2024 ANNUAL REPORT

SACRAMENTO-YOLO MOSQUITO & VECTOR CONTROL

Sacramento-Yolo
MOSQUITO & VECTOR
CONTROL DISTRICT

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Dear Residents, Colleagues & Friends

It is our pleasure to present the 2024 Annual Report for the Sacramento-Yolo Mosquito and Vector Control District. By utilizing a comprehensive Integrated Pest Management approach we were able to respond to West Nile virus (WNV), the ongoing spread of invasive mosquitoes and provide exceptional services to the residents of Sacramento and Yolo counties. This report describes the work performed by the District.

In 2024, WNV continued in our area, although the season was relatively mild, especially compared to 2023. Mosquito populations were steady and extensive surveillance efforts were conducted across both counties. By the end of the season, 120 mosquito samples and 72 dead birds tested positive in both counties. Regarding human WNV cases, there were seven confirmed in Sacramento County and nine in Yolo County. Statewide, West Nile virus activity was also low, with 129 reported human cases, including 12 fatalities.

In addition to ongoing WNV activity, of significant concern was the spread of the mosquito species, *Aedes aegypti* which has become permanently established in multiple locations within our District boundaries. While *Aedes albopictus* had been found the two previous years, fortunately it was not detected in 2024. Both of these species are aggressive day biting mosquitoes that breed in small backyard sources and have the potential to transmit diseases such as Zika, dengue and chikungunya. Last year, some of the biggest infestation areas were Rosemont, south Natomas, Land Park and Arden Arcade in Sacramento County. Meanwhile, in Yolo County, Winters continues to have the largest infestation while both Woodland and Davis saw increased populations of these invasive mosquitoes. In response to new and ongoing detections, the laboratory conducted extensive surveillance across various areas. Our *Aedes* team carried out door-to-door inspections, educating residents about the issue. Meanwhile, field technicians in the control operations division conducted targeted ground spraying to reduce both adult and immature mosquito populations in affected neighborhoods. Throughout the state, invasive mosquitoes also continued to spread and there were 18 cases of locally acquired dengue in southern California. This was a dramatic increase from 2023 when there were only 2 non travel related cases of dengue.

Despite the ongoing spread of *Aedes aegypti*, WNV continues to be our top priority. Throughout the season our laboratory and surveillance team worked diligently throughout the season, collecting dead birds and monitoring mosquito activity by trapping, sorting, and testing samples. When WNV levels posed a heightened risk of transmission, control operations responded with ground spraying to quickly reduce mosquito populations. Field staff also focused on identifying and treating breeding sites, inspecting thousands of catch basins, and addressing service requests from residents. Ongoing public outreach initiatives effectively communicated mosquito prevention messages through comprehensive advertising, social media campaigns, presentations, and community events. As part of our integrated mosquito management efforts, mosquitofish were strategically introduced in urban, rural, and agricultural areas to serve as a natural control method. The Ecological Management department implemented best management practices and collaborated with landowners to mitigate mosquito breeding sites. The Geographic Information Systems department played a crucial role in providing mapping, data analysis, and analytics to support operational decision-making. Meanwhile, the Information Technology department ensured the efficiency and reliability of internal systems by maintaining workstations, equipment, and databases. The Administration department continued to provide essential professional services to the public while supporting internal staff. Lastly, the shop conducted routine maintenance and repairs to ensure the optimal performance of all vehicles and equipment.

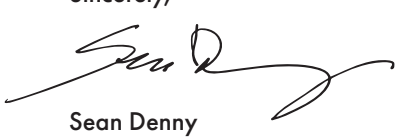
As we move forward, we are committed to continue offering the best mosquito control program to the residents we serve.

If you have any questions please visit our website at
www.FIGHTtheBITE.net or call us at 1-800-429-1022.

Sincerely,

Gary Goodman
District Manager

Sincerely,



Sean Denny
2024 President, Board of Trustees

Our History

In 1915, the California Legislature adopted the "Mosquito Abatement Act" (now incorporated into the California Health and Safety Code, Division 3) which formed the basis for the creation, function and governing powers of Mosquito Abatement Districts.

On June 18, 1946, the Sacramento County-Yolo County Mosquito Abatement District was formed by joint resolution of the Board of Supervisors for Sacramento and Yolo counties. The driving force behind the formation of the District was the public's need for protection against mosquito-borne diseases and relief from serious pest nuisance.

In July of 1990, the District Board voted by resolution to change the name of the District to the Sacramento-Yolo Mosquito and Vector Control District to better reflect the expanded services and responsibilities the District assumed regarding ticks, yellow jackets and other vectors.

The District is governed by a Board of Trustees, each appointed by one of the incorporated cities or one of the counties within the District's boundaries. Board meetings are held at 10:00 am on the third Tuesday of each month in Elk Grove.

2024 BOARD OF TRUSTEES OFFICERS

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DISTRICT STAFF

ADMINISTRATIVE OFFICE, PUBLIC INFORMATION, CONTROL OPERATIONS, FISHERIES AND LABORATORY

SACRAMENTO COUNTY

8631 Bond Road
Elk Grove, CA 95624
Phone: 1-800-429-1022
Fax: 916-685-5464

CONTROL OPERATIONS

YOLO COUNTY

1234 Fortna Avenue
Woodland, CA 95776
Phone: 1-800-429-1022
Fax: 530-668-3403

PERSONNEL

Manager: Gary Goodman
Assistant Managers: Tony Hedley and Steve Ramos
Administrative Managers: Lisa Pelletier
Program Coordinator: Marty Scholl
Senior Administrative Assistants: Tatiana Ochoa
Administrative Assistants: Dania Smith and Catalina Garcia

LABORATORY

Laboratory Director: Sarah Wheeler
Biologist: Mario Novelo Canto
Vector Ecologist: Debbie Dritz
Microbiologist: Kara Kelley
Laboratory Technicians: Whitney Clack, Joy Drake, Stanley Roberts, Katrina Stokes, Haley Unmacht, James Brodigan, Anna Cutshall, and Elizabeth Slagboom

FISHERIES

Fisheries Supervisor: Ken Harris
Field Technicians: Callahan Wieland and Rocky Molina

PUBLIC INFORMATION & EDUCATION

Public Information Officer: Luz Maria Robles

ECOLOGICAL MANAGEMENT

Ecological Management Supervisor: Kevin Combo
Ecological Management Technicians: Guy Kachadorian and Timothy Guimont

MAPPING & INFORMATION TECHNOLOGY

Mapping/Systems Coordinator: Ruben Rosas
Information Technology Administrator: Dan Fisher

SHOP

Supervisors: Robert Fowler
Mechanics: Ben Weisenberg and Don Henson

MOSQUITO CONTROL OPERATIONS

CATCH BASIN CREW

Supervisor: Ryan Wagner
Field Technicians: Shan Badhan, Yeng Chang, Jay Geigle, Eric Guimont, and Garrett Koch

NORTH SACRAMENTO COUNTY

Supervisor: Richard Speakman
Field Technicians: Nick Ascarrunz, Ron Burkhouse, Alex Cherney, Richard Fowler, Timothy Yuen, Grant White, Jacob Pascual, and Cory Hearst

SOUTH SACRAMENTO COUNTY

Supervisor: Demetri Dokos
Field Technicians: Kevin Valone, Katie Kirkham, Jonas Leuluaialii, Brian McGee, Aaron Gruen, and Rollin Phelps

URBAN OPERATIONS CREW

Supervisor: David Smith
Field Technicians: Dave Zepf, Katherine Kellogg, Cason Reyes, and Anthony Barrera

NORTH YOLO COUNTY

Supervisor: Brett Day
Field Technicians: Garrett Bell, Jason Lloyd, Zeb Middleton, Mark Pipkin, and Jake Vigna

SOUTH YOLO COUNTY

Supervisor: Will Hayes
Field Technicians: Dan Bickel, Frank Mendez, Soda Sanouvong, Kylie Letamendi, George Santiago, and Phillip Merritt

Integrated Pest Management

Mosquito and vector control are based on scientifically planned management tactics and control strategies that reduce the abundance of target pests in a timely manner. This method is commonly referred to as "Integrated Pest Management" (IPM). This comprehensive program incorporates five basic methods: public information and education, mosquito and vector surveillance, biological control, physical control, and microbial and chemical control.

PUBLIC INFORMATION & EDUCATION

The District's outreach program educates and informs the public about mosquito and West Nile virus prevention methods through an extensive advertising and media campaign. District messages are also disseminated to the public by participating in a variety of community events, health fairs, presentations to schools and community organizations as well as partnerships with local groups.

MOSQUITO & VECTOR SURVEILLANCE

The District closely monitors mosquito activity, climate change and arbovirus activity by testing mosquitoes, sentinel chickens, wild birds and ticks for the presence of pathogens, parasites or arboviruses. This research and surveillance information helps guide efficient control of vectors and vector-borne diseases in Sacramento and Yolo Counties.

BIOLOGICAL CONTROL

Biological control is the use of specially chosen living organisms to control a particular pest. This chosen organism might be a predator, parasite, or pathogen which will attack the harmful insect resulting in a desired reduction of pest population levels. The most common biological tool against immature mosquitoes in California are mosquito-eating fish such as the mosquitofish, *Gambusia affinis* and the Guppy, *Poecilia reticulata*. When introduced to a mosquito breeding source, these fish quickly adapt, multiply and become numerically capable of sustaining an effective control level.

ECOLOGICAL MANAGEMENT

Ecological Management consists of altering the pest's environment such as: promoting effective drainage, controlling emergent vegetation and encouraging appropriate timing of irrigation otherwise known as mosquito reduction best management practices in urban, agricultural and conservation areas. By managing aquatic sources, opportunity for mosquitoes to develop is eliminated.

MICROBIAL & CHEMICAL CONTROL

Microbial and chemical control are the prudent use of specific microbials and chemical compounds (insect growth regulators and insecticides) that reduce mosquito populations. These materials are applied when other methods are unable to maintain mosquito numbers below a level that is considered tolerable or when emergency control measures are needed to rapidly disrupt or terminate the transmission of disease to humans and animals. These products and application methods used are registered for public health use by the California Department of Pesticide Regulation, as well as California Environmental Protection Agency, and are designed to minimize non-target effects. Larvicides target immature mosquitoes; adulticides are chemicals that reduce adult mosquito populations.

Public Information & Education

The District's award winning public information and education department strives to raise awareness of mosquitoes and of vector-borne diseases such as West Nile virus, Zika, dengue and chikungunya. This is done through extensive media coverage obtained on television, radio, print and various news websites using an aggressive advertising campaign which includes radio and television advertisements in English and Spanish, extensive social media, outdoor creative ads and online digital ads. The District's media strategy also includes participation in various radio and television public affairs shows and television programs used to disseminate District messages. Two additional elements important to the department are community outreach and the school program. The District hosts information booths at several community events throughout Sacramento and Yolo counties where educational materials are disseminated and the public receives information about available District services. Another element of outreach is the school program which includes individual classroom presentations and What Bugs You? school assemblies that are interactive, entertaining and educational.

In 2024, West Nile virus activity continued, though the season was relatively mild compared to 2023. However, the virus remained steady and widespread across both counties, with a noticeable uptick early in the summer around Land Park and the Sacramento Zoo. In response, we partnered with the zoo for outreach efforts, which included participating in member night events, giving a presentation during their summer camps, and distributing repellent wipes to visitors.

Beyond West Nile virus activity in 2024, the spread of invasive mosquito species *Aedes aegypti* and *Aedes albopictus* remains a concern, as they continue expanding into new areas across Sacramento and Yolo counties.

Some of the biggest infestation areas are Rosemont, south Natomas, Elk Grove and Arden Arcade in Sacramento County. Meanwhile, Winters and West Sacramento have the largest infestations of these mosquitoes in Yolo County. As a result of new and ongoing detections, extensive door-to-door inspections were initiated where District technicians educated residents about this ongoing issue.

We also utilized social media to further disseminate information regarding invasive mosquitoes. To target residents in specific communities where invasive mosquitoes were extensively found, we participated in different city sponsored events such as Movies in the Park, community celebrations and Concerts in the Park. We distributed repellent wipes and materials, talked to residents and answered questions regarding invasive mosquito species and our District activities to control them. Lastly, we collaborated with city hall and local elected officials to disseminate information via the city website, newsletters, and social media.

FURTHER OUTREACH ACTIVITIES

COMMUNITY EVENTS

The District participated in a variety of community events throughout the year. An educational and engaging booth was set up that included live mosquito and mosquitofish displays, a bug box, a repellent display, free individual repellent packets, information on invasive mosquitoes and a variety of message reinforcement items. Staff engaged the public and was available to answer questions on District activities and to promote our various services. In 2024 we participated in a total of 37 community events throughout the year.

PRESENTATIONS TO SCHOOLS, COMMUNITY GROUPS AND LOCAL ELECTED OFFICIALS

As part of our community education and outreach we provide presentations to a variety of service groups, neighborhood associations, schools and to local elected officials. In 2024, a total of 32 presentations were given.

SCHOOL ASSEMBLIES

In an effort to expand and grow our school program, we formed a partnership with Red Shoe Productions to organize, plan and conduct Fight the Bite "What Bugs You?" school assemblies that serve to educate and inform the kids on our Be a Mosquito Buster program. Each 45-minute assembly, which is geared for grades 2nd-5th, includes a variety of games and educational activities to reinforce the importance of mosquito control and District D's of mosquito prevention. In 2024 a total of 21 assemblies took place in local schools reaching 6,627 children in addition to teachers and other school staff.

MARKET SURVEY

At the end of the 2024 season a randomized market survey of District residents was conducted to answer questions about District communication efforts. The goal was to measure the effectiveness of recent public information campaigns, assess attitudes or behavior change, measure knowledge of District services, and identify necessary changes to enhance future campaigns.

REPELLENT DISTRIBUTION

An important component of the education and outreach program is to promote the use of mosquito repellent as a way to have the public protect themselves from mosquito bites. The District offers free mosquito repellent wipes for agencies and community organizations to use during outdoor evening activities. In 2024, field technicians delivered boxes of repellent to agencies that serve homeless populations, parks and recreation departments, senior centers and businesses. To request mosquito repellent you may send an email to info@fightthebite.net.

Mosquito & Vector Surveillance

The District laboratory conducts the following activities to protect public health in Sacramento and Yolo Counties:

- Mosquito abundance surveillance
- Mosquito-borne disease surveillance for:
  - » West Nile virus (WNV)
  - » Saint Louis encephalitis (SLEV)
  - » Western equine encephalitis (WEEV)
- Tick and Lyme disease surveillance
- Yellowjacket abundance surveillance
- Identification of arthropods of public health significance
- Pesticide resistance testing and management
- Product efficacy testing
- Mosquito control research

In addition to the mosquito species found in Sacramento and Yolo Counties, District technicians are also trained to recognize any exotic or introduced species, if present, in any of the thousands of samples they collect each year.

SURVEILLANCE OF MOSQUITOES

Mosquito surveillance is an essential component of the District's Integrated Vector Management (IVM) program and is designed to provide real-time data on mosquito abundance and mosquito-borne disease activity. The primary mosquito-borne disease in California is West Nile virus. To control the spread of this virus the District maintains a systematic approach for locating areas with high mosquito abundance and mosquito-borne disease activity. In addition, the District has implemented a robust surveillance program to monitor the invasive species *Aedes aegypti* and *Aedes albopictus* that were introduced into the area in 2019 and 2022, respectively.

The District uses a range of trap types that target different species and mosquito life stages:

A) Encephalitis Vector Surveillance (EVS) Trap Uses dry ice (carbon dioxide) as an attractant and targets host-seeking mosquitoes; set for one night and used to collect mosquitoes that are tested for encephalitis viruses.

B) Locker Trap This trap was designed by the District; it runs continuously and uses compressed liquid carbon dioxide to attract host-seeking mosquitoes; used for abundance surveillance.

C) Gravid Trap Can be configured to run continuously or for a single night; uses water infused with fermented hay and hog chow to attract gravid females seeking a place to lay eggs; used for both abundance and mosquito-borne virus surveillance.

D) Biogents Sentinel Trap (BG-S) Can be configured to run continuously or for a single night; uses trap design, carbon dioxide, and BG lure (proprietary odor blend) to attract mosquitoes, especially effective for collecting *Aedes aegypti* and *Aedes albopictus*.

E) Biogents Counter Trap (BG-C) This is an attachment that rests on top of a BG-S that counts "mosquito-sized" objects that enter the trap; used primarily in rice field habitats; set with compressed liquid carbon dioxide that attracts host-seeking mosquitoes.

In 2024, mosquito abundance surveillance was conducted at 24 sites across Sacramento and Yolo Counties. At each trap location a gravid trap and locker trap configured for constant operation were deployed in tandem. In total, 55,262 female mosquitoes comprising 14 species were collected in Yolo County and 72,348 female mosquitoes from 16 species were collected in Sacramento County.

The tables below show the total number of each mosquito species captured at 24 abundance monitoring sites in Sacramento and Yolo Counties during 2024.

ADULT MOSQUITO ABUNDANCE TRENDS

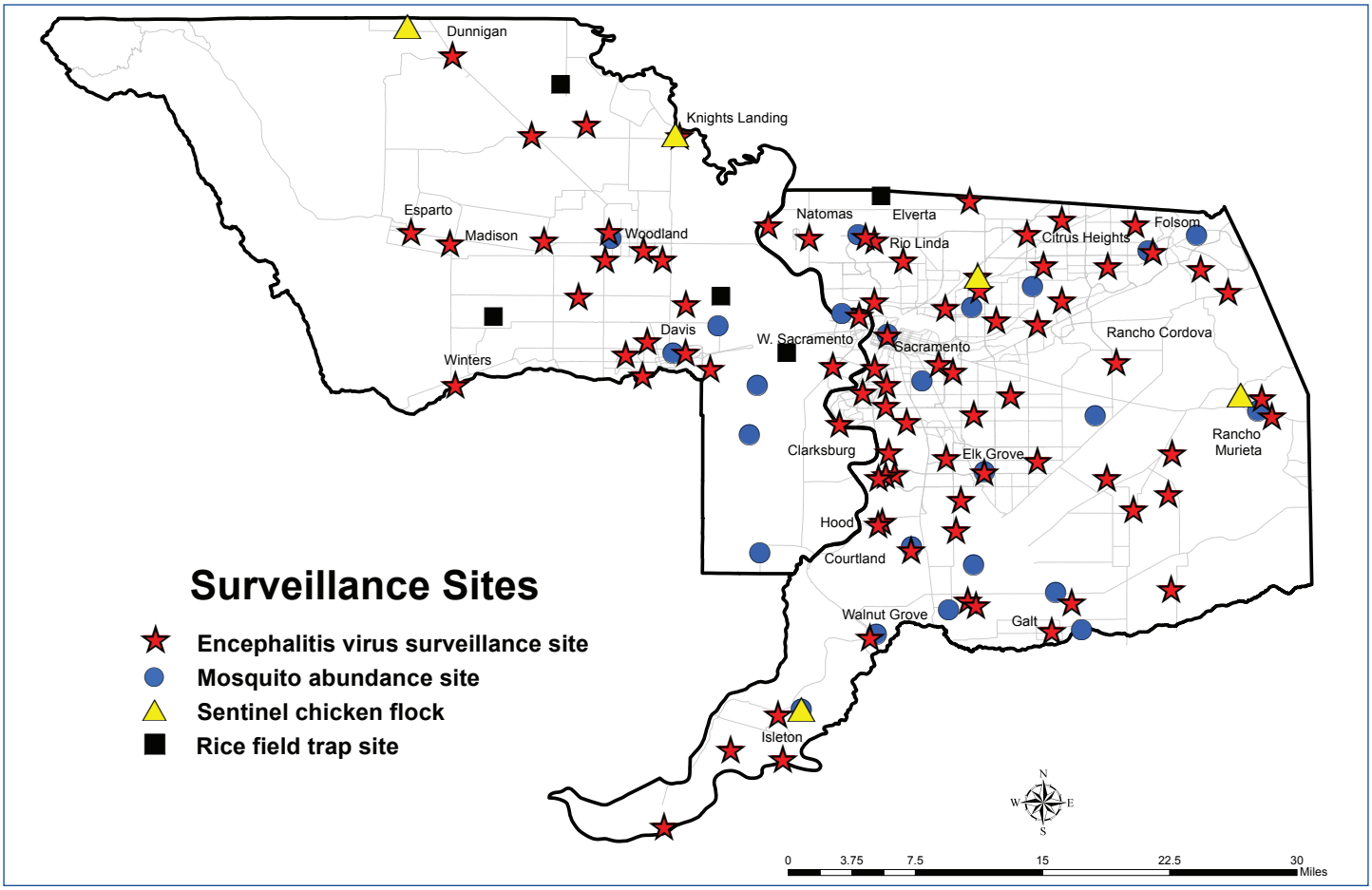
2024 YOLO COUNTY MOSQUITO ABUNDANCE SURVEILLANCE

Species	Clarksburg-63113	Clarksburg-63106	Davis - 54334	Davis - 6642	Davis-54347	Woodland - 54320
Aedes melanimon	4,139	452	161	7	1,035	1
Aedes nigromaculis	1	7			4	1
Aedes sierrensis	6		1	-		
Aedes vexans	14	3	2			
Aedes washinoi						1
Anopheles franciscanus			2		11	6
Anopheles freeborni	102	101	1,820	204	1,396	1,199
Anopheles punctipennis			1			
Culex erythrothorax	12					
Culex pipiens	407	319	1,115	681	169	860
Culex stigmatosoma			7	3		1
Culex tarsalis	462	8,969	18,929	893	9,394	776
Culiseta incidens	13	4	35	7	6	21
Culiseta inornata	658	124	159	35	498	30

2024 SACRAMENTO COUNTY MOSQUITO ABUNDANCE SURVEILLANCE

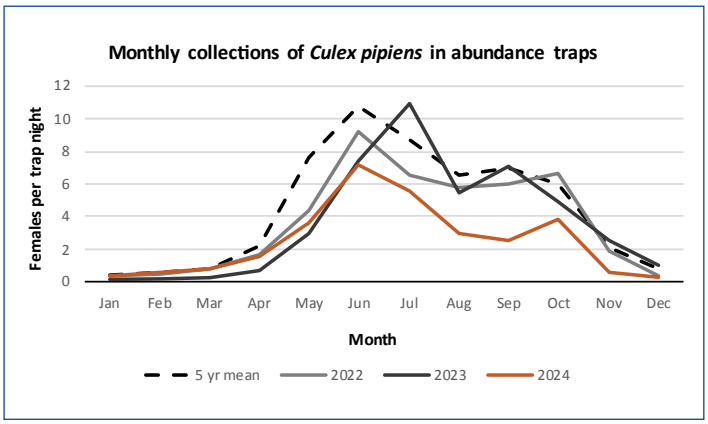
Species	Sacramento - 63055	Sacramento - 63252	Sacramento - 54440	Sacramento - 63331	Sacramento - 63367	Sacramento - 63139	Carmichael - 54386	Folsom-63197	Orangevale - 63196	Sloughhouse - 54421	Elk Grove-63525	Elk Grove - 63517	Elk Grove - 18894	Galt-54471	Galt-54472	Galt-54468	Isleton - 18975	Walnut Grove - 63577
Aedes aegypti		3			5								1	1				
Aedes melanimon	22	2	43	39	2	41	1		1	8	10	92	2	3	49	449	4,470	250
Aedes nigromaculis												8				2		-
Aedes sierrensis	1			40	5			6				2			86			-
Aedes vexans							-		1		2	100			119	41	681	3
Aedes washinoi				-						1		8		14	3	9	16	64
Anopheles franciscanus			1							2								
Anopheles freeborni	202	56	42	77	1	4,180	180	2	3	18	42	164	127	7	27	1,374	122	143
Anopheles punctipennis			1							1		1					2	
Culex erythrothorax										2		4	2		4	3	16	
Culex pipiens	409	362	123	1,977	2,790	495	349	2,608	1,440	502	4,255	6,964	2,085	2,493	6,384	1,410	1,840	67
Culex stigmatosoma		10	6	6	10	5	4	55	6	120	2	36	17	16	38	11	29	18
Culex tarsalis	315	21	148	115	45	4,520	29	223	84	55	270	554	507	734	257	6,858	4,086	64
Culiseta incidens	21	21	4	553	164	19	47	507	125	138	6	74	134	126	179	4	20	12
Culiseta inornata	13	13	134	9	20	37	21	17	11	1	15	93	15	13	4	23	364	33
Culiseta particeps																	19	

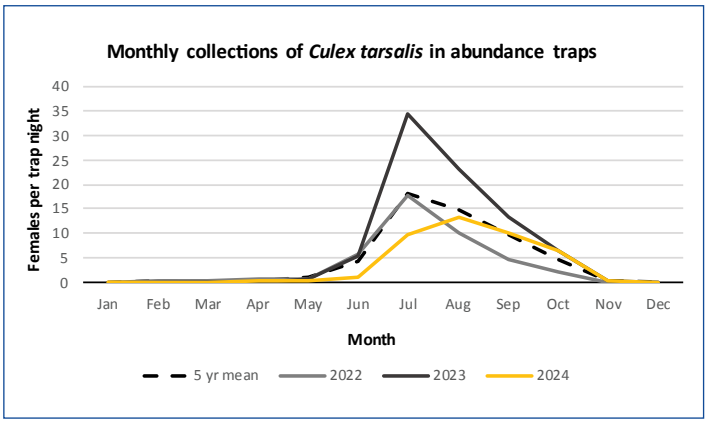
2024 LAB SURVEILLANCE MAP



All mosquito species were monitored throughout the year, but the District is particularly interested in *Culex pipiens* and *Culex tarsalis*, our primary vectors of West Nile virus. The abundance of these species is closely monitored and is used to direct control efforts. *Culex tarsalis* abundance peaks July-August, these mosquitoes primarily utilize rice fields and wetland habitats for immature development. The active season for *Culex pipiens* is longer, with the highest abundance trends observed June-September. *Culex pipiens* use both urban sources such as catch basins and standing water around homes and rural sources including dairy lagoons and roadside ditches.

The charts below show the mean number of female mosquitoes per trap night captured in both locker and gravid traps set at 24 abundance surveillance sites across Sacramento and Yolo Counties. The previous two years and the 5-year average abundance trends for *Culex tarsalis* and *Culex pipiens* are shown.

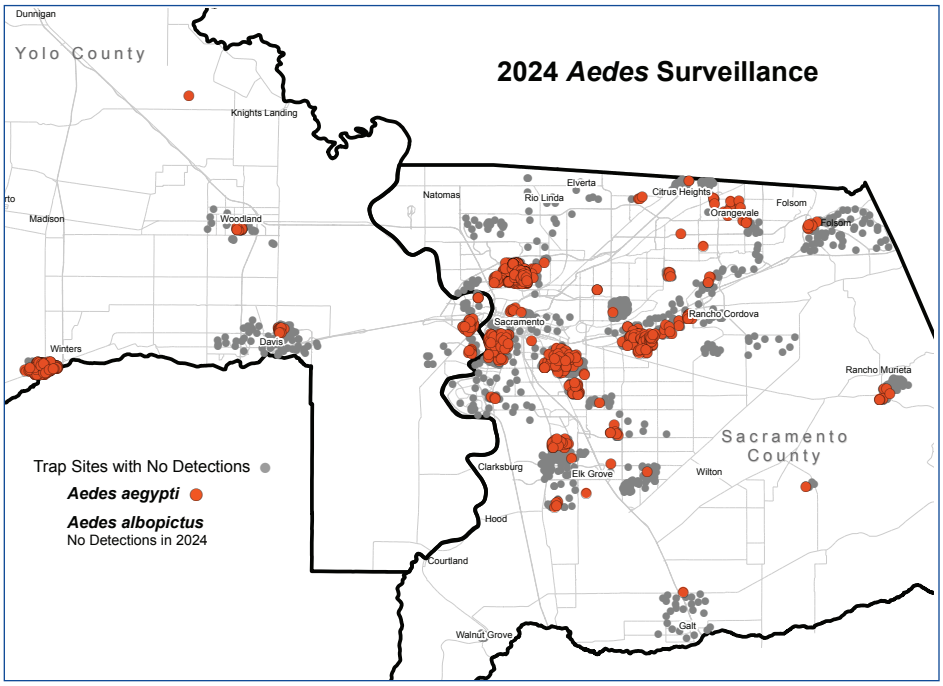




The invasive mosquito *Aedes aegypti* has become established in multiple locations across Sacramento and Yolo Counties. *Aedes albopictus* was detected in 2022 and 2023, but not in 2024. The District uses two approaches to monitor invasive *Aedes* populations. First, all known populations are routinely monitored using BG-S traps and surveillance data is used to plan control interventions. Second, BG-S traps are set throughout Sacramento and Yolo Counties to detect new infestations.

Aedes aegypti and *Aedes albopictus* utilize small containers that hold water around the home for larval development. These sources can harbor eggs that persist during dry spells and then hatch when reflooded. Both species are aggressive biters that host-seek during both the day and night.

2024 INVASIVE *AEDES* SURVEILLANCE MAP



ENCEPHALITIS VIRUS SURVEILLANCE

SENTINEL CHICKENS

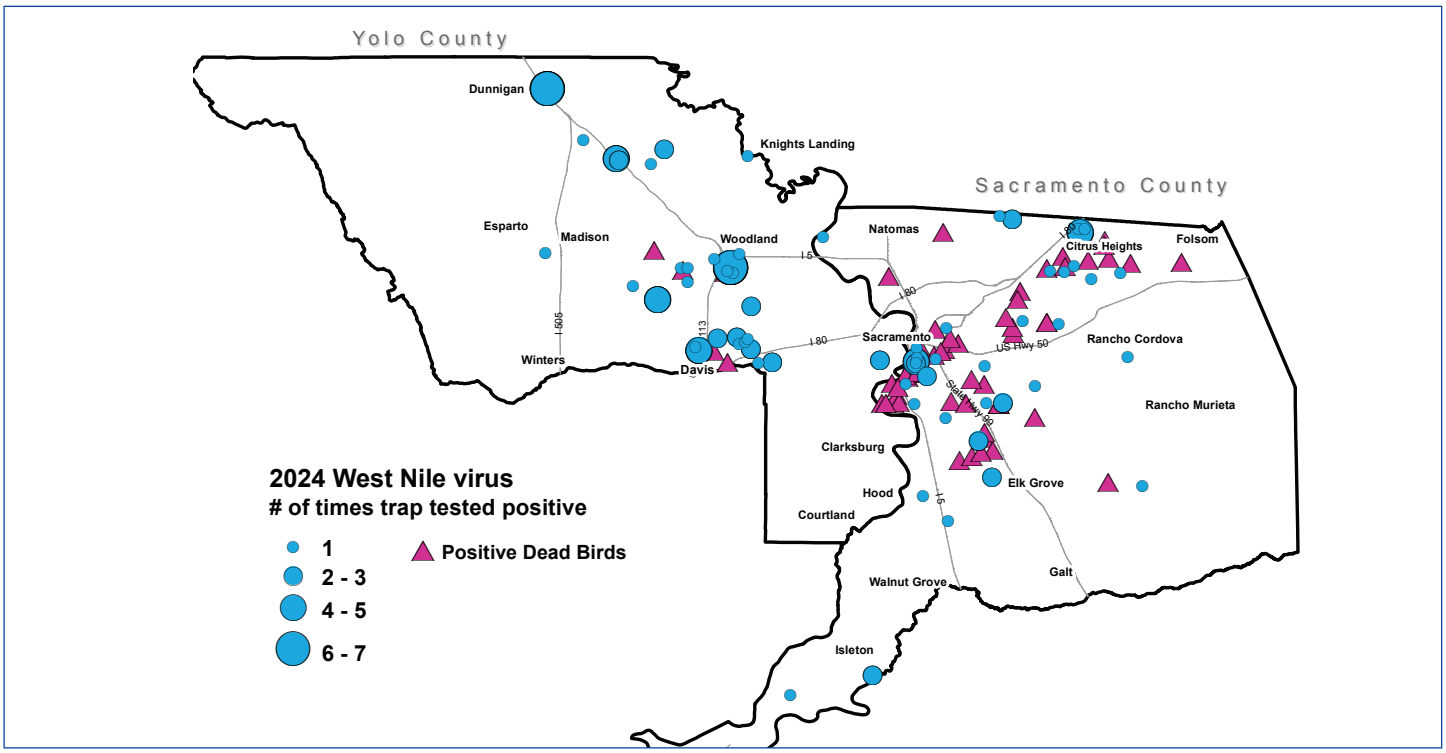
Chickens are readily fed upon by host-seeking *Culex tarsalis* and *Culex pipiens*. When chickens are bitten by a WNV-infected mosquito, they become asymptomatically infected and develop antibodies against WNV. Chickens are dead-end hosts for WNV; meaning they do not pass the virus to other mosquitoes. Sentinel chickens are especially useful because they are housed in a fixed location, thus the presence of antibodies indicates local virus transmission. Sentinel chicken flock locations for 2024 are shown on the 2024 Laboratory Surveillance Map. During 2024, the District maintained a total of 25 chickens distributed across five flocks in Sacramento and Yolo Counties from April through October. Sentinel chickens were tested for antibodies against SLEV, WEEV, and WNV. In 2024, WNV antibodies were detected in chickens from three out of five flocks.

2024 SENTINEL CHICKEN TESTS

SACRAMENTO COUNTY			
Flock Location	**Flock size**	**WNV antibody positive**	**Date of first seroconversion**
Iselton	5	1	9/13/24
Sacramento	5	0	
Rancho Murieta	5	0	

YOLO COUNTY			
Flock Location	**Flock size**	**WNV antibody positive**	**Date of first seroconversion**
Knights Landing	5	2	8/30/24
Dunnigan	5	1	9/13/24

2024 WEST NILE VIRUS SURVEILLANCE MAP



MOSQUITOES

From May through October EVS and gravid traps are set overnight throughout Sacramento and Yolo counties. Starting EVS trapping locations were shown on the 2024 Laboratory Surveillance Map. Trap locations shifted in response to WNV detections.

Mosquito collections were returned to the lab, identified to species and sex, counted, and *Culex pipiens* and *Culex tarsalis* were sampled in collections of up to 50 females by location and trap type. Mosquito samples were tested in-house for SLEV, WEEV, and WNV using reverse transcriptase quantitative polymerase chain reaction (RT-qPCR).

During 2024, 164,728 female and 5,539 male mosquitoes from 17 species were captured in EVS and gravid traps deployed for encephalitis virus surveillance. Of these, 49,577 female *Culex tarsalis* (2,547 samples; Sacramento County = 1,360; Yolo County = 1,187) and 29,893 female *Culex pipiens* (3,170 samples; Sacramento County = 2,296; Yolo County = 874) were tested. Overall, 78 samples of *Culex tarsalis* (Sacramento County = 21; Yolo County = 57) and 42 samples (Sacramento County = 34; Yolo County = 8) of *Culex pipiens* tested positive for WNV (see 2024 West Nile Virus Surveillance Map).

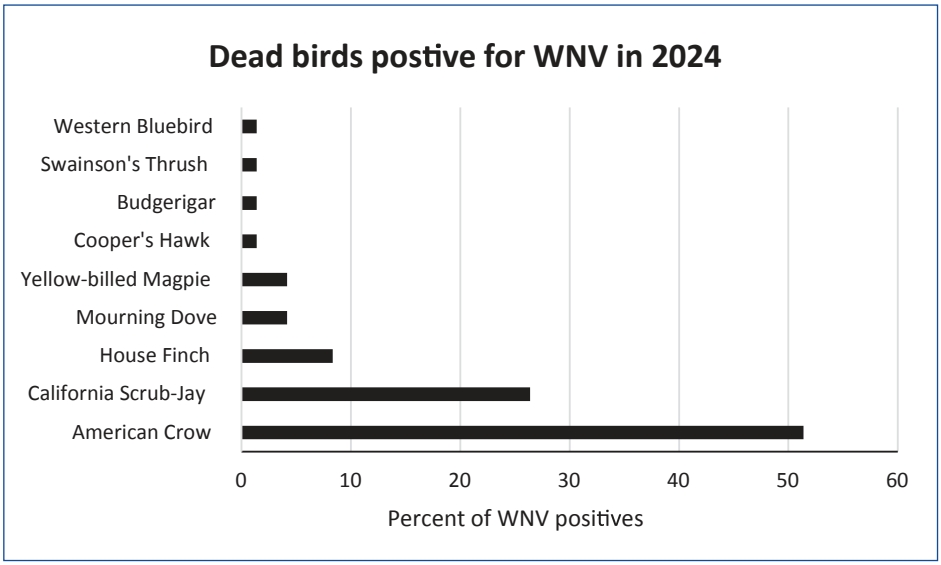
The first WNV-positive pool was detected in Sacramento County on June 5, 2024, and the last was detected in Sacramento County on October 11, 2024. Neither SLEV nor WEEV was detected.

DEAD BIRDS

Bird mortality is an indicator of WNV activity. Dead birds are reported by the public to the WNV Call Center (1-877-WNV BIRD, or online at westnile.ca.gov). Birds reported in Sacramento and Yolo Counties are collected by the District and tested for WNV, SLEV, and WEEV. Dead birds are often the first indicator of WNV activity in an area and are an important component of our surveillance program, helping us to track and target WNV transmission.

In 2024, 916 dead birds were reported to the WNV Call Center from Sacramento and Yolo Counties. Of these, 391 birds (Sacramento County = 325; Yolo County = 66) were collected and tested for WNV, SLEV, and WEEV. Overall, 72 (Sacramento County = 66; Yolo County = 6) dead birds tested positive for WNV (see 2024 West Nile Virus Surveillance Map). The bird species found positive for WNV are shown in the accompanying figure (Dead birds positive for WNV in 2024).

2024 DEAD BIRDS POSITIVE FOR WNV



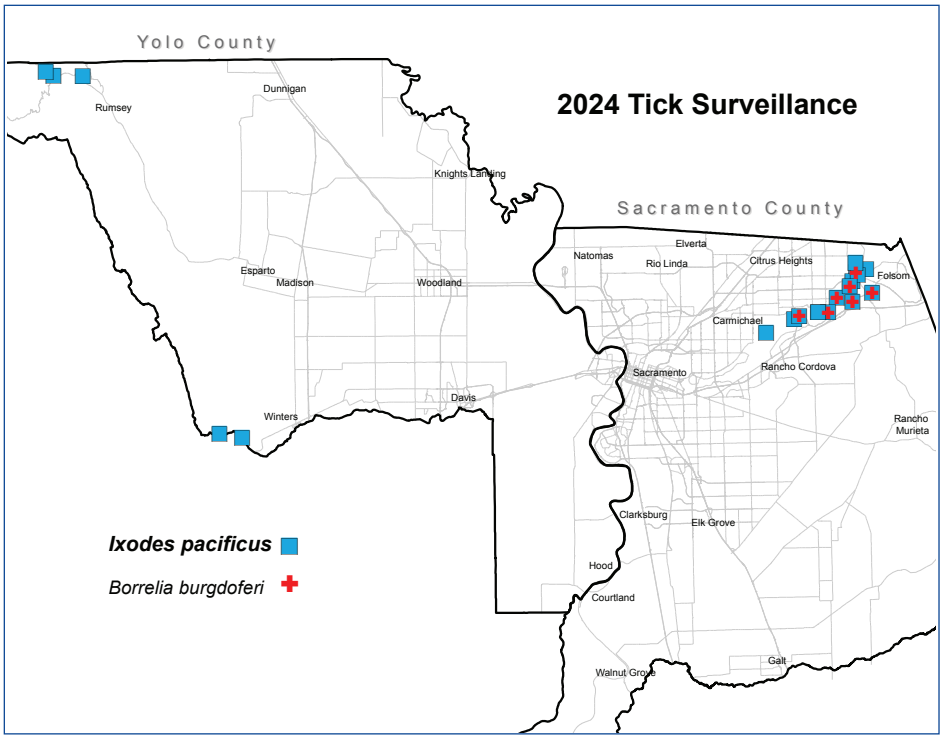
TICK AND LYME DISEASE SURVEILLANCE

Lyme disease is caused by the bacterium *Borrelia burgdorferi*. In Sacramento and Yolo Counties it is primarily vectored by the tick *Ixodes pacificus*, also known as the western blacklegged tick. The District collects tick specimens from twenty fixed locations comprised of high-use trails with suitable tick habitat from November through May.

Ticks are collected using a technique called tick-flagging, where a 1m x 1m section of white flannel is dragged along the side of a trail for short distances then inspected for attached ticks. Collected ticks are identified to species and sex, counted, and pooled in collections of up to five *Ixodes pacificus* by site. Ticks are tested at the District using quantitative polymerase chain reaction (qPCR) for *Borrelia burgdorferi*.

When *Borrelia burgdorferi* is detected, signs are posted to create public awareness of the steps to take to prevent tick bites and Lyme disease. In 2024 1,135 (Sacramento County = 1,075; Yolo County = 60) *Ixodes pacificus* ticks comprised 309 (Sacramento County = 60; Yolo County = 30) tick samples that were tested for *Borrelia burgdorferi*. *Borrelia burgdorferi*-positive ticks were found at seven locations across four cities: Fair Oaks, Folsom, Gold River, and Orangevale, see the tick surveillance map for specific locations.

2024 TICK SURVEILLANCE MAP



YELLOWJACKETS

The District's yellowjacket monitoring and control program was established to address nuisance and safety issues associated with high yellowjacket populations. The program consists of trapping drones and queens and removal of yellowjacket nests. In the spring, the District uses apple juice-baited traps to capture queens before nests can be established. Later in the season, traps are baited with heptyl butyrate to attract drones. When yellowjacket nests pose safety concerns they are removed.

ARTHROPOD IDENTIFICATION SERVICE

Besides identifying mosquitoes and ticks collected through our surveillance program, the District receives and identifies many other arthropods brought in by the public. Some of the previously identified species include: ants, termites, springtails, mites, solitary and carpenter bees, long-horned beetles, honey bees, yellowjackets and wasps, spiders, stored product pest beetles, moths, bedbugs, and midges.

PESTICIDE RESISTANCE MANAGEMENT

Pesticides play an important role in mosquito and vector control Integrated Vector Management (IVM) programs. Growing insecticide resistance to the available active ingredients used for mosquito control impacts the efficacy of our control operations. Therefore, the District performs both adult and larval resistance testing on mosquitoes collected throughout Sacramento and Yolo Counties. To aid in this work the District maintains reference mosquito colonies of both *Culex pipiens* and *Culex tarsalis* and utilizes resistance testing protocols from the Centers for Disease Control and Prevention (CDC) and recommendations from the Mosquito and Vector Control Association of California.

RESEARCH AND SPECIAL PROJECTS

The District routinely evaluates new and current strategies for controlling mosquitoes, and collaborates with researchers from academia and industry. Evaluations take place both in the field and laboratory. One technique for evaluating product efficacy is through a field efficacy trial where bioassay cages of adult mosquitoes and droplet impingers are deployed to assess spray events. These data aid in the development of new products and guide implementation of vector control strategies.

Biological Control

Biological control elements are natural predators, parasites or pathogens that can be used to achieve desired reductions in pest population levels. The Fisheries Department is responsible for breeding mosquitofish and other fish species that prey on mosquito larvae. Mosquito-eating fish are readily available for the District's field technicians and to the general public through the service request program.

The District maintains 22 ponds which produce 2,500 to 5,000 pounds of fish annually. Today, the District is one of the largest mosquitofish producing facilities in the nation.

MOSQUITOFISH, *Gambusia affinis*

The most successful biological tool against immature mosquitoes in California is the mosquitofish, *Gambusia affinis*. When introduced to a mosquito breeding source, the mosquitofish quickly adapts, multiplies and becomes numerically capable of sustaining an effective control level.

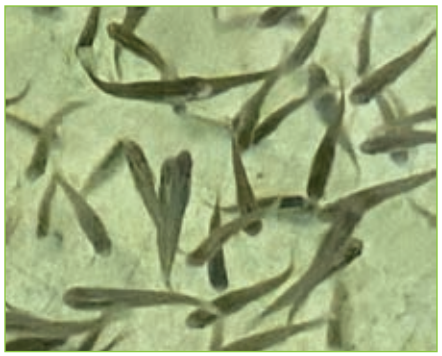
The mosquitofish, a live-bearing American fish, is utilized as a predator of mosquito larvae in many diverse aquatic habitats throughout the world. A comparatively small species, the full-grown females are usually less than 2½ inches in total length, while males are typically under 1½ inches. The muted silver and light olive green body color is common to both sexes. In addition, they are able to lighten or darken their body color pigmentation to more closely match their immediate environment.

GUPPIES, *Poecilia reticulata*

The guppy, Poecilia reticulata, has been used for biological mosquito control since World War I. It has been introduced almost all over the world from the areas of tropical South America to which it is indigenous. In many areas, the guppy has provided good control of mosquitoes in highly polluted sources, such as sewage pools, dairy lagoons, chicken ranch ditches and slightly acidic sources. Unlike the mosquitofish, the guppy's ability to reproduce or control mosquitoes is not reduced by low levels of dissolved oxygen and thrive in areas where mosquitofish cannot successfully develop.

BIOLOGICAL CONTROL DISTRIBUTION

SYMVCD's state-certified mosquito and vector control technicians provided mosquitofish and guppies to residents of Sacramento and Yolo Counties free of charge.



BIOLOGICAL CONTROL DATA FOR 2024

RICE FIELDS STOCKED WITH MOSQUITOFISH

Number of Fields 152
Pounds of Fish* 2,130
Acres Stocked 9,013

WILDLIFE REFUGES AND DUCK CLUBS STOCKED WITH MOSQUITOFISH

Number of Fields 68
Pounds of Fish 1,462
Acres Stocked 5,343

SOURCES STOCKED WITH GUPPIES

Number of Sources 9
Pounds of Guppies 0.753
Acres Stocked 0.272

MOSQUITOFISH SUPPLIED TO TECHNICIANS

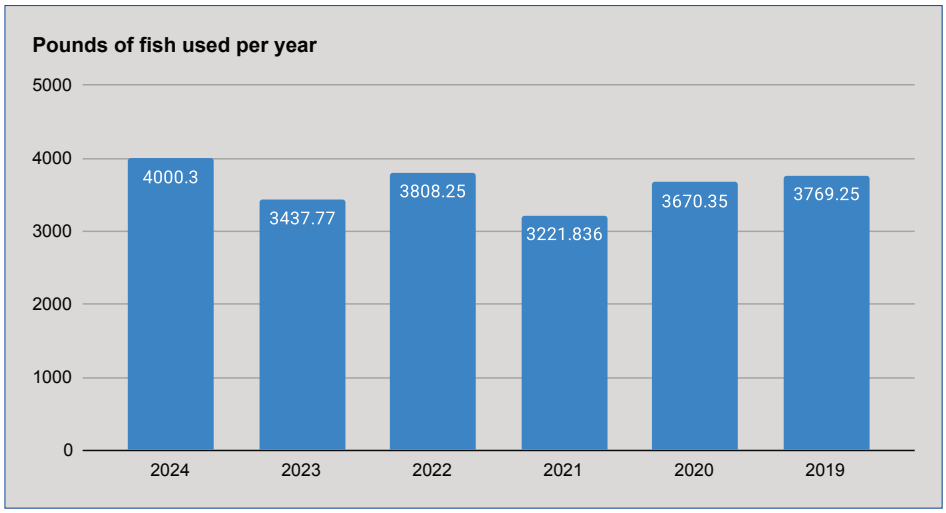
Woodland Facility 87
Elk Grove Facility 317

SUMMARY OF ALL MOSQUITOFISH PLANTS IN 2024

Number of Sources 2,814
Pounds of Fish 4,000
Acres Stocked 15,536

* 1 pound of fish equals approximately 450 fish.

A COMPARISON OF MOSQUITOFISH USED 2019-2024



Ecological Management

The Ecological Management Department manages the physical, environmental, and cultural control aspects of the District's Integrated Pest Management Program by actively exploring opportunities to reduce or eliminate mosquito development sites. This is accomplished through the implementation of ecologically based, site specific Mosquito Reducing Best Management Practices (BMPs) that reduce or eliminate the need for chemical control measures as well as initiates the abatement process in instances of continued Health and Safety Code section §2060 violations. Additionally, the Ecological Management Department provides support to all District departments on an as needed basis, including assisting with mosquito control applications and surveillance.

MOSQUITO REDUCTION BEST MANAGEMENT PRACTICES (BMP) MANUAL

In 2024, The Ecological Management Department pursued landowner implementation of Mosquito Reducing Best Management Practices (BMPs) as outlined in the District's Mosquito Reduction Best Management Practices Manual. This manual provides specific information regarding District BMP policies, mosquito biology, and various BMPs that may be useful in reducing mosquito populations. Land-use specific sections of the Manual provide guidance for landowners and land-managers who deal with programs such as: managed wetlands, stormwater and wastewater systems, irrigated agriculture, rice production, dairies, swimming pools, cemeteries, and tire storage facilities. The BMP manual is available for download at: www.fightthebite.net/programs/ecological-management/.

The BMP manual serves as the basis for all general Ecological Management Department programs including Stormwater, Managed Wetlands, Agriculture, Urban/Industrial programs, including, development, environmental and regulatory project reviews, and property access enforcement. The Ecological Management Department provided detailed guidance to property owners on how best to implement the BMPs, and in some cases assisted with physical improvements and environmental manipulation.

ECOLOGICAL MANAGEMENT PROJECTS IN 2024

In 2024, the Ecological Management Department addressed seventy-four BMP projects submitted by Control Operations field staff. These projects ranged from access to significant mosquito breeding sites and vegetation control to elimination or reduction of mosquito breeding habitats. Each project that is submitted is evaluated and a BMP plan is devised in accordance with the District's BMP manual and using sound Integrated Pest Management (IPM) policies and procedures. Once the project is finalized, the Department in coordination with the Landowner/Managers work cooperatively to implement BMP's that will reduce/eliminate standing water, mosquito breeding, improve mosquito control product efficacy, and ensured safe access for mosquito control activities. After completion of the projects, Ecological Management staff monitors the project sites to ensure the long-term goals of the project are met and any preventive maintenance to the project sites are being addressed.

PLANNING REVIEW PROGRAM

In 2024, The Ecological Management team reviewed thirty-two proposed development projects from cities, counties, Federal and State agencies, requesting the District to offer comments or suggestions relating to mosquito production and long-term preventative maintenance of the proposed projects. Ecological Management staff evaluated each proposed plan or project and responded where the proposed project may have an impact to mosquito production and/or control activities. Many of the comments to the proposed projects are focused upon stormwater/sewer plans and projects that incorporate Low Impact Development practices that are implemented in landscape features to mitigate stormwater runoff. Project proponents are encouraged to respond with actions plans, long-term maintenance plans, and review potential remediations with Departmental staff that will address any adverse effects to mosquito control activities.

STORMWATER/DRAINAGE PROGRAM

The Department's Stormwater Program continues to monitor various types of storm water conveyance and treatment facilities including but not limited to stormwater drains, retention/ detention ponds and settling and infiltration ponds. The Department continued to address drainage blockages, access issues associated with dense riparian or vegetated stream banks, and upland mosquito breeding within drainage corridors. The Ecological Management staff collaborates with multiple Federal, State, and local Agencies to remove blockages and perform preventive maintenance to prevent effluent from backing up into areas and creating significant mosquito breeding habitats. Staff and affected agencies focused their effort on projects where the potential for intensification of vector borne diseases and high mosquito abundance were prominent near populous areas in Sacramento and Yolo Counties.

MANAGED WETLAND PROGRAM

The process of flooding dry wetlands for conservation and habitat in the summertime to improve food plots and reduce unwanted invasive vegetation in wetland cells creates habitats that are favorable for mosquito breeding. The flooding in conjunction with high temperatures and emergent vegetation can promote rapid mosquito production and create the perfect storm for amplification of some vector-borne diseases such as West Nile Virus (WNV). To promote implementation of wetland Best Management Practices, staff participated in multiple federal and state stakeholder meetings to discuss new federal and statewide wetland policies and to develop wetland management plans for individual wetland complexes. These meetings led to numerous BMP projects such as disking, mowing, and excavations being implemented by the District's Ecological Management Dept.

The District's wetland program continues to evolve and coordination with private wetland managers is imperative to the success of the program. The Department conducted on-site meetings with private wetland managers and recommended BMP's for wetlands and discussed the timing and longevity of irrigations and flood ups that balance the management objectives of the wetland manager and the goals of the District to control mosquito populations. In 2024, eleven private wetland properties were flooded prior to October 1st and were invoiced for mosquito control costs under the District's wetland cost share program.

AGRICULTURE PROGRAM

The Ecological Management Department conducted 25 vegetation removal/management projects in response to technician requests. Departmental staff utilized vegetation removal equipment to provide technician access to significant mosquito breeding sites. These projects enhanced technician safety and increased the efficacy of materials applied to control mosquito populations.

Additionally, the Department responded to 8 irrigated pasture related mosquito reducing Best Management Plan (BMP's) projects. These projects ranged from excavating new drainage ditches to installing and/or repairing culverts to drain irrigation effluent off the pastures reducing the standing water that is conducive for mosquito breeding. Staff excavated roughly 12,000 linear feet of drainage ditches and reduced approximately 35 acres of mosquito breeding habitat. As part of the projects, moving forward, staff encouraged landowners and irrigators to implement Best Management Practices as outlined in the District's BMP manual to reduce mosquito breeding habitats on their agricultural properties.

CEMETERIES

The Ecological Management Department monitors mosquito production in 32 cemeteries in Sacramento and Yolo Counties. In 2024, staff inspected and treated approximately 38,000 cemetery vases. The Department utilized a combination of water absorbing crystals and chemical treatments to mitigate mosquito breeding in cemetery flower vases. The Department continued increased trapping and surveillance in cemeteries due to the introduction of *Aedes aegypti* (yellow fever mosquito) in 2019 and the detection of *Aedes albopictus* (Asian Tiger mosquito) in Sacramento County in the fall of 2022.

Microbial & Chemical Control

Microbial and chemical control are the use of specific microbials and chemical compounds (insect growth regulators and insecticides) that eliminate immature and adult mosquitoes. They are applied when biological and physical control methods are unable to maintain mosquito numbers below a level that is considered tolerable or when emergency control measures are needed to rapidly disrupt or terminate the transmission of disease to humans. Larvicides target immature mosquitoes. Adulticides are insecticides that reduce adult mosquito populations. All products applied by the District are registered with the California Environmental Protection Agency.

MOSQUITO AND MOSQUITO-BORNE DISEASE MANAGEMENT PLAN

Level I – Normal Season

The District performs routine mosquito, mosquito–borne disease and public health pesticide efficacy surveillance activities. The District also attends community events, provides presentations and distributes outreach material to various community organizations.

Level II – Positive Dead Birds and/or Mosquito Pools

Response is initiated when the District's Laboratory detects a mosquito-borne virus [i.e., West Nile virus (WNV), Western Equine Encephalomyelitis (WEE), St. Louis Encephalitis (SLE)] in mosquito pools or dead birds within the District's boundaries.

Level III – Positive Sentinel Chickens/Animals

A response is initiated when the District's Laboratory detects a seroconversion to a mosquito-borne virus (i.e., WNV, WEE, or SLE) in a sentinel chicken(s) or when the District is notified of a mosquito-borne infected horse or other animal within the District's boundaries.

Level IV – Positive Human Case

A response is initiated when the Sacramento/Yolo County Public Health Laboratory officials notifies the District that a human has locally acquired a mosquito-borne virus (i.e., WNV, WEE, SLE) disease within the District's boundaries.

Level V – Multiple Human Cases, Epidemic Conditions

A response is initiated when County Public Health Laboratory or CDPH officials notifies the District that multiple mosquito-borne virus (i.e., WNV, WEE, or SLE) infections have occurred in humans within a specific area or there is evidence that epidemic conditions exist. The epidemic area is defined as the geographic region in which human cases are clustered (incorporated city, community, neighborhood, or zip code).

MOSQUITO AND VECTOR CONTROL OPERATIONS

The Sacramento-Yolo Mosquito and Vector Control District provides year-round mosquito and vector control services to the residents of Sacramento and Yolo Counties. The two counties combined comprise 2,013 square miles of urban, commercial and agricultural land. The District is divided into 27 geographical zones, with state-certified technicians responsible for all aspects of mosquito and vector control in each zone, from larval surveillance to treatment.

The primary goal of field technicians is to manage mosquito populations so they do not pose a significant health risk to the public. To achieve this, field staff conducts year round inspections of various types of mosquito breeding sources. If mosquitoes are found, technicians will apply a larvicide or mosquitofish to take care of the problem. When WNV activity or high abundance numbers are detected in any given area, technicians conduct ground treatments with truck mounted foggers and back packs in order to quickly reduce adult mosquito populations.

2024 was considered a return to a normal mosquito season with reduced mosquito populations and West Nile virus compared to the 2023 season. Routine aerial spraying over known agricultural sources that produced mosquitoes was performed to reduce West Nile virus as well as nuisance mosquitoes.

In addition, technicians responded to year-round service requests which included general inspections, treating neglected swimming pools, delivering and stocking mosquitofish where they are needed, and looking for and treating yellowjacket populations.

Control operations staff continued to work closely with all other District departments. Field technicians assisted with education and outreach efforts by participating in community events and giving classroom presentations. They supported the Laboratory surveillance program by picking up dead birds and collecting larvae for identification and testing. They lent a helping hand to the Ecological Management program by completing brush cutting projects and ditch cleaning whenever necessary. Staff also updated zone work books, calibrated field vehicles and winterized all necessary equipment.

CATCH BASIN PROGRAM

The Catch Basin Program was created in 2005 to mitigate mosquito breeding in storm drain utilities throughout Sacramento and Yolo counties. Catch basins are underground vault structures that collect water from storm events and urban runoff while preventing the passage of debris into open water and sewer systems. The Catch Basin Program's technicians monitor and apply larvicides to hundreds of thousands of storm drains each year, many of which are in close proximity to residences and places of business and are capable of producing thousands of adult mosquitoes each day.

In 2024, the program continued its campaign of routine inspections and treatments as well as more targeted West Nile virus response as the season progressed. Utilizing right hand drive Jeeps, modified bicycles, and electric scooters, Catch Basin Program technicians were able to visit over 330,000 storm drains and efficiently navigate urban and suburban areas using this department's homemade mobile application.

Our larvicide efficacy trials continued throughout the season, providing real-time analysis of product performance in our specific local context and guiding return inspection dates.

SWIMMING POOL PROGRAM

In 2024, the swimming pool program continued to be a focus of the District's urban larval control efforts. Stagnant water in swimming pools is a major concern as one pool alone can produce thousands of mosquitoes and put an entire neighborhood at risk for West Nile virus. Every season the District conducts aerial surveys to identify neglected swimming pools in residential areas. Once neglected pools are identified, the District will conduct operations to ensure breeding is eliminated. The District currently has 1,263 swimming pools that require annual inspections.

INVASIVE MOSQUITOES

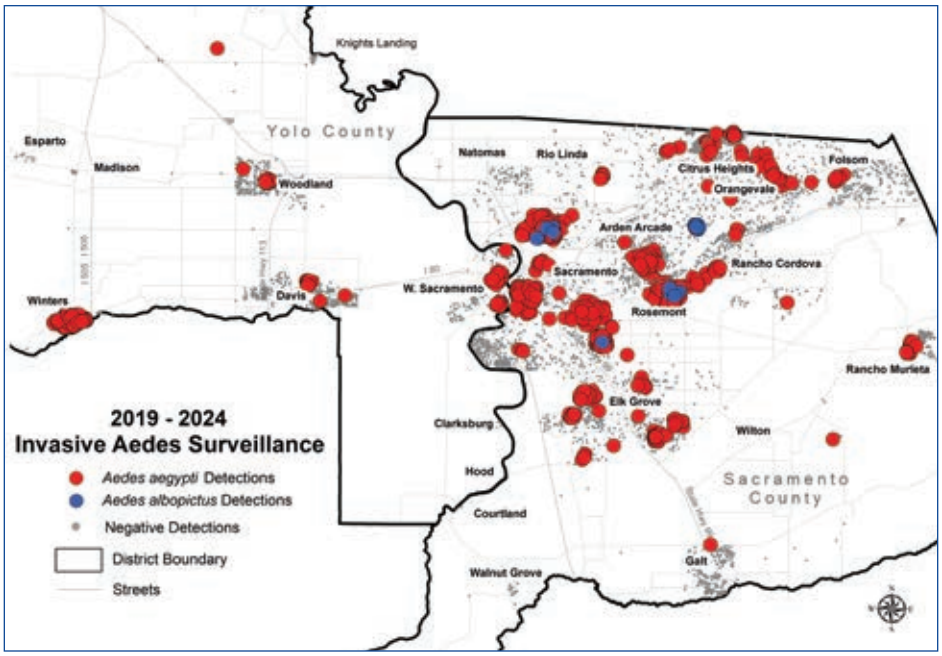
In its third operational season, the Urban Operations Invasive *Aedes* team increased surveillance and control efforts of invasive mosquitoes throughout the District covering over 465,000 residential properties between Sacramento and Yolo counties.

2024 was a busy and eventful year for the Urban Operations Program. 2024 marked a notable increase in *Aedes aegypti* activity, with detections continuing to spread throughout many portions of the District. There were no reports of *Aedes albopictus* in 2024. Staff deployed 2,453 24-hour BG traps across the District, with just under half of the traps detecting *Aedes aegypti*. Along with the rise in detections, the abundance or total number of *Aedes aegypti* mosquitoes found also grew compared to 2023.

New detections areas in 2024 included areas in or around Davis, Fair Oaks, Folsom, South Tahoe Park, and Woodland in addition to existing detections from 2023. At the conclusion of 2024, *Aedes aegypti* was considered present in low densities across most of the urban populated areas of the District.

Staff inspected 1,493 residences after reaching out to over 5,000 homes in response to *Aedes aegypti* detections. Control efforts included nearly 1,400 localized backyard adulticide applications and 389 larvicide treatments to manage mosquito populations. In addition to our door-to-door control efforts, thirty WALS® larvicide applications covering 11,943 acres were conducted in the most prominent *Aedes* infestation areas. As a result of public outreach efforts service requests increased over 300% for day biting requests in 2024 in some of the detection areas. All surveillance and control efforts ended for the season on November 19, 2024.

2024 INVASIVE *AEDES* DETECTIONS



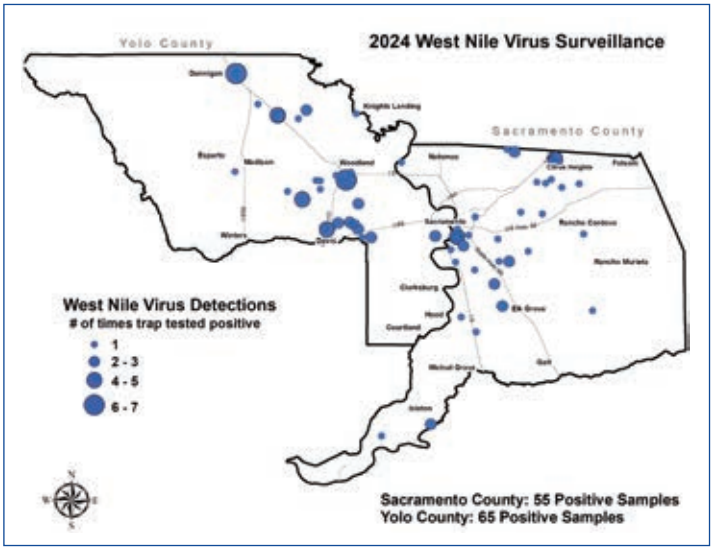
2024 MATERIALS USAGE

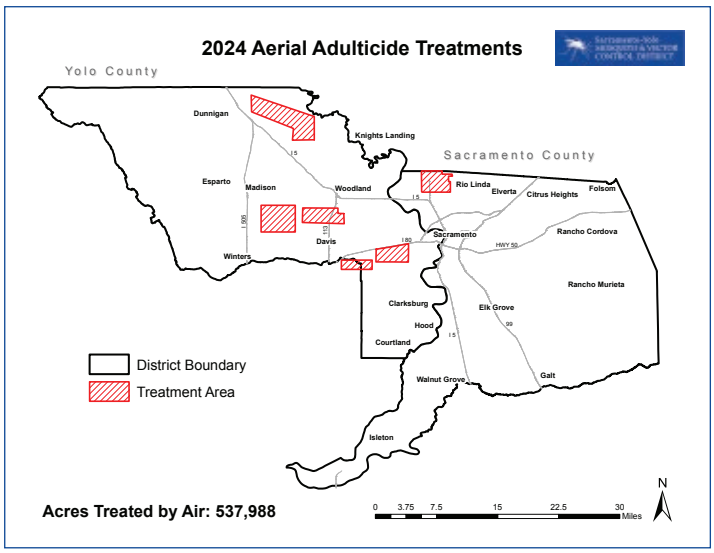
LARVICIDE MATERIALS	ACRES TREATED	AMOUNT OF MATERIAL	NUMBER OF APPLICATIONS
Altosid Briquete	0.23	1.32 lb	29
Altosid Liquid and Liquid Concentrate	4,033.40	27.94 gal	323
Altosid Pellets	0.01	0.06 lb	8
Altosid Pellets WSP	0.13	1.23 lb	24
Altosid P35	1,524.06	8,546.72 lb	693
Altosid XR Briquets	0.05	1.61 lb	9
Altosid XR-G	3,359.04	17,116.01 lb	76
Altosid XRG ULTRA	2,300.40	11,506.91 lb	90
Censor	63.15	551.70 lb	30
Mosq oil BVA2/Cocobear	118.04	578.96 gal	513
Natular DT	0.27	1.23 lb	201
Natular G30	3,657.71	18,943.89 lb	835
Natular G30 WSP	0.17	3.12 lb	21
Natular XRT	0.86	33.77 lb	218
Natular 2EC	172.78	2.04 gal	87
Natular SC	2,522.59	31.28 gal	213
Sumilarv 0.5G	0.76	53.82 lb	236
Vectobac 12AS	27,795.52	2,741.46 gal	1,834
Vectobac FG+	1,087.08	3,261.87 lb	13
VectoBac GR	9,915.23	49,606.35 lb	127
VectoBac GS	84,703.74	432,416.34 lb	1,535
Vectobac WDG	13,225.00	3,163.91 lb	155
VectoMax FG	449.87	3,449.62 lb	290
Vectomax WSP	5.53	143.44 lb	977
VectoPrime FG	141.28	792.90 lb	26
LARVICIDE MATERIALS CATCH BASIN	**BASINS TREATED**	**AMOUNT OF MATERIAL**	**NUMBER OF APPLICATIONS**
Altosid Pellets WSP	11,327	252.00 lb	11,327
Altosid XR-B	11,706	641.60 lb	11,706
Natular G30 DWSP/WSP	217	4.77 lb	217
Natular XRT	17,600	1551.96 lb	17,600
Sumilarv 0.5g	18,591	413.24 lb	18,591
Vectomax FG DWSP	27,338	602.63 lb	27,338
ADULTICIDE MATERIALS	**ACRES TREATED**	**AMOUNT OF MATERIAL**	**NUMBER OF APPLICATIONS**
Organophosphates (Ground & Air)	249,538.83	1217.25 gal	43
Pyrethrins / Pyrethroids (Barrier & Air)	292,501.26	1834.20 gal	966
Deltamethrin (Ground)	77,736.83	414.12 gal	1,631
YELLOWJACKET CONTROL MATERIAL	**AREA TREATED**	**AMOUNT OF MATERIAL**	**NUMBER OF APPLICATIONS**
Drione	<1	6.29 lb	67
PT 565+ XLO	<1	0.876 gal	28

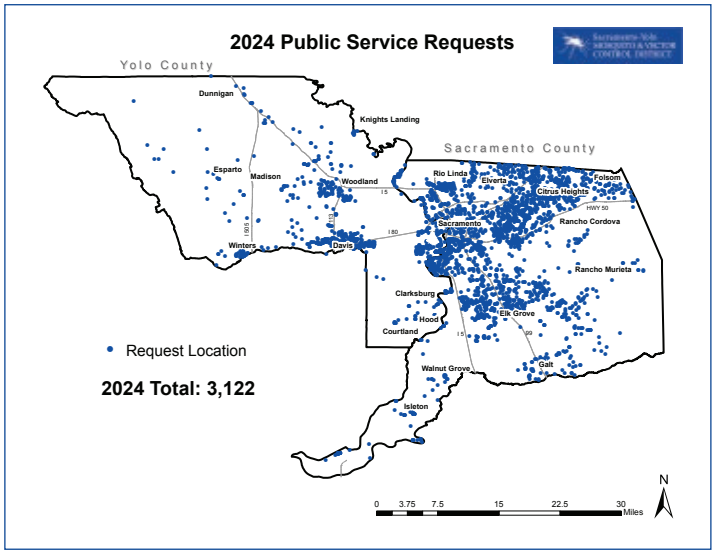
Geographic Information Systems & Information Technology

In 2024 the GIS Department recorded mosquito control treatments to 790,480 acres, which included 10,542 known mosquito breeding sources, 85,839 catch basins, 3,122 requests for service from the public, and 43,651 acres of rice. Besides the EPA registered products, mosquito eating fish were used in 15,536 acres of mosquito breeding habitat. The GIS Department provides spatial analytics, data visualization and implements multiple software platforms to evaluate and improve District operations.

The IT Department is responsible for aligning existing and future District goals with cost-effective scalable technology solutions. The Department maintains servers, wired and wireless networks and equipment, workstations, mobile devices, laptops and projectors for District meetings and public presentations. It also oversees web-based database programming, software and peripherals, as well as a virtual private data network and VoIP phone system connecting offices in Elk Grove and Woodland. Each field technician is equipped with truck-mounted laptops with mobile data and custom GIS software.







Administration

The District's Administrative Department is the backbone of operations, dedicated to serving both the residents of Sacramento and Yolo Counties and the employees who protect public health. Embracing the motto, "Serving the People Who Serve the People," the Department plays a vital role in ensuring seamless District functions. Key responsibilities include customer service and reception; Human Resources (benefits administration, recruitment, onboarding, maintaining high morale and retention); Compliance (risk management, training, and safety); and Finance (accounting, payroll, accounts payable/receivable, annual audit coordination, and budget management). Additionally, the Department oversees essential administrative functions: maintaining public records, managing liability policies, and reporting to the Board of Trustees. With a commitment to excellence, the Department supports District operations, leadership, and the community, ensuring efficiency and accountability in all aspects of service.

Shop

The District employs two Automotive Service Excellence–certified mechanics working out of the Elk Grove and Woodland locations. The shop maintains 106 vehicles, 3 forklifts, 3 Argo all terrain vehicles, 18 quad-runners, 4 John Deer Gator utility vehicles, 11 utility trailers, 2 low bed trailers, 2 Wheeled Tractors, 1 backhoe tractor, 1 compact tracked loader, 17 London ULV Foggers, 7 Curtis Dyna foggers, 6 Longray electric backpack sprayers, 2 turbine sprayers, 1 Cobra turbine sprayer and 2 Acrease 57" mowers.

The shop is also responsible for repairing and installing various types of equipment, including chainsaws, pole saws, weed eaters, hand cans, edge-trimmer, backpacks, spray guns, lab traps, pumps, and other items in need of repair. In addition, shop staff are skilled in the many aspects of metal fabrication and welding and have helped with projects such as 3D printing accessories for the lab and designing a calibration station for ULV spray systems.

Financial Statements

Sacramento–Yolo Mosquito & Vector Control District Statement of Net Position June 30, 2024

Statement of Revenues & Expenditures for the Fiscal Year Ended June 30, 2024 *UNAUDITED*

The District's financial audit for the Fiscal Year ending **June 30, 2024** is currently in progress. Audited financial information relating to Assets, Liabilities, and Net Position is expected to be available by April 1, 2024.

		GENERAL FUND
REVENUES		
Property taxes	$	19,339,916
Interest		817,688
Other tax revenue		838,874
Other revenues		456,614
Total Revenues	**$**	**21,453,092**
EXPENDITURES		
Aircraft Services	$	1,042,685
Auditing/Fiscal		19,000
Communications		102,573
Control Operations		42,666
District Office Expenses		25,681
Ecological Management		10,960
Fisheries		28,805
Gas & Petroleum		194,469
Geographic Information Systems		4,056
Information Technology		104,173
Insecticides		925,616
Laboratory Services		166,712
Liability Insurance		260,344
Materials & Supplies		17,035
Member/Training		136,053
Microbial & Biorationals		2,353,366
Professional Services		323,367
Public Information		553,656
Rents & Leases		9,504
Safety Program		3,710
Salaries & Benefits		10,551,080
Structure & Grounds		128,787
Utilities		104,593
Vehicle Parts & Labor		176,577
Total Expenditures	**$**	**17,285,468**

Sacramento-Yolo
MOSQUITO & VECTOR
CONTROL DISTRICT

Sacramento County
8631 Bond Road
Elk Grove, CA 95624
Phone: 1-800-429-1022
Fax: 916-685-5464
Web site: www.FIGHTtheBITE.net
Hours: 7:00 am to 3:30 pm

Yolo County
1234 Fortna Avenue
Woodland, CA 95776
Phone: 1-800-429-1022
Fax: 530-668-3403
Web site: www.FIGHTtheBITE.net
Hours: 7:00 am to 3:30 pm