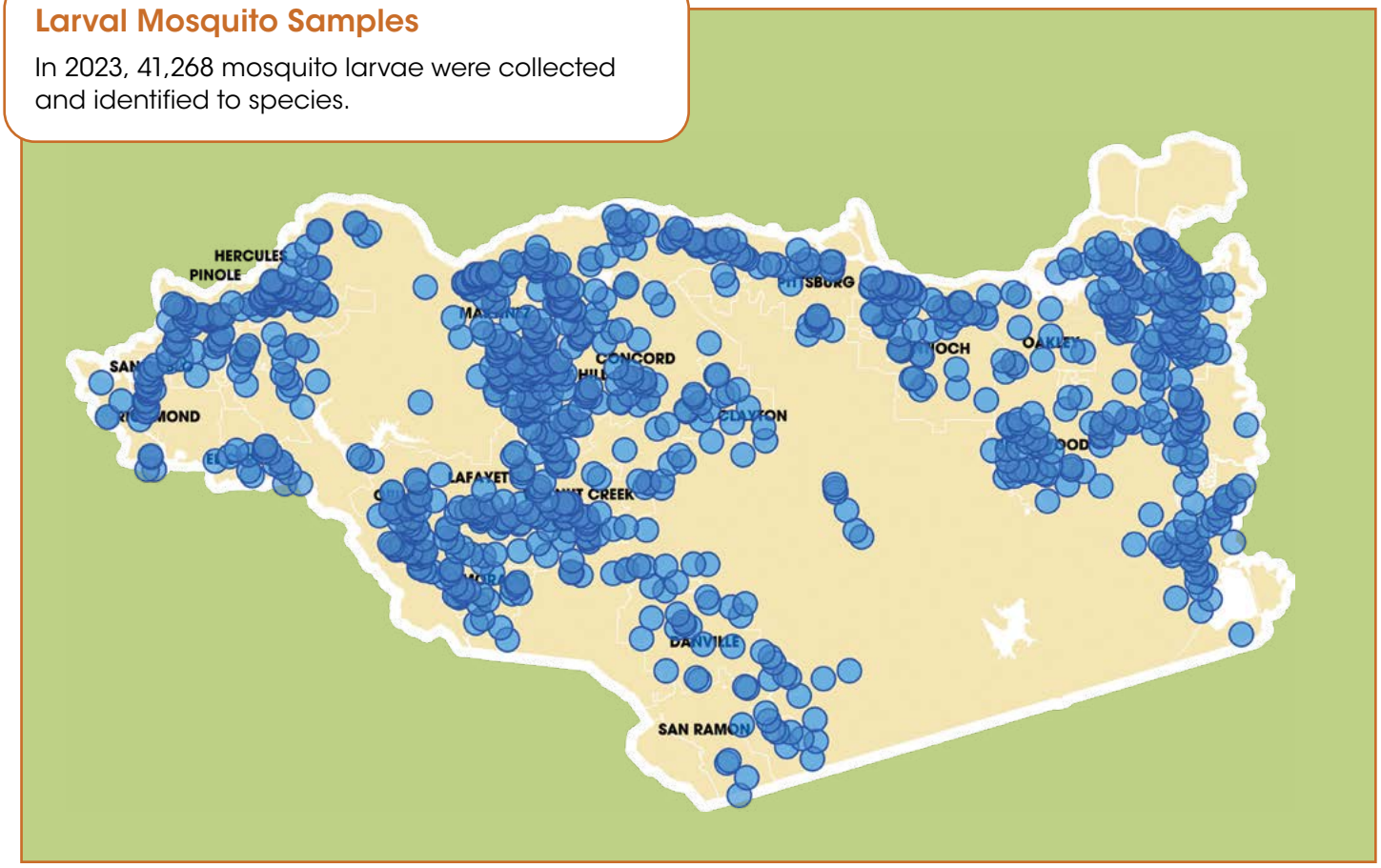
Adult Mosquito Trapping

District staff collected 450,652 mosquitoes in our traps. 21,648 were grouped into 732 'pools' (batches) and 26 pools tested positive for West Nile virus. The circles on the map show the adult mosquito collections in 2023.



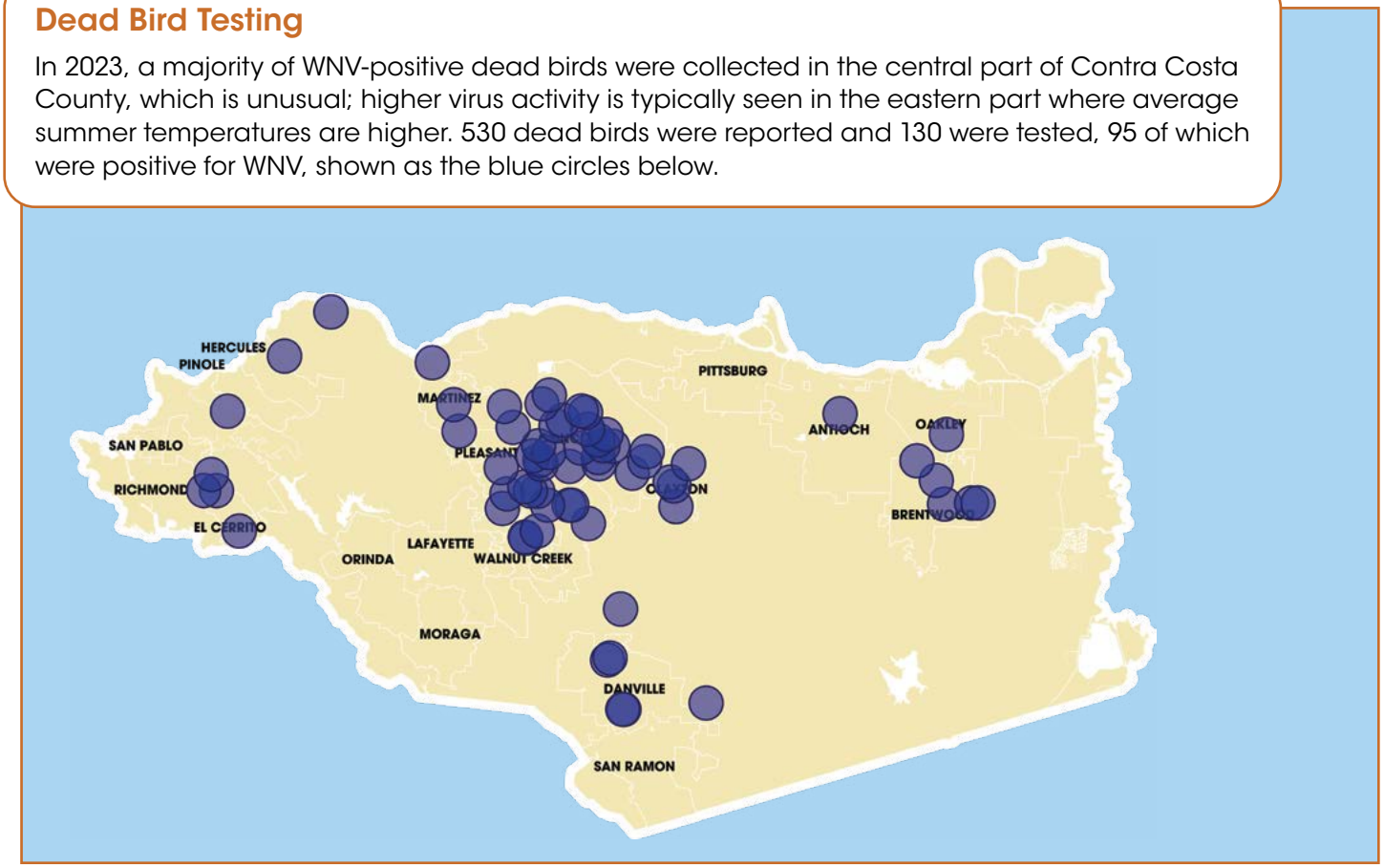
Larval Mosquito Samples

In 2023, 41,268 mosquito larvae were collected and identified to species.



Dead Bird Testing

In 2023, a majority of WNV-positive dead birds were collected in the central part of Contra Costa County, which is unusual; higher virus activity is typically seen in the eastern part where average summer temperatures are higher. 530 dead birds were reported and 130 were tested, 95 of which were positive for WNV, shown as the blue circles below.



Sentinel Chickens

Chickens are resistant to West Nile virus, but develop antibodies which can be detected in their blood when they have been bitten by infected mosquitoes. District staff maintained flocks of chickens at four locations and collected blood samples to test for West Nile and other viruses twice a month from June through October. 236 samples were tested, 11 of which were positive for West Nile Virus. The yellow circles show the locations of the 11 WNV positive chickens.

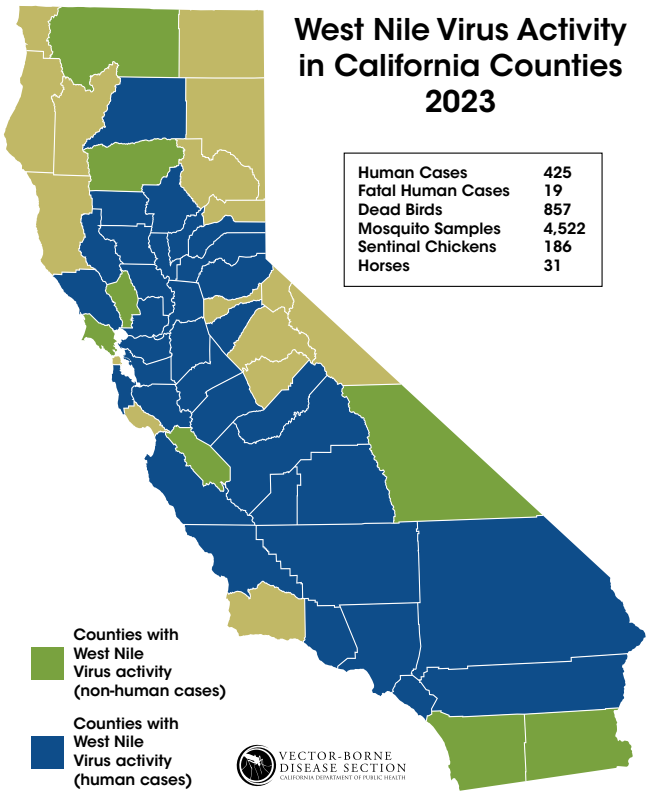
Human and Equine Disease Cases

Nine confirmed human cases of West Nile virus were reported in Contra Costa County in 2023. Statewide, 425 cases and 19 fatalities were reported. Since a majority of cases cause only mild illness, most probably go unreported.

An effective vaccine is available for horses so equine cases are rare and usually involve unvaccinated animals; none were reported in Contra Costa County and 31 were reported statewide.

COUNTIES WITH WEST NILE ACTIVITY
Number of human cases (fatal)

Alameda	1	Madera	9	Santa Clara	1
Butte	18	Merced	8	Shasta	6
Calaveras	1	Monterey	1	Solano	6
Colusa	1	Nevada	1	Sonoma	1
Contra Costa	9	Orange	6	Stanislaus	33 (1)
El Dorado	3 (1)	Placer	6 (1)	Sutter	7
Fresno	22 (1)	Riverside	20	Tulare	25 (1)
Glenn	4	Sacramento	49 (2)	Ventura	1
Kern	16 (1)	San Bernardino	26 (2)	Yolo	39 (3)
Kings	9	San Joaquin	15 (1)	Yuba	5
Lake	6 (1)	San Luis Obispo	2		
Los Angeles	60 (4)	San Mateo	3		



Invasive *Aedes* Surveillance

Non-native *Aedes* mosquito species including *Aedes aegypti* (yellow fever mosquito) and *Aedes albopictus* (Asian tiger mosquito) have been spreading in California since 2013, and are now considered established in much of Southern California and the Central Valley. These mosquitoes are capable of transmitting the viruses responsible for several 'tropical diseases', including dengue, Chikungunya, Zika and yellow fever. Local transmission of the dengue virus was documented in 2023 in southern California.

Aedes Detection

In 2022, the District detected *Aedes aegypti* in Contra Costa County for the first time, in a neighborhood in Martinez. Following an extensive door-to-door inspection and eradication effort, no *Aedes aegypti* were detected in Contra Costa County 2023, despite ongoing surveillance.

COUNTIES WITH *Aedes aegypti* only

Butte
Fresno
Glenn
Imperial
Kern
Kings
Madera
Merced
Placer
Riverside
San Diego
San Joaquin
Solano
Stanislaus
Sutter
Tulare
Ventura
Yolo
Yuba

COUNTIES WITH *Aedes aegypti* and *albopictus*

Los Angeles
Orange
Sacramento
San Bernardino
Shasta

Invasive *Aedes* Activity in California Counties 2023

Tick and Pest Identification and Information

The District's laboratory staff identify ticks and other stinging or biting pests submitted by the public. In 2023, staff examined a total of 48 samples.

Biological Control

In 2023, more than 25,000 mosquitofish were placed by District field technicians to provide control of mosquitoes in unmaintained swimming pools and other water features. More than 3,000 of the fish were placed in response to residential service requests.

Other Projects

In 2023, Laboratory staff worked with personnel from the California Department of Public Health (CDPH) to test local *Culex tarsalis* mosquitoes for resistance to some commonly-used public health insecticides. The results did find that resistance to some of the active ingredients were present in laboratory tests. So far, District employees have not noted any resistance to these products during practical application at locations in Contra Costa County, but the situation will require monitoring and possible modifications to our control strategies in the future.

District staff also assisted CDPH with an investigation of a human case of Rocky Mountain spotted fever by collecting *Dermacentor* (dog ticks) from several locations within Contra Costa County. This investigation is ongoing.

2023 IDENTIFICATIONS

- **11** Non-Vector Insects
- **9** American Dog Ticks
- **7** Mites
- **6** No Pest/Vector Found
- **5** Western Black-legged ticks
- **4** Flies
- **3** Ants
- **1** Bee
- **1** Mosquito
- **1** Flea

Mosquitofish *(Gambusia affinis)* are a natural predator of mosquito larvae.

American Dog Tick *(Dermacentor variabilis)* is known to carry Rocky Mountain spotted fever.

District Operations

Vector Control inspector searches a neglected pool for signs of mosquito production.

DISTRICT OPERATIONS

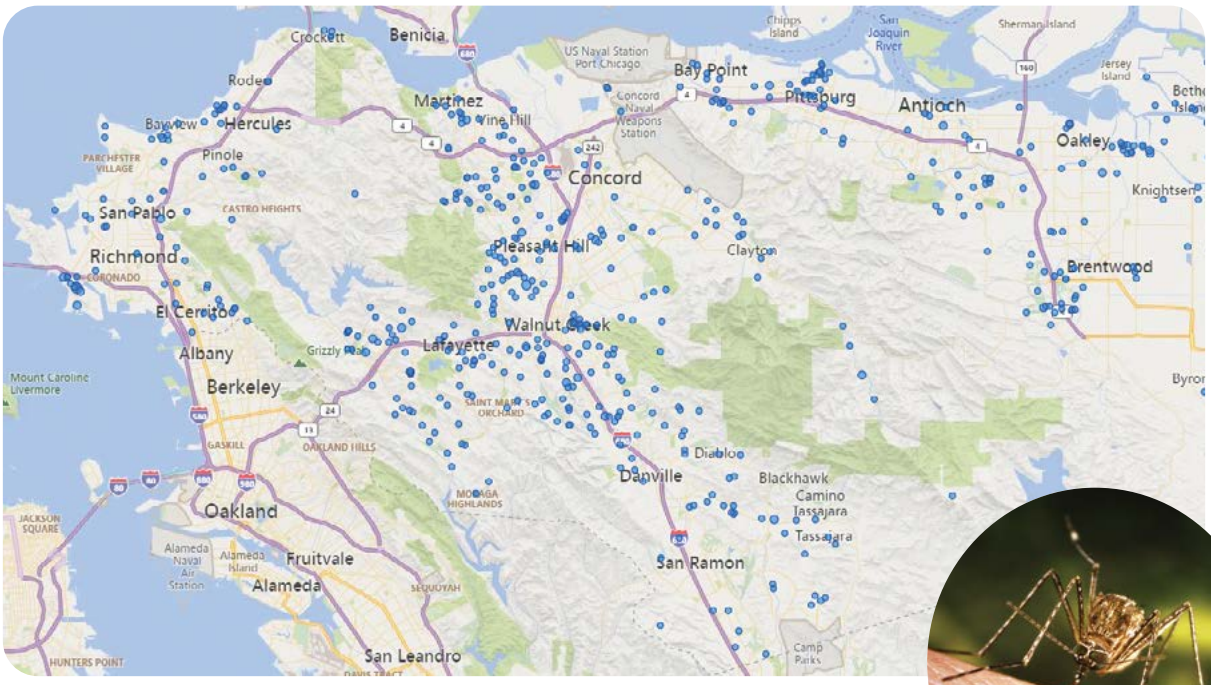
The District's Operations employees work year-round to reduce the risk of vector-borne disease across the 716 square miles of Contra Costa County by preventing vectors when possible and controlling them when necessary to protect the public health of 1.16 million County residents.

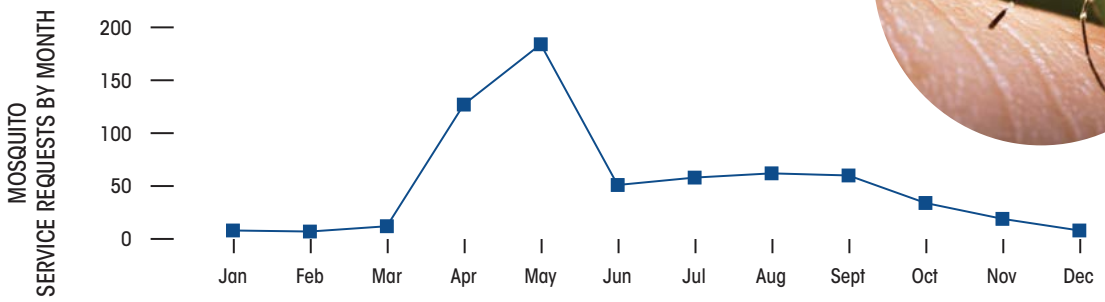
Mosquito Control Operations

Well above-average amounts of rainfall in early 2023 led to significant areas of standing water throughout the county, generating a spike in requests for service in early spring. Requests for the District's mosquito service in April and May accounted for nearly 50% of the 630 mosquito requests received for the entire year. Inspections and control applications, similarly, ramped up quickly in the spring–peaking in June–and tapering off, with 26,163 inspections recorded and 6,513 control applications made in 2023.

As mentioned earlier in this report, the invasive yellow fever mosquito, *Aedes aegypti,* which can transmit the viruses associated with dengue fever, chikungunya, yellow fever, and Zika, among others, was detected in a Martinez neighborhood in the summer of 2022 with no new detection in 2023.

Mosquitoes





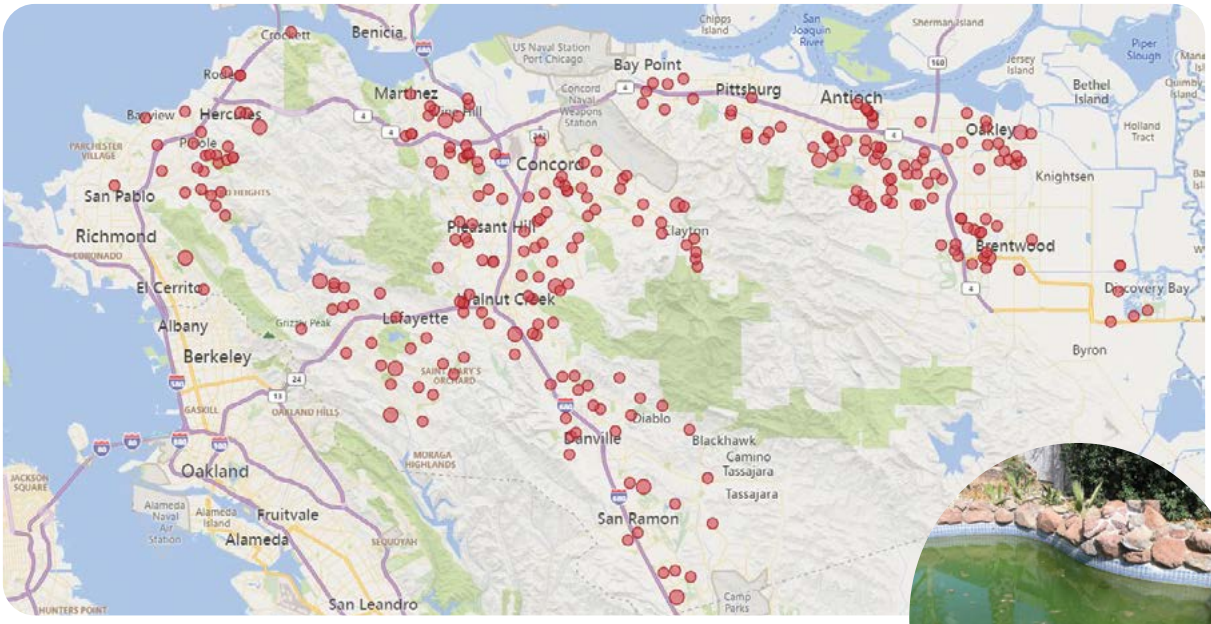
These mosquitoes are well adapted to reproducing in a variety of water-holding containers found within residential backyards including children's toys, tools, discarded soda cans and planter dishes. Operations employees continued to monitor and inspect for the presence of this mosquito throughout the year. When making recommendations to county residents, Operations employees explained that these mosquitoes lay sticky eggs and simply dumping out standing water alone does not remove the eggs, which can remain viable for many months. District employees encouraged residents to dump the water out and scrub the containers to remove any potential mosquito eggs.

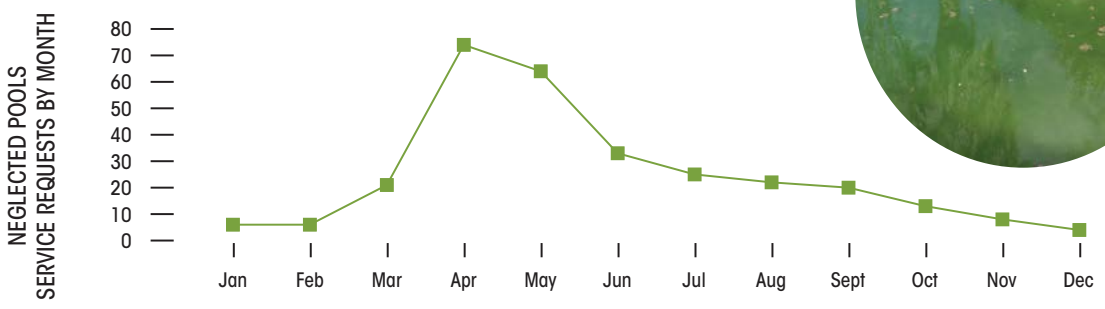
Potential *Aedes aegypti* sources found in 2023

Neglected Swimming Pools and the Risk of Mosquito-borne Disease

Neglected swimming pools continue to be sources of mosquito production throughout Contra Costa County, especially as increased rainfall filled pools that were previously empty. The District received 297 requests for the District's neglected swimming pool service in 2023. Notices were mailed to 201 properties.

Neglected Swimming Pools





District Boats

The District's mosquito program utilizes three boats to access islands and marshes in Contra Costa County inaccessible by land. The use of these craft enabled field staff to inspect and implement control measures in these areas that are capable of impacting county residents.

District employees use a District boat to inspect for evidence of mosquitoes in Contra Costa County waterways

Vector Control Planning

Vector Control Planning aims to reduce or eradicate current vector sources as well as prevent new sources from being created. To that end, in 2023, at least 104 project applications across Contra Costa County were reviewed for vector-related concerns and corresponding agencies were provided with appropriate feedback where warranted to prevent creating suitable vector habitat.

UAS Program

The District's Unmanned Aircraft Systems (UAS), also referred to as drones, allowed for more efficient inspection of large wetland areas that are difficult to inspect on foot or by off-road vehicles completely. The information gathered by the UAS helps the District plan appropriate treatment of these areas more efficiently. In 2023, the District purchased an additional UAS that will eventually be used to make applications in difficult-to-access terrain or environments sensitive to ground disturbance.

The District's newest UAS

Multiple Operations employees successfully obtained their Remote Pilot Certificate (RPC) from the Federal Aviation Administration (FAA), demonstrating they understand the regulations, operating requirements, and procedures for safely flying drones. This furthers the District's ability to effectively utilize these systems to achieve operational goals.

Rats and Mice

Operations employees provide exterior inspections and advice for residential and commercial properties within Contra Costa County to reduce the risk of disease associated with rats and mice. The roof rat (*Rattus rattus*), Norway rat (*Rattus norvegicus*), and house mouse (*Mus musculus*) are of primary concern as they live in close proximity to humans, are associated with multiple diseases, and can cause significant damage to property and structures.

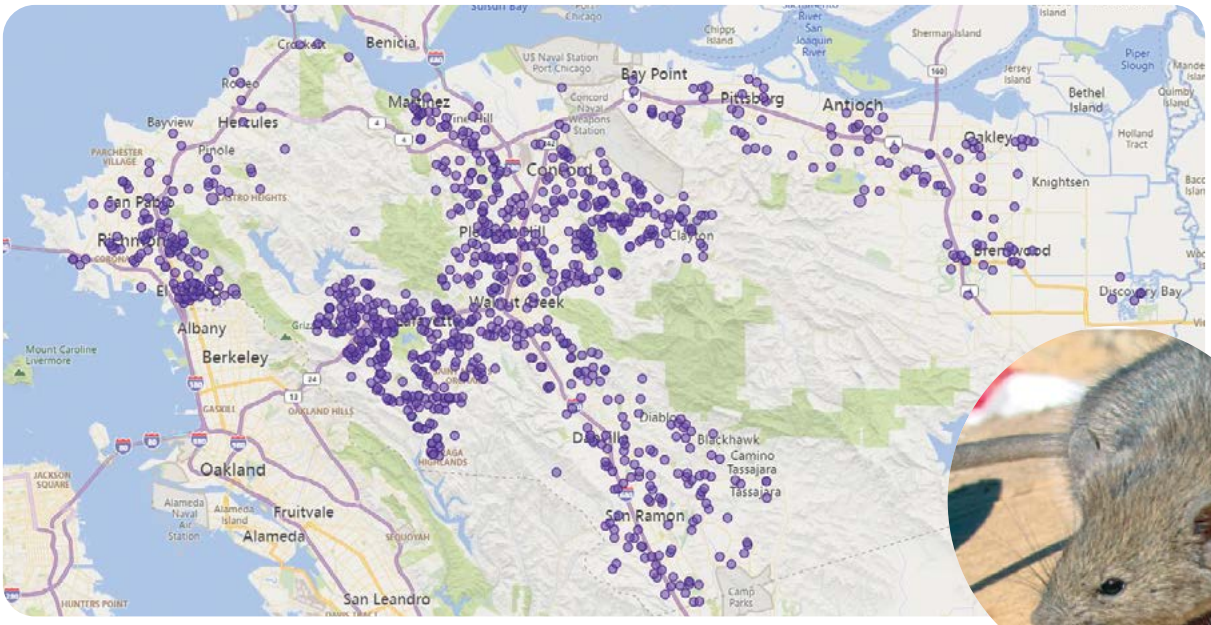
The District received 1,011 requests for rat and mouse service in 2023. The majority of the requests for rat and mouse service came from areas in central and west Contra Costa County.

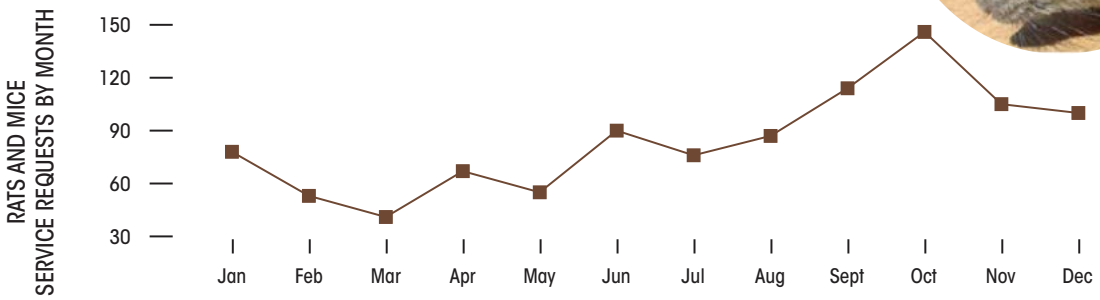
Monitoring for Rats and Mice

The District conducts monitoring for rat and mouse activity in public spaces throughout Contra Costa County through the use of nontoxic monitoring blocks, and suppresses these populations through the use of Environmental Protection Agency (EPA)-registered rodenticides. All products used for monitoring and control are deployed within secure stations that prevent access by humans and non-target animal populations.

Operations employees maintained approximately 144 stations throughout Contra Costa County in 2023 for the monitoring and suppression of rats and mice. These stations are continuously monitored for and moved pending the observed activity at each location.

Rats and Mice





Skunks and Rabies Risk Reduction

While a potentially beneficial part of Contra Costa County's ecosystem, skunks (*Mephitis mephitis*), are one of the primary reservoirs and vectors of rabies in California. Skunks can transmit the rabies virus through their saliva while biting other animals or humans. Rabies can infect the central nervous system and may lead to death if left untreated.

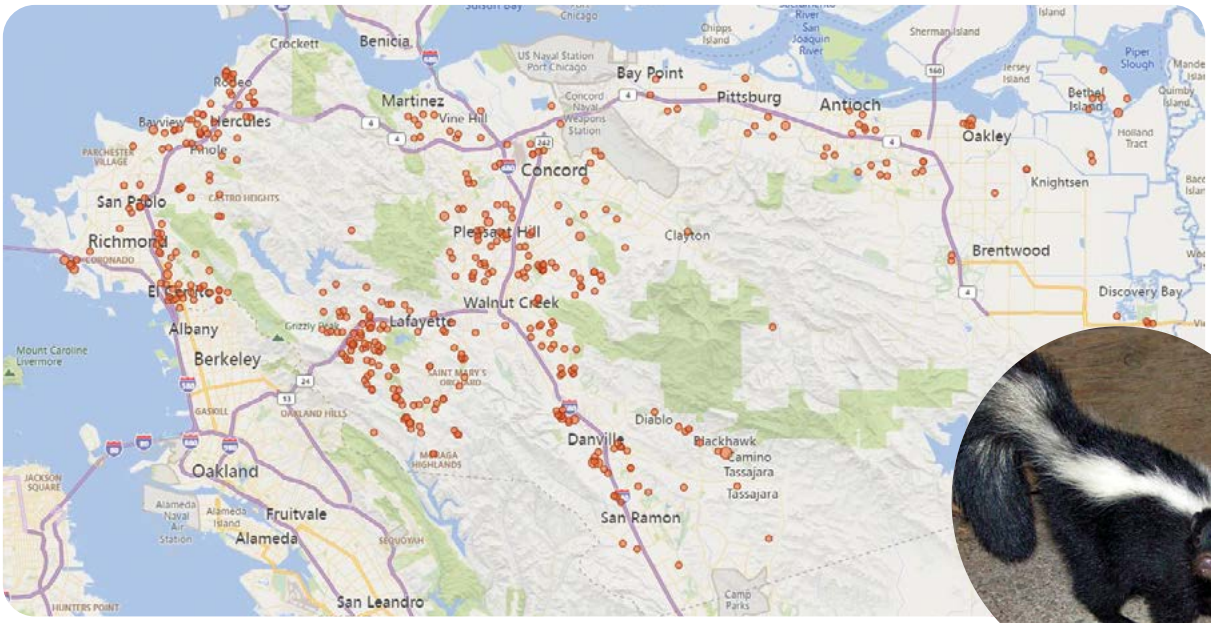
District employees provide inspections and assistance to Contra Costa County residents when skunks are believed to be living on private property, which would increase the probability of human-skunk interactions. The District's service focuses on providing residents with appropriate measures to reduce contact with skunks and eliminate attractants, preventing skunks from establishing a den. If it is determined that a skunk is living on a property, the District may lend the resident a trap in order to catch the skunk for removal.

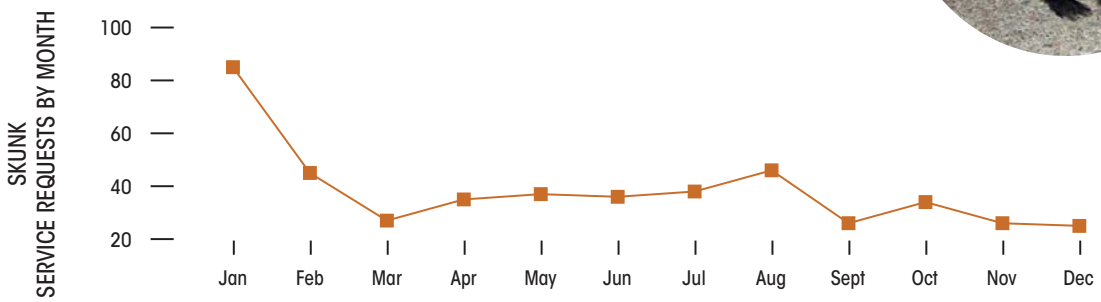
The District received 460 requests for skunk service in 2023 and District employees removed 59 skunks from Contra Costa County properties.

When a Non-Target Animal is Trapped

Non-target animals sometimes enter the District's live-capture traps. The 12 non-targets caught in 2023 were released by District employees on-site in accordance with California Fish and Wildlife codes.

Skunks



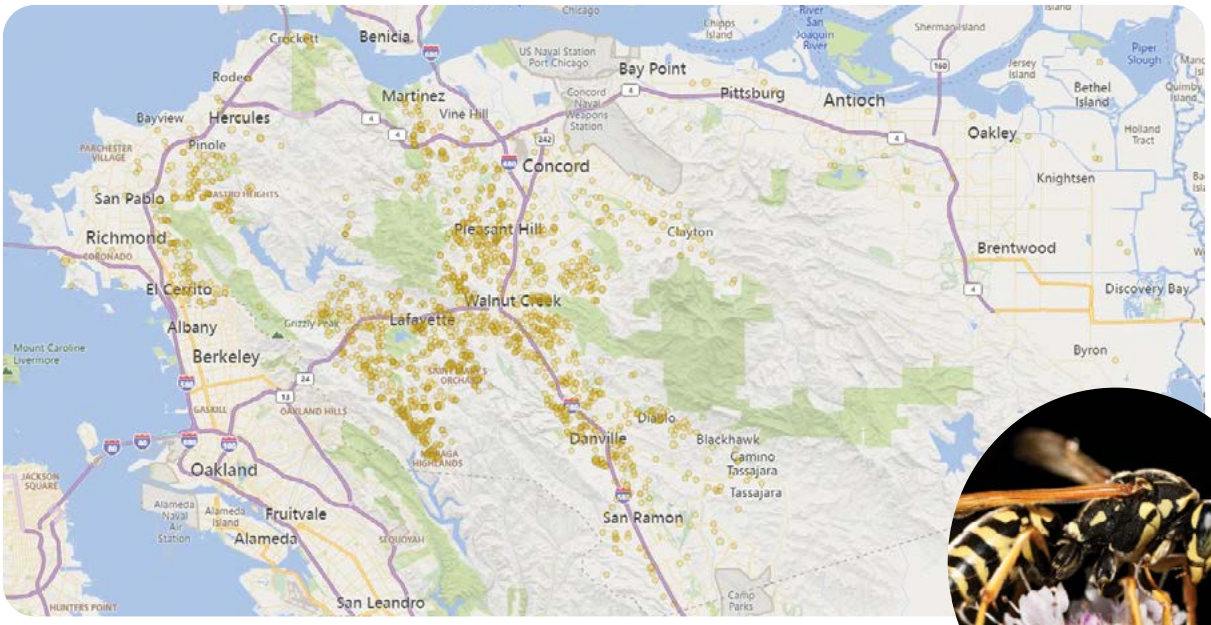


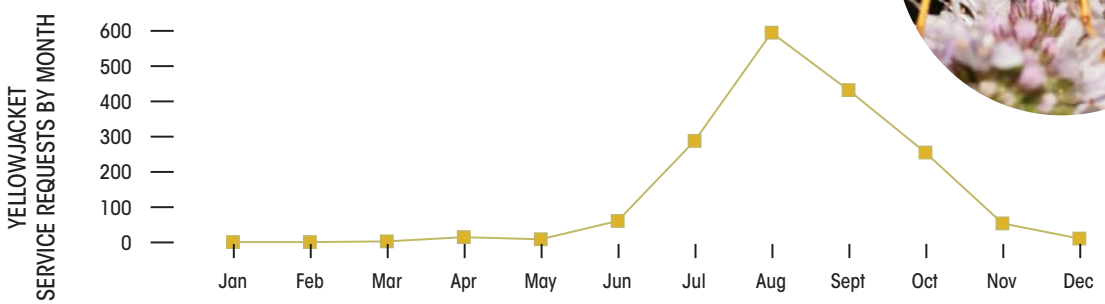
Yellowjackets

Of the four yellowjacket species commonly found in Contra Costa County, the western yellowjacket (*Vespula pennsylvanica*), in particular, is of concern. These yellowjackets typically exploit abandoned rodent burrows and other subterranean voids to build underground nests. When disturbed, they can bite and sting multiple times, putting people at risk of injury or worse if they suffer allergic reactions to stings. The chances of interactions with people are high as ground-nesting yellowjackets aggressively go after proteins and sweets at barbecues, picnics, and outdoor dining areas, putting humans at increased risk of getting bitten and stung. District employees provide inspections and treatment of yellowjacket ground nests only.

A mild winter paired with increased rainfall created abundant food sources which resulted in a significant increase of yellowjacket activity. The District received a record-breaking 1,725 requests for yellowjacket service, yet District employees determined that less than 75% of these requests were nests that warranted treatment. Many of these calls were for yellowjackets seen foraging near residential properties. The majority of the requests for yellowjacket service came from cities near the Highway 24 corridor interchange with Interstate 680.

Yellowjackets





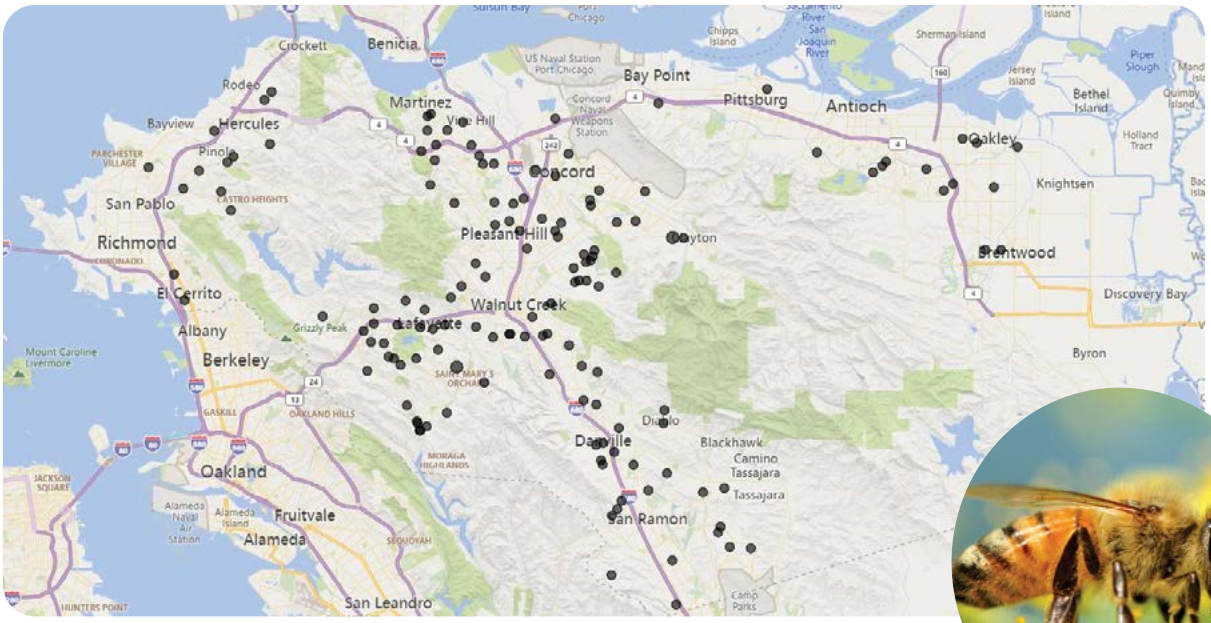
Honey Bees

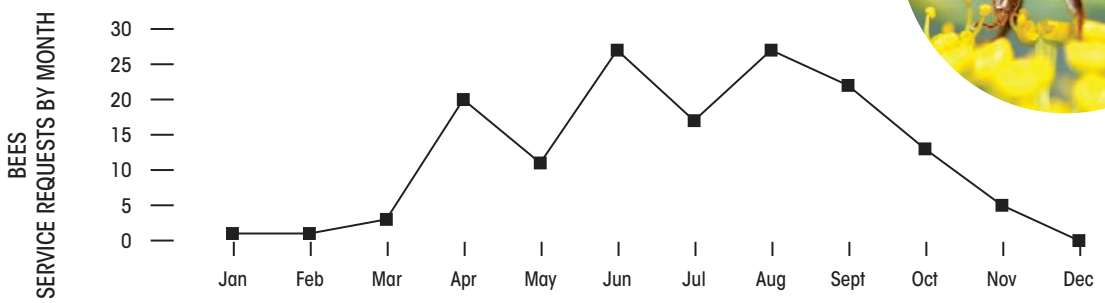
European honey bees *(Apis mellifera)* are crucial pollinators for many flowers and crops, along with other plant varieties. While generally docile, these bees will sting if threatened.

The District's bee service primarily consists of providing an inspection to identify bees and educating residents about bees. The District does not treat bee hives established in structures or that are located on private property.

The District may treat bee swarms or hives that are an immediate threat to the people in public areas, such as shopping centers or schools; however, swarms will generally relocate within a few days without provocation. Of the 147 requests the District received for bee service in 2023, many were referred to local beekeepers to safely collect and remove the swarms or hives without killing them.

Honey Bees





Environmental Health

In the Programs section of this report, page 13 includes an explanation of Integrated Vector Management (IVM) which is an evidence-based approach that is respectful to our environment. Additionally, the District follows a Programmatic Environmental Impact Report (PEIR) that considers the effects of District control actions while also being held accountable to a National Pollutant Discharge Elimination System (NPDES) permit issued by the California State Water Resources Control Board. NPDES permits are required by the U.S. Environmental Protection Agency and are intended to address water pollution by regulating point sources that discharge pollutants into waters of the United States.

The District strives to be respectful of the environment, supporting a collaborative role in the protection of endangered species, conservation and restoration of Bay Area wetlands, and promotion of biorational (low environmental impact) control methods to protect the environment while also safeguarding public health. The District also complies with all state and local regulations regarding hazardous material storage and disposal, wastewater discharge, waste tire disposal, and stormwater discharge, helping to secure the District's lowest possible environmental impact.

Training and Certification

Annual Training

District employees complete training sessions designed to ensure they meet or exceed the requirements set forth by all regulatory agencies with jurisdiction over the use of public health pesticides.

In 2023, the District employed both online video training options and in-person events. Training sessions review vector biology, control products, equipment, safety procedures, innovations in vector control, updates to District procedures, instruction on the use of new software and technologies, current research topics, and laws and regulations relevant to vector control. Training enabled staff to continue to perform their work with confidence and skill while adhering to safe work practices.

State Certification

District technicians and inspectors are certified through the Vector Control Technician Certification Program of the California Department of Public Health (CDPH). District employees maintain state certification for public health work in vector control to ensure that best practices are followed via continuing education and state-proctored testing. Areas of focus include the safe and effective use of pesticides, the biology and control of mosquitoes, and other invertebrates and vertebrates of public health significance. Certification is renewed every two years through continuing education units provided through approved workshops, presentations and conferences.

VECTOR-BORNE DISEASE SECTION
CALIFORNIA DEPARTMENT OF PUBLIC HEALTH

The Vector-Borne Disease Section of the California Department of Public Health oversees the Vector Control Technician Certification and Continuing Education programs.

Public Affairs

Public Affairs

The District's Public Affairs department employees work to:

RAISE AWARENESS about the District as a Public Health Agency.

EDUCATE the residents of Contra Costa County about the District's Public Health Services.

ENCOURAGE behavior change among residents to reduce the risk of vectors of disease or harm on their own properties.

We Raise Awareness through Advertising

In 2023, public affairs staff placed various advertisements throughout Contra Costa County.

Outdoor billboards

Print ads

Bus ads

Internet ads

In addition to the District's traditional advertising, in 2023, an opportunity became available to hang a banner at the entrance to Bethel Island with the message, "Boats Belong On Water. Water Does Not Belong In Boats."

One of the District's Operations employees found a number of boats full of water after the four months of rain Contra Costa County received during the winter months.

We Educate Contra Costa County Residents through Presentations, Community Events, and News Coverage.

In 2023, Public Affairs department members provided 23 presentations, participated in 10 community events, and were interviewed for 28 news stories.

We Encourage Behavior Change through E-Newsletters and Social Media.

In 2023, Public Affairs department staff published eight District Newsletters and posted District messaging on Social Media: 117 posts on Nextdoor, 97 posts on X (formerly Twitter), 115 posts on Facebook, and the Public Affairs department added Instagram to the District's Social Media vehicles. In the first year of the District's Instagram use, staff posted 14 messages on Instagram.


CONTRA COSTA MOSQUITO &VECTOR CONTROL DISTRICT

MOSQUITO BYTES NEWSLETTER

REPEATED STORMS DUMP WATER IN PLACES YOU MIGHT NOT EXPECT
Now, it's Time to Take Action to Prevent Mosquitoes Now and Later

After weeks of rain, the weather forecast is starting to change, and that means it's a good time to take a look around your yard for anything holding water to prevent mosquitoes now and later. With 23 confirmed species of mosquitoes in Contra Costa County, we already have some mosquitoes that are active, now, with more to follow as the seasons change. And since mosquitoes only need a small amount of water to develop from egg to biting adult in a matter of days, it's important to dump out standing water and scrub each item as soon as the weather allows. The key to success is after you check the buckets and other containers, also look for toys, tools, and other places where you might not expect to find water.

Here are some of the unexpected items Contra Costa Mosquito and Vector Control District employees recently found holding rainwater.


Contra Costa Mosquito & Vector Control District

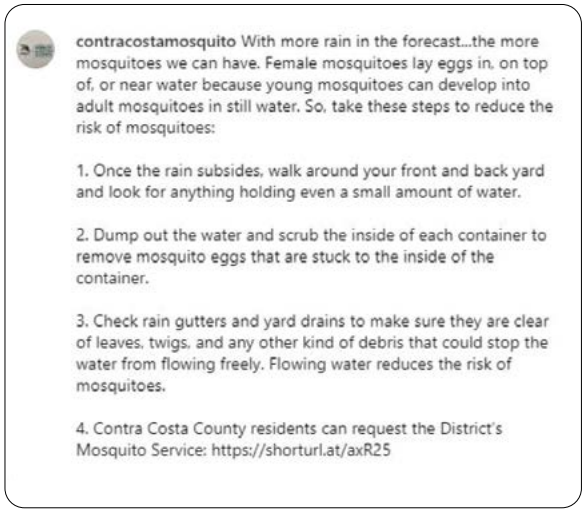
With wet weather on the way this week, be sure to check your yard for anything that can hold water including cans, buckets, containers, wheelbarrows, and flower pot saucers. Mosquitoes require standing water to complete their lifecycle. Dump out the water and scrub the inside of containers to ensure no mosquito eggs remain.


Contra Costa Mosquito and Vector Control District
Public Affairs Director Nola Woods

With storms rolling in this weekend, take time right now to check your rain gutters to ensure there is no debris or leaf litter. Clogged gutters can cause stagnant water that
See more...


CC Mosquito & Vector @CCMosquito

Can you save rainwater without producing mosquitoes? Yes, you can! Take just about a minute and watch this informative video that details how:
youtu.be/IITJthLJevtk


contracostamosquito With more rain in the forecast...the more mosquitoes we can have. Female mosquitoes lay eggs in, on top of, or near water because young mosquitoes can develop into adult mosquitoes in still water. So, take these steps to reduce the risk of mosquitoes:

1. Once the rain subsides, walk around your front and back yard and look for anything holding even a small amount of water.

2. Dump out the water and scrub the inside of each container to remove mosquito eggs that are stuck to the inside of the container.

3. Check rain gutters and yard drains to make sure they are clear of leaves, twigs, and any other kind of debris that could stop the water from flowing freely. Flowing water reduces the risk of mosquitoes.

4. Contra Costa County residents can request the District's Mosquito Service: https://shorturl.at/axR25

Training and Certification

To ensure that Public Affairs department employees are highly skilled in communicating with both the people of Contra Costa County and District employees, Public Affairs department members undergo extensive training each year through the Public Relations Society of America (PRSA).

In 2023, Public Affairs staff received training regarding communications trends, the importance of internal communication, and innovations in digital and video communication. Members of the Public Affairs department are also certified through the CDPH Vector Control Technician Certification Program so that Public Affairs employees provide accurate information when advising the public regarding vector-related issues during the department's communication with Contra Costa County residents.

PRSA Public Relations Society of America


HERCULES
PINOLE
MARTINEZ
PITTSBURG
ANTIOCH
OAKLEY
SAN PABLO
CONCORD
PLEASANT HILL
RICHMOND
CLAYTON
BRENTWOOD
EL CERRITO
LAFAYETTE
ORINDA
WALNUT CREEK
MORAGA
DANVILLE
SAN RAMON

CONTRA COSTA
MOSQUITO
&VECTOR
CONTROL
DISTRICT