

Sacramento-Yolo
MOSQUITO & VECTOR
CONTROL DISTRICT

MARCH 23, 2023

BOARD OF TRUSTEES
SPECIAL MEETING

BOARD PACKET

10:00 A.M.

8631 BOND ROAD
ELK GROVE, CA 95624

**SACRAMENTO/YOLO MOSQUITO
& VECTOR CONTROL DISTRICT
BOARD OF TRUSTEES SPECIAL MEETING**

8631 Bond Road
Elk Grove, CA 95624

**AGENDA
March 23, 2023
10:00 AM**

In compliance with the Americans with Disability Act, if you are a disabled person and you need a disability-related modification or accommodation to participate in this meeting, please contact the District office at (916) 685-1022 or (916) 685-5464 (fax). Requests must be made as early as possible and at least one-full business day before the start of the meeting. Documents and materials relating to an open session agenda item that are provided to the SYMVCD Board less than 72 hours prior to a regular meeting will be available for public inspection and copying at 8631 Bond Road, Elk Grove, Ca 95624. The documents will also be available on the agency's website at www.fightthebite.net.

CALL TO ORDER:

- **Roll Call**
- **Pledge of Allegiance**

1. Items for Approval by General Consent:

- a. **Minutes of the February 21, 2023 Board of Trustees Meeting**
- b. **Expenditures for February 2023**
- c. **Board Consideration to Move April Board Meeting to April 25th**
- d. **Board Consideration to Move May Board Meeting to May 23rd**
- e. **Board Review and Consideration of Renewal to Uniform Contract with Cintas**

2. Opportunity for Public Comment

This item is reserved for members of the public who wish to speak on items not on the agenda

3. Reports to the Board

- a. **Manager's Report**
- b. **Reports from District Departments**
 - **Lab/Surveillance**
 - **Ecological Management**
 - **Biological Control**
 - **Larval and Adult Control**
 - **Public Outreach**

4. **Board Review and Consideration of an Amendment to the Leading Edge Contract for Aerial Larviciding Services by UAS**
5. **Board Review and Consideration of Supporting the AMCA Research Foundation in the Amount of \$50,000**
6. **Board/Staff General Discussion**
7. **Adjournment**

MINUTES OF THE FEBRUARY 21, 2023 MEETING OF THE BOARD OF TRUSTEES OF THE SACRAMENTO- YOLO MOSQUITO & VECTOR CONTROL DISTRICT

Location: Virtual Meeting via Zoom / In Person @ 8631 Bond Rd, Elk Grove, California
Time: 10:00 a.m.

Call to Order: The meeting was called to order by Board President Marcia Mooney at 10:01 a.m.

Trustees Present:

Marcia Mooney	President	Galt
Sean Denny	Vice President	Woodland
Charles Duty	Secretary	Sacramento County
Bruce Eldridge		Yolo County
Christopher Barker		Davis
Craig Burnett*		Folsom
Janell Darroch		West Sacramento
Jayna Karpinski-Costa		Citrus Heights
Lyn Hawkins		Elk Grove
Gar House*		Winters
Raymond LaTorre		Sacramento
Staci Gardiner		Isleton
Robert McGarvey*		Rancho Cordova

*Appeared Remotely

Staff Present:

Gary Goodman	Manager
Jeni Buckman*	Legal Counsel
Steve Ramos	Assistant Manager
Tony Hedley	Assistant Manager
Rebecca Lane	Administrative Manager
Luz Robles	Public Information Officer
Marty Scholl	Ecological Mgmt. Supervisor
Dan Fisher*	IT Administrator
Sarah Wheeler	Lab Director
Kevin Combo	Control Operations (No. Sacramento) Supervisor

*Appeared Remotely

Others Present:

Felix Huerta*	Union Representative
Gary Benjamin*	Consultant

*Appeared Remotely

Roll Call

This meeting was both in person and by video teleconference. Attendance was taken by Roll Call.

Pledge of Allegiance

All phones and electronic devices are requested to be silenced during the Pledge of Allegiance and for the duration of the meeting.

1. Items for Approval by General Consent

On a motion by Trustee Denny and seconded by Trustee Darroch, the Board voted to approve the General Consent Items. The vote was taken by roll call and the motion passed by the following vote: Ayes: 13, Noes: 0, Absent: 0

- a. Minutes of the January 24, 2023 Board of Trustees Meeting
- b. Expenditures for January 2023
- c. District Investment Reports for Period Ending 12/31/2022
- d. Board Review and Consideration of Janitorial Services Contract

2. Opportunity for Public Comment

This item is reserved for members of the public who wish to speak on items not on the agenda.

No one provided public comment.

3. Reports to the Board

Manager's Report:

The Manager discussed the current mosquito activity and the impacts of the recent weather on operations. A recap of the MVCAC annual conference and staffs participation was highlighted and he indicated the dates for the upcoming legislative days for both MVCAC (March 21) and AMCA (May 15-17). The District's NPDES annual report was submitted to the State Water Resources Control Board.

Reports from Trustees Attending the MVCAC Annual Conference

Trustees Karpinski-Costa, Darroch, Gardiner, Duty, Barker and Mooney provided updates on their thoughts of and experiences at the recent MVCAC Annual Conference.

Reports from District Departments: Written reports were provided in the Board packet from each department.

- Lab/Surveillance
- Ecological Management
- Biological Control
- Larval and Adult Control
- Public Outreach

Lab/Surveillance:

Mosquito abundance trapping was restarted following heavy rains in early January. *Culex tarsalis* and *Culex pipiens* abundance in January was very low. Our Invasive *Aedes* and West Nile virus (WNV) surveillance programs will resume in mid-April/early-May. Tick surveillance continues; in January we detected higher tick abundance than the five-year average. Laboratory technicians are constructing and repairing traps and preparing for the 2023 season. The Laboratory Director, Biologist, and Microbiologist presented district work at the 2023 MVCAC Annual meeting, and The Laboratory Director, Biologist, and Vector Ecologist are currently preparing presentations for the 2023 AMCA meeting to be held in Reno at the end of February.

Ecological Management:

Staff reviewed the Bilby Ridge Specific Plan Notice of Intent planning document for the expansion of the City of Elk Grove south of Bilby Rd to the new Kammerer Road extension. This is a programmatic environmental review with anticipated subsequent planning documents to follow in future years or months. Staff have been busy finishing seasonal training, cleaning and preparing trucks and equipment for the upcoming season and making small water-soluble packets of Watersorb for use in the cemeteries again this year. Following last month's heavy rainfall, staff looked at some of the non-flooded previous and current BMP projects to learn how they performed and to start planning for future maintenance later in the season. Marty Scholl participated in the Inspection and Enforcement of Unmaintained Swimming Pools roundtable discussion at the Annual MVCAC Conference held at the end of the month in Anaheim, California. The discussion focused on new imagery various District programs from across California while providing for audience participation with the roundtable panel.

Biological Control:

Staff reported on departmental activities including maintenance of District facilities, setting up fence runners to help exclude predators, solar aerators, and dissolved oxygen levels. In addition, water pumps were deployed, daily, to equalize water levels in the District's outdoor pond system.

Larval and Adult Control:

Invasive *Aedes* control, Catch Basin Control and Field Control activities continue as the District prepares for the season. Field technicians are responding to service requests from all the recent rains. The District is working on continuing education programs with annual pesticide training scheduled in March.

Public Outreach:

The District's Public Information Officer discussed the planning for the upcoming 2023 advertising campaign and preparations to begin negotiations of all contracts once the advertising budget is approved. She also explained that school assemblies at different schools continue and that preparations for the annual Fight the Bite contest are underway. Community outreach events have started and recently our District participated in the Galt Bird Festival. Lastly, she mentioned the reordering of materials to be prepared for the upcoming season and her participation in the communications and engagement symposium with a presentation during the MVCAC conference.

Break Taken: 11:22a.m. to 11:30a.m.

4. Board Review and Consideration of \$360,000 to Fund the Public Outreach Advertising Plan for the 2023 Mosquito Season

The District's Public Information Officer provided the District's Public Information and Education Department's Outreach Advertising Plan for Fiscal Year 2023-24 and recommended the Board approve the 2023 Advertising Plan not to exceed \$360,000.

A motion was made by Trustee Denny and seconded by Trustee LaTorre to approve this item. The vote was taken by roll call and the motion passed by the following vote: Ayes: 13, Noes: 0, Absent: 0.

5. Board Review and Consideration of District's Five Year Plan

The Board was presented with a 5-Year plan and update of various Department-specific activities. This Item was informational only; no action was taken.

6. Board/Staff Reports and Requests / General Discussion

A motion to amend the agenda to include an item moving the March 21, 2023 Board meeting to March 23, 2023, was made by Trustee Denny and seconded by Trustee Mooney to approve this item. The vote was taken by roll call and the motion passed by the following vote: Ayes: 13, Noes: 0, Absent: 0.

Due to various scheduling conflicts, the dates of several Board Meetings were discussed. Staff will add to the next agenda (March 2023 meeting) to reschedule the April and May 2023 Board Meeting dates.

A motion to move the March 21, 2023 Board meeting to March 23, 2023, was made by Trustee Burnett and seconded by Trustee Denny to approve this item. The vote was taken by roll call and the motion passed by the following vote: Ayes: 13, Noes: 0, Absent: 0.

7. ADJOURNMENT

The meeting adjourned at 12:23 p.m.

I certify that the above minutes substantially reflect the general business and actions taken by the Board of Trustees at the February 21, 2023, meeting.

Gary Goodman, Manager

Approved as written, and/or corrected, by the Board of Trustees at the February 21, 2023, meeting.

Charles Duty, Board Secretary

Check History Report
Sorted By Check Number
Activity From: 2/1/2023 to 2/28/2023

Sacramento Yolo MVCD (SYC)

Bank Code: U US Bank

Check Number	Check Date	Vendor Number	Name	Check Amount	Check Type
056402	2/6/2023	0000504	US Bank	20,293.91	Auto
056403	2/8/2023	0002428	Benefit Coordinators Corp.	9,248.90	Auto
056404	2/8/2023	0000267	Kaiser Foundation Health Plan	50,225.04	Auto
056405	2/8/2023	0000957	Sutter Health Plus	10,506.66	Auto
056406	2/14/2023	0000531	Western Health Advantage	5,893.60	Auto
056407	2/14/2023	0000531	Western Health Advantage	1,088.41	Auto
056408	2/14/2023	0000013	Airgas USA LLC	89.08	Auto
056409	2/14/2023	0000014	Alhambra & Sierra Springs	67.98	Auto
056410	2/14/2023	0000015	All Star Glass	1,703.17	Auto
056411	2/14/2023	0000018	ANDKO Building Maintenance Inc.	4,804.94	Auto
056412	2/14/2023	0000034	AutoZone Inc	1,203.37	Auto
056413	2/14/2023	0000038	Bartkiewicz Kronick & Shanahan	1,552.50	Auto
056414	2/14/2023	0001011	Buckmaster Office Solutions	187.64	Auto
056415	2/14/2023	0001019	Cintas Corporation	3,606.02	Auto
056416	2/14/2023	0000117	City of Woodland	214.63	Auto
056417	2/14/2023	0000128	Consolidated Communications	2,283.81	Auto
056418	2/14/2023	0000168	Dignity Health Med Fdtn-Sacramento	72.00	Auto
056419	2/14/2023	0000186	Elk Grove Water District	355.77	Auto
056420	2/14/2023	0000223	Grainger	610.08	Auto
056421	2/14/2023	0000958	GreatAmerica Financial Services	745.64	Auto
056422	2/14/2023	0001233	Grow West	164.65	Auto
056423	2/14/2023	0002540	Hippensteel Group	1,251.25	Auto
056424	2/14/2023	0000240	Hunt & Sons Inc	464.64	Auto
056425	2/14/2023	0000277	Kimball Midwest	633.83	Auto
056426	2/14/2023	0002352	Kingsley Bogard, LLP	5,732.00	Auto
056427	2/14/2023	0002350	Linde Gas and Equipment INC.	36.48	Auto
056428	2/14/2023	0000306	Maita Chevrolet	482.25	Auto
056429	2/14/2023	0000308	Mann Urrutia Nelson CPAs & Assoc LLP	1,000.00	Auto
056430	2/14/2023	0000315	Marty Scholl	48.00	Auto
056431	2/14/2023	0002575	Mike & Son's Truck Repair, Inc.	123.26	Auto
056432	2/14/2023	0000356	OReilly Automotive Stores Inc	354.13	Auto
056433	2/14/2023	0000367	PG & E	5,659.04	Auto
056434	2/14/2023	0000391	River City Fire Equipment	3,749.51	Auto
056435	2/14/2023	0000562	RKL eSolutions, LLC	1,912.50	Auto
056436	2/14/2023	0000427	Safety Kleen Corp	947.69	Auto
056437	2/14/2023	0000461	Stericycle Inc	93.48	Auto
056438	2/14/2023	0001234	T-Mobile	1,455.96	Auto
056439	2/14/2023	0000475	Target Specialty Products	1,292.95	Auto
056440	2/14/2023	0000498	ULINE	179.37	Auto
056441	2/14/2023	0000518	Vector Disease Control International	53,125.00	Auto
056442	2/14/2023	0000529	Waste Management	260.38	Auto
056443	2/14/2023	0000176	EDD	116.00	Auto
056444	2/28/2023	0000043	Benefit Coordinators Corporation	3,375.99	Auto
056445	2/28/2023	0000084	CA State Disbursement Unit	350.00	Auto
056446	2/28/2023	0001035	Operating Engineers Local Union No. 3	1,156.00	Auto
056447	2/28/2023	0000357	P & A Administrative Services Inc	1,000.00	Auto
W00332	2/28/2023	0000511	US Treasury Internal Revenue Service	60,154.95	Wire Transfer
W00333	2/28/2023	0000176	EDD	16,044.49	Wire Transfer
W00334	2/28/2023	0000339	Nationwide Retirement Solutions	2,300.00	Wire Transfer
W00335	2/28/2023	0000339	Nationwide Retirement Solutions	3,425.00	Wire Transfer
W00336	2/28/2023	0000086	CalPERS 457 Plan	17,079.43	Wire Transfer
W00337	2/28/2023	0000087	CalPERS Financial Reporting & Accounting Services	83,932.54	Wire Transfer
Bank U Total:				382,653.92	
Report Total:				382,653.92	

Check History Report
Sorted By Check Number
Activity From: 2/1/2023 to 2/28/2023

Sacramento Yolo MVCD (SYC)

Bank Code: U US Bank

Check Number	Check Date	Vendor Number	Name	Check Amount	Check Type
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I hereby authorize the use of my signature plate on
the above-listed warrants, 056402-056447, and EFTs

Signature

Date

Marcia Mooney, President of the Board

Sacramento/Yolo M.V.C.D.
STATEMENT OF OPERATION

	<u><i>8Months Ended</i></u> <u><i>February28 2023</i></u>	<u><i>Annual</i></u> <u><i>Budget</i></u>	<u><i>Unused</i></u>
Revenue			
REVENUE	10,350,640.53	0.00	10,350,640.53
TOTAL Revenue	<u>10,350,640.53</u>	<u>0.00</u>	<u>10,350,640.53</u>
Expenditures			
SALARIES/BENEFITS/WC			
SALARIES/BENEFITS/WC	8,063,184.51	10,114,835.00	2,051,650.49
TOTAL Salaries	<u>8,063,184.51</u>	<u>10,114,835.00</u>	<u>2,051,650.49</u>
OPERATIONAL			
LIABILITY INSURANCE	247,704.00	240,624.00	(7,080.00)
AUDITING/FISCAL	11,000.00	18,000.00	7,000.00
COMMUNICATIONS	53,404.63	99,000.00	45,595.37
PUBLIC INFORMATION	314,290.66	595,500.00	281,209.34
STRUCTURE & GROUNDS	54,661.20	69,000.00	14,338.80
MEMBER/TRAINING	69,359.57	148,000.00	78,640.43
DISTRICT OFFICE EXPENSES	14,074.55	22,500.00	8,425.45
PROFESSIONAL SERVICES	266,153.10	297,000.00	30,846.90
MATERIALS & SUPPLIES	13,127.73	22,750.00	9,622.27
RENTS & LEASES - Admin	5,859.44	11,550.00	5,690.56
SAFETY PROGRAM	2,130.00	5,000.00	2,870.00
UTILITIES	77,238.43	120,000.00	42,761.57
AIRCRAFT SERVICES	316,538.24	1,074,000.00	757,461.76
ECOLOGICAL MANAGEMENT	815.90	14,700.00	13,884.10
MICROBIAL	861,067.54	1,200,000.00	338,932.46
INSECT GROWTH REGULATOR	614,119.82	1,133,000.00	518,880.18
INSECTICIDES	327,376.92	700,000.00	372,623.08
FISHERIES	11,682.71	36,000.00	24,317.29
GEOGRAPHIC INFO SYSTEMS	4,061.00	9,000.00	4,939.00
INFORMATION TECHNOLOGY	30,612.58	80,000.00	49,387.42
CONTROL OPERATIONS	15,326.58	66,000.00	50,673.42
VEHICLE PARTS/LABOR	92,068.74	121,000.00	28,931.26
LAB SERVICES	91,017.22	235,300.00	144,282.78
GAS & PETROLEUM	126,133.23	300,000.00	173,866.77
TOTAL Total Operational	<u>3,619,823.79</u>	<u>6,617,924.00</u>	<u>2,998,100.21</u>

Sacramento-Yolo Mosquito and Vector Control District

March 23, 2023 Board Meeting

1. Items for Approval by General Consent:

- c. Board Consideration to Move April Board Meeting to April 25th

Staff Report

District staff has a conflict for the April meeting and would like to move the meeting from April 18th to April 25th.

Recommendation:

Change the April Board meeting to April 25th.

Sacramento-Yolo Mosquito and Vector Control District

March 23, 2023 Board Meeting

1. Items for Approval by General Consent:

- d. Board Consideration to Move May Board Meeting to May 23rd

Staff Report

District staff has a conflict for the May meeting and would like to move the meeting from May 16th to May 23rd.

Recommendation:

Change the May Board meeting to May 23rd

Sacramento-Yolo Mosquito and Vector Control District

March 23, 2023 Board Meeting

1. Items for Approval by General Consent:

- e. Board Review and Consideration of Renewal to Uniform Contract with Cintas

Staff Report

The District has been utilizing Cintas as our uniform and laundry company since 2017. Our current contract expired late last year and staff explored other companies who might be able to provide service. The comparisons of the three options are presented below for review. The weekly price summaries are based on the core of providing uniforms (shirts and pants) to employees.

Company	Weekly Cost for Service
Aramark	\$ 460
Cintas	\$ 472
Unifirst	\$ 495

District staff would like to stay with Cintas as the uniform provider as we have negotiated a 5 year agreement with no annual price increases. Changing companies would also require an overlap of service to ensure uniforms are available.

Recommendation:

Authorize the Manager to engage in a contract with Cintas to provide uniform rental and laundering service for the District.

Sacramento-Yolo Mosquito and Vector Control District

March 23, 2023 Board Meeting

3. Reports to the Board

a. Manager's Report

b. Reports from District Departments

- Lab/Surveillance (Sarah Wheeler)
- Ecological Management (Kevin Combo)
- Biological Control (Tony Hedley and Ken Harris)
- Larval and Adult Control (Marty Scholl)
- Public Outreach (Luz Maria Robles)

a. Manager's Report

The rainy and cold weather will probably lead to more standing water in the spring.

The AMCA annual conference was held February 27-March 3 in Reno. Unfortunately, the weather was problematic and prohibited 4 of our staff from attending in person. However, they recorded their presentations and their work was presented during the meeting. Their flexibility and willingness to adapt is commendable and appreciated.

The MVCAC Legislative Days were held in person on March 21st. We are not actively promoting any specific bills but we did talk about proposed legislation relating to pesticides and UAS activities. The Association's main ask was for funding through CDPH to help Districts pay for increased invasive *Aedes* control. The handouts that we gave to our legislators are attached.

The AMCA Washington Conference is currently scheduled for May 15-17.

We have been working on scheduling presentations with all of the City Councils. The presentations should be live or as a report depending on the individual preferences of the City. We will update the Board members on the specific schedule of when we will be at their respective locations.

District staff is working on scheduling interviews to fill current full time and seasonal vacancies within various departments.

b. Reports from District Departments

- Lab/Surveillance (Sarah Wheeler)
- Ecological Management (Kevin Combo)
- Biological Control (Tony Hedley and Ken Harris)
- Larval and Adult Control (Marty Scholl)
- Public Outreach (Luz Maria Robles)

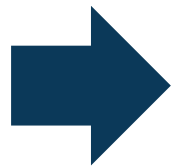


STATE SUPPORT: FUNDING NEEDED TO PROTECT CALIFORNIANS FROM INVASIVE MOSQUITOES

Climate change has created more favorable environments for invasive mosquitoes to develop as they continue to spread throughout the state rapidly. Surveillance and treatment for invasive *Aedes* mosquitoes are very expensive, labor-intensive, and mosquito and vector control districts throughout the state are saddled with skyrocketing costs. In order to protect the health and well-being of Californians, mosquito control districts desperately need state support.

Aedes Mosquitoes Are Invading Our State

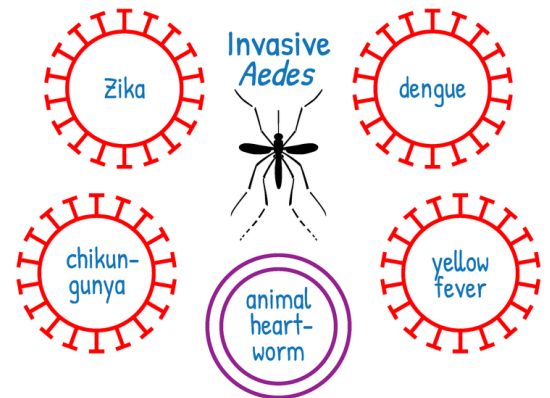
2013
First Detection



2023
300 towns/cities
25 counties



Mosquito districts, with their partners in local health departments, have increased their work to investigate suspected and confirmed cases of people returning to California with dengue, chikungunya, yellow fever, and Zika. Few districts have the ability to augment their operational budgets to compensate for this increase in materials and workload, and many foresee situations where they must treat areas not covered by a mosquito abatement district. **Some MVCAC districts with invasive *Aedes* activity report spending nearly a half million dollars to control the spread of invasive mosquitoes.**



\$5 MILLION ROLLING STATE FUND NEEDED TO REIMBURSE MOSQUITO DISTRICTS WITH EXTRAORDINARY INVASIVE AEADES COSTS



A revolving fund of \$5 million annually administered by the California Department of Public Health (CDPH) is needed to reimburse mosquito control districts for extraordinary costs associated with invasive *Aedes* abatement. Districts would apply for reimbursement for associated surveillance and abatement activities including costs for temporary personnel, mosquito control products, pesticide application equipment, *Aedes* surveillance traps, and public education and outreach. Districts would be required to report the increase in costs, year over year, due to *Aedes* prevention and response to receive reimbursement.

LOCAL TRANSMISSION OF DENGUE AT CALIFORNIA'S BORDER

- The border state of Sonora, Mexico had more than **9,000 cases with 91 people dying** from dengue in 2022.
- While **750 Floridians** acquired dengue while traveling, 57 people were infected at home because the mosquitoes that can transmit the virus are in their neighborhoods.
- In December 2022 in **Maricopa County, Arizona**, two individuals tested positive for dengue they acquired from a mosquito bite locally.

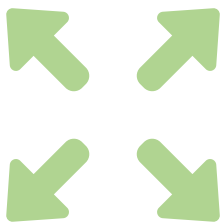
LONG HISTORY OF STATE SUPPORT FOR MOSQUITO CONTROL

- In 2007, Governor Schwarzenegger declared a state of emergency due to the increased risk of West Nile Virus (WNV) transmission in California. Following that declaration, the 2007 budget included \$3 million in General Fund support directed to WNV high-risk areas and "hot spots" to supplement local mosquito control efforts. CDPH identified counties with need and provided them with funding to identify places where mosquitoes carrying WNV could breed, and treat those areas. That funding also allowed mosquito control districts to provide an early warning system.
- The WNV funds were distributed through CDPH to counties with the highest risk of WNV transmission. Then, emergency funding applications were sent to all local mosquito control districts as WNV infections were reported statewide.
- In 2017, CDPH provided a pass-through for federal funds to local mosquito control districts for Zika prevention. No state of emergency was declared, but the U.S. Centers for Disease Control and Prevention awarded funding through CDPH to enhance surveillance and control for invasive *Aedes* throughout the state.
- Under these grants, local mosquito control districts with increased risks due to invasive *Aedes* infestations were eligible to apply for one-time funding. Applications were prioritized based on the number and extent of *Aedes* infestations, the number of travel-associated cases of mosquito-borne illnesses, the population of the agency jurisdiction, and proximity to the US/Mexico border. Allowable expenditures included temporary personnel, mosquito control products, pesticide application equipment, *Aedes* surveillance traps, and public outreach and education.



MOUNTING COSTS: THE FINANCIAL IMPACT OF INVASIVE Aedes ON MOSQUITO DISTRICTS

Invasive *Aedes* are hard to control, resistant to traditional mosquito control approaches, have the potential to spread deadly diseases, and are draining mosquito district budgets. *Aedes* mosquitoes exploit small and cryptic water sources and are resistant to many commonly used insecticides which limits the efficacy of traditional mosquito control approaches. New technologies like Sterile Insect Technique are being evaluated to help control this invasive species but districts need funding for innovative techniques.



Invasive *Aedes* mosquitoes continue to rapidly spread throughout California



25 counties with *Aedes* Detections



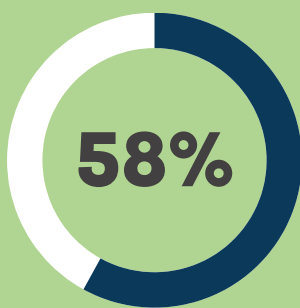
Aedes infestations proliferate by the second and third year of detections



Costs continue to rise for labor, equipment, testing, pesticides, and surveillance

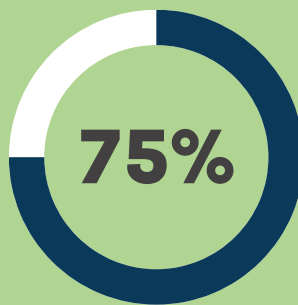
DISTRICTS REPORT RISING COSTS

SURVEILLANCE



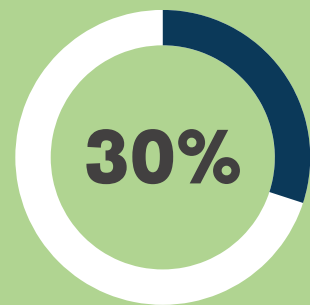
Surveillance cost increases up to 58%

OPERATIONS



Operation cost increases up to 75%

STAFFING



Staffing cost increases up to 30%



NEW TECHNOLOGIES URGENTLY NEEDED

Mosquito districts need new innovative technologies to support control efforts but they cost hundreds of thousands of dollars. In the past 10 years, no new tools have been approved in our state to assist mosquito control districts in fighting the spread of invasive *Aedes* mosquitoes.

The timeframe it takes for disease-spreading mosquitoes to invade new regions is not in line with current regulatory standards for approval and such delays put our state very far behind.



Self-limiting mosquitoes



Wolbachia



Irradiation

Scan here to see videos explaining how these technologies work



“

INVASIVE *Aedes* HAVE COMPLETELY ALTERED THE WAY WE DO MOSQUITO CONTROL

"We've had to divert labor and equipment resources to address this emerging issue to the detriment of our existing public health mosquito control efforts engaged in West Nile virus protection."

Peter Bonkrude, District Manager, Shasta Mosquito & Vector Control District



"When, not if, a tropical disease is locally transmitted by an invasive *Aedes* species, every mosquito and vector control district in the state will be impacted."

Michelle Brown, District Manager, West Valley Mosquito & Vector Control District



"An increase in funds available for staffing, equipment, public outreach, and pesticide budgeting is necessary to maintain our level of service to our community and protect public health. "

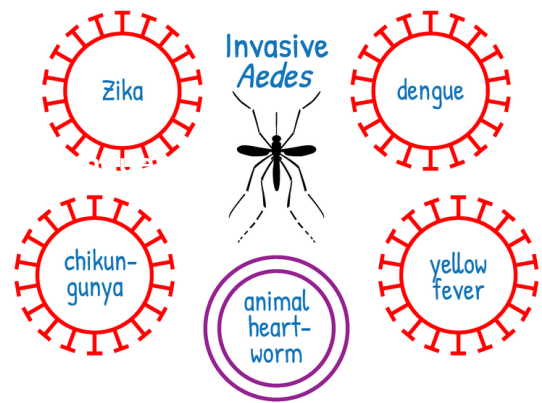
Cary Svoboda, Vector Ecologist, Ventura County Vector Control Program



BEYOND THE BASICS: INNOVATIVE TECHNIQUES NEEDED FOR INVASIVE MOSQUITO CONTROL

Invasive *Aedes* mosquitoes are rapidly spreading across California although they are not native to the state and don't have a place in our ecosystem. These mosquitoes are hard to control and can become resistant to commonly-used insecticides. Female *Aedes* mosquitoes lay their eggs in small water sources in front yards, backyards, and patios, areas where mosquito control agencies can't easily inspect or control. Also, their eggs are resistant to drying out and can survive for many months.

Invasive *Aedes* mosquitoes are more than a nuisance - they are a serious public health threat and California's mosquito and vector control agencies need new ways to control them.



There are three different innovative technologies being considered in California: self-limiting mosquitoes, *Wolbachia*, and irradiation. These technologies will be used as part of an overall Integrated Vector Management program in addition to existing innovative control methods like drones.



INTEGRATED VECTOR MANAGEMENT PROGRAM

Finding environmentally friendly mosquito control tools is a priority. Innovative technologies will not replace traditional mosquito control methods but will be another Integrated Vector Management tool used to protect public health.

LEARN HOW THE DIFFERENT TECHNOLOGIES WORK



Self-limiting mosquitoes

Self-limiting mosquitoes are produced in a laboratory and carry two types of genes:

- A self-limiting gene that prevents female mosquito larva from surviving to adulthood.
- A fluorescent marker that glows under a special red light. This allows researchers to identify self-limiting mosquitoes in the wild.

Only male *Aedes* mosquitoes that have a self-limiting gene are released because male mosquitoes don't bite. When they mate with wild females their offspring inherit a copy of the self-limiting gene. This prevents female offspring from surviving to adulthood, ultimately reducing the number of biting female mosquitoes.



Wolbachia

Wolbachia are bacteria naturally found in about 60 percent of insects around the world like butterflies, dragonflies, moths, and beetles. There are different types of *Wolbachia* associated with different types of insects.

Male *Aedes* mosquitoes are raised in a lab with a specific type of *Wolbachia* they don't normally have. These male *Aedes* mosquitoes are released to mate with wild female *Aedes* mosquitoes that have a different type of *Wolbachia* or none at all. During mating, the mismatched *Wolbachia* bacteria causes the eggs not to hatch.



Irradiation

Irradiated mosquitoes are raised in a laboratory where the male mosquitoes are separated from the females. Male mosquitoes are sterilized using the same radiation found in x-rays and Gamma rays. The sterile male mosquitoes are released to mate with wild females. The resulting eggs do not hatch. This can reduce the overall number of mosquitoes over time.



Drones

Drones, small unmanned aircraft systems (UAS), are environmentally safe, cost-effective, and precision-based application tools for mosquito districts. Drones help agencies fight mosquitoes and other vectors in remote locations and are less disruptive in wildlife management areas. Drones limit drift from aerial spray applications, better monitor irrigation, increase mosquito larvae detection, and reduce employee safety risk, noise and fuel emissions and costs of equipment and labor.



FROM DATA TO ACTION: CALSURV CONTINUES TO REVOLUTIONIZE MOSQUITO CONTROL

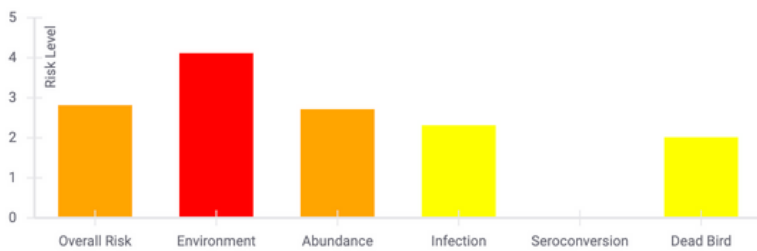
The California Vectorborne Disease Surveillance Gateway (CalSurv) is an essential tool in fighting vector-borne diseases. It is recognized in statute (AB 320 – Quirk) as the statewide surveillance database critical to preventing the spread of mosquito-borne diseases. The platform was included in the 2022-23 state budget as an annual appropriation. The state's ongoing support for this online interactive platform is critical as it enables real-time collection, visualization, and analysis of data on vector-borne diseases. CalSurv, housed at UC Davis, curates local and statewide data to enable 81 mosquito and vector control and public health agencies to make informed decisions on public health interventions.

State funding has sustained CalSurv and enabled the addition of new capabilities

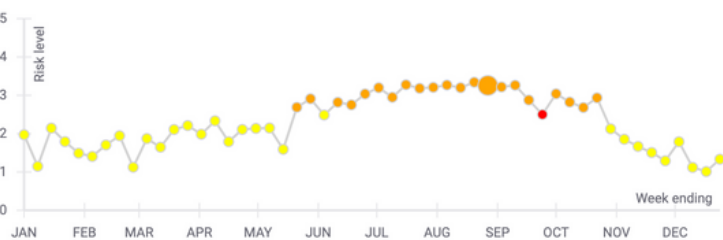
- New data tools to support surveillance for the vectors of Lyme and other tick-borne diseases.
- Open-data portal to accelerate research on the spread of invasive species and climate change-related impacts.
- Support for Integrated Vector Management practices through immediate reporting of mosquito and tick surveillance and pathogen test results.
- Improved local, state, and national interoperability.

On top of the ongoing threat of West Nile virus, invasive *Aedes* mosquitoes, which can transmit Zika, dengue, chikungunya, and yellow fever, continue to spread throughout the state. CalSurv is an important part of controlling invasive mosquitoes as it helps identify pesticide resistance and visualize disease outbreak risks.

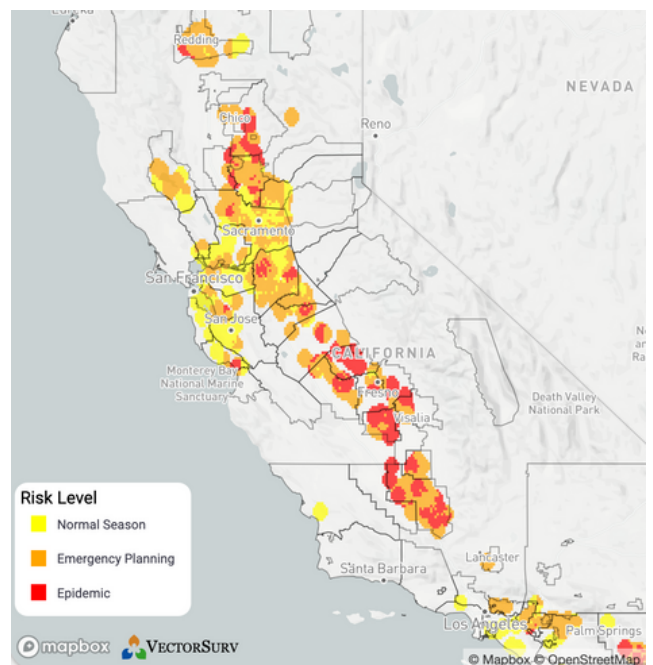
Risk Components for Week Ending August 27, 2022



Overall Risk Levels for 2022



West Nile Virus Human Infection Risk Assessment for Week Ending August 27, 2022



LEARN HOW CALSURV WORKS

Turns data into evidence for public-health decision-makers.

- Tracks the spread of invasive mosquitoes.
- Enables real-time control decisions based on surveillance data to prevent the spread of vector-borne diseases.

Supports cutting-edge research.

- Provides data that supports research to enhance surveillance and control strategies and predict new disease outbreaks.

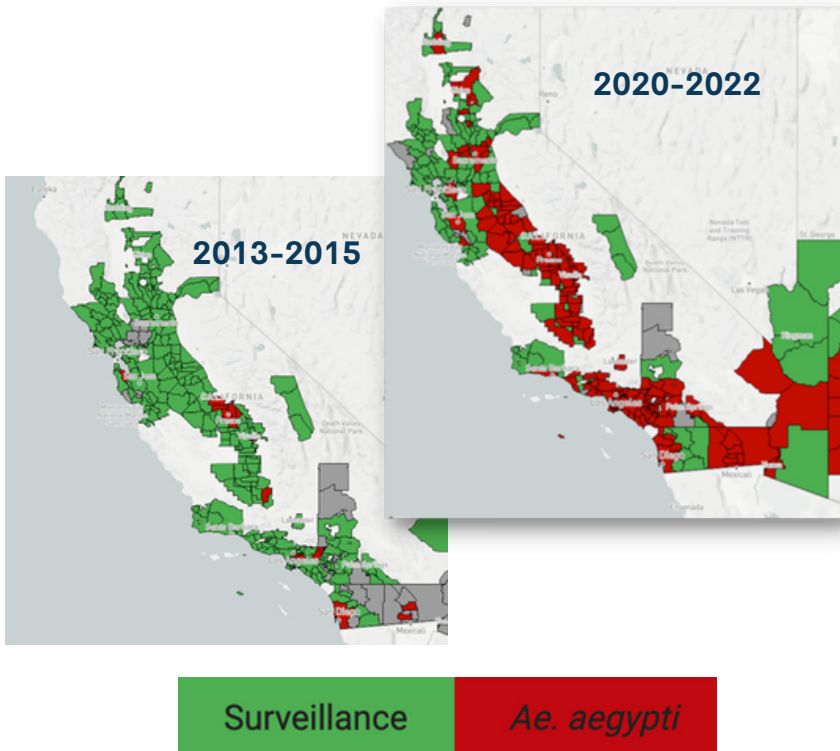
Enables state and national reporting and risk assessment.

- CA Dept. of Public Health uses CalSurv data on mosquito abundance, mosquito infection rates, dead birds, sentinel chickens, and weather to provide statewide reports and assess transmission risk for vector-borne diseases.

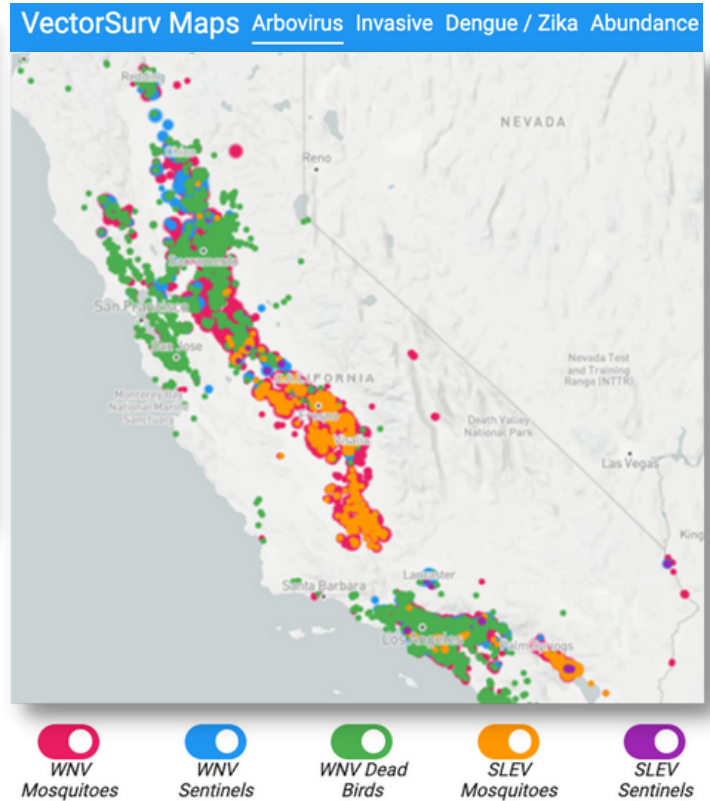
Reduces health disparities.

- Local vector control programs vary greatly in funding and operational capacity.
- CalSurv provides a software solution for surveillance data in smaller rural communities that have a higher risk of arbovirus transmission but limited vector control resources.

Aedes aegypti Detections Based on Surveillance



Mosquito-Borne Virus Activity Detected by Surveillance January 2013 - January 2023



OPINION

New tools urgently needed to protect Californians from mosquito-transmitted diseases



BY **WAKOLI WEKESA, PhD** POSTED 02.24.2023

OPINION – Mosquito and vector control districts are on the front lines each day working to protect Californians from debilitating and deadly mosquito-transmitted diseases.

Invasive *Aedes* mosquitoes, which can transmit viruses that cause Zika, dengue, chikungunya, and yellow fever, pose significant challenges. First detected in California in 2013, these invasive mosquitoes are now in 25 counties throughout the state

(<https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/AedesDistributionMap.pdf>) from San Diego to Shasta and are very hard to control. Districts urgently need new tools that can help them immediately fight back.

In the past 10 years, no new tools have been approved in our state to assist mosquito control districts in fighting the spread of invasive *Aedes* mosquitoes. Unfortunately, the California Department of Pesticide Regulation (DPR) is not demonstrating a sense of urgency to support research necessary to develop new tools to fight this difficult and

expensive uphill battle. The timeframe it takes for disease-spreading mosquitoes to invade new regions is not in line with current regulatory standards for approval and such delays put our state very far behind.

While there has not yet been local transmission of Zika, dengue, chikungunya, and yellow fever in California, the question is not if, but when. Looking at last year alone, the border state of Sonora, Mexico had more than 9,000 cases with 91 people dying from dengue in 2022 and while 750 Floridians acquired dengue while traveling, 57 people were infected at home because the mosquitoes that can transmit the virus are in their neighborhoods.

Closer to California, in December 2022 in Maricopa County, Arizona two individuals tested positive for dengue that they acquired locally from being bitten by an infected mosquito. Without new tools, mosquito control districts in California will soon reach a tipping point and not be able to stop invasive *Aedes* from spreading deadly diseases, many of which have no cure or vaccine.

Part of the problem with controlling these invasive mosquitoes is that they need as little as a bottle cap of water to develop. They tend to lay their eggs in or around people's homes, areas which are difficult for mosquito control professionals to inspect and treat. They are also becoming resistant to commonly used insecticides which makes control efforts even more challenging.

In addition, climate change has magnified the risks of invasive species and *Aedes* mosquitoes can now withstand temperate California winters, remaining a threat year after year. Excessive rainfall and prolific wildfires have also created attractive habitats for mosquitoes to develop.

Part of the problem with controlling these invasive mosquitoes is that they need as little as a bottle cap of water to develop.

It's clear that relying on traditional mosquito control methods to control invasive mosquitoes is not enough. As we face new challenges we must stay ahead of the curve and ensure that mosquito control districts have as many tools as possible to protect public health.

Fortunately, there are innovative technologies available, but some are awaiting approval for pilot projects in California. Having the ability to study their effectiveness is a critical part in enabling mosquito professionals to make science-based and data driven decisions. As such, the Mosquito and Vector Control Association of California urges DPR to follow the science and approve research necessary to give mosquito control districts additional tools to protect public health and safety.

We cannot afford to wait any longer. As the pandemic taught us, protecting public health relies heavily on adequate preparation before it is too late to prevent the spread of deadly diseases.

Wakoli Wekesa, PhD, is president of the [Mosquito and Vector Control Association of California](https://www.mvacac.org/) (<https://www.mvacac.org/>) and District Manager of the East Side Mosquito Abatement District

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Q&A: Paul Mason, Pacific Forest Trust



February 28, 2022

The Honorable Joaquin Arambula, M.D.
Chair, Assembly Budget Subcommittee on Health and Human Services
1021 O Street, Suite 8130
Sacramento, CA 95814

Dear Chairman Arambula,

I write to respectfully request a revolving fund of \$5 million annually, allocated to the California Department of Public Health, to provide reimbursement grants to mosquito abatement districts that have incurred extraordinary costs over their typical operating budgets due to activities related to combatting the spread of invasive *Aedes* mosquitoes.

The *Aedes* species (*aegypti*, *albopictus*, and *notoscriptus*) are an invasive species to California and survive in tropical and temperate climates. They are the mosquito species that transmit Zika, dengue, chikungunya, and yellow fever. In the past ten years, climate change has magnified the risks of invasive mosquitoes and *Aedes* can now withstand temperate California winters, remaining a threat year after year. Drought and wildfires have also created more attractive habitats for mosquitoes to reproduce. Since first being detected in 2013 in the Central Valley, *Aedes* mosquitoes have spread to over three hundred towns and cities throughout California and twenty-five counties, increasing the risk of transmission of viruses that cause dengue, chikungunya, Zika, and yellow fever.

The border state of Sonora, Mexico had more than 8,000 cases with 63 people dying from dengue in 2022. While 582 Floridians acquired dengue while traveling, 32 people were infected at home because the mosquitoes that can transmit the virus are in their neighborhoods. Then even closer to California, in December 2022 in Maricopa County, Arizona, an individual tested positive for dengue they acquired from a mosquito bite locally. As part of the response to curtail spread, their county public health department will be testing residents of the area and working to find the source of the viral mosquito. These enhanced activities, performed by local public health and mosquito control districts, will have heavy impacts on those budgets, and without additional response, the spread of disease will have significant health and economic impacts.

Treating invasive *Aedes* is costly and labor-intensive. In a survey of MVCAC districts with *Aedes* activity, some members are spending nearly a half million dollars to control the spread. Districts, with their partners in local health departments, have increased their

work to investigate suspected and confirmed cases of people returning to California with dengue, chikungunya, and Zika. Few districts have the ability to augment their operational budgets to compensate for this increase in materials and workload, and many foresee situations where they must treat areas not covered by a mosquito abatement district.

As such, I am respectfully requesting \$5 million annually to CDPH to allow mosquito abatement districts to draw from should they incur significantly higher costs due to combatting invasive *Aedes*. Thank you for your consideration.

Sincerely,

A handwritten signature in black ink that reads "Jim Wood". The signature is written in a cursive style with a long horizontal flourish at the end.

JIM WOOD
Assemblymember

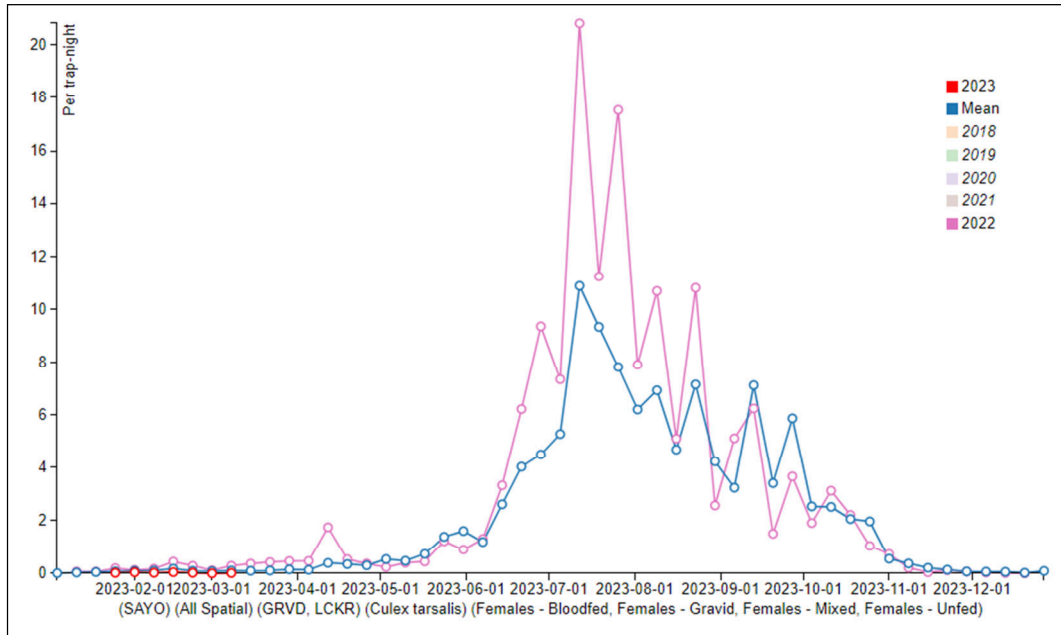
LABORATORY Monthly Report March 2023 Board Meeting

Insectary:

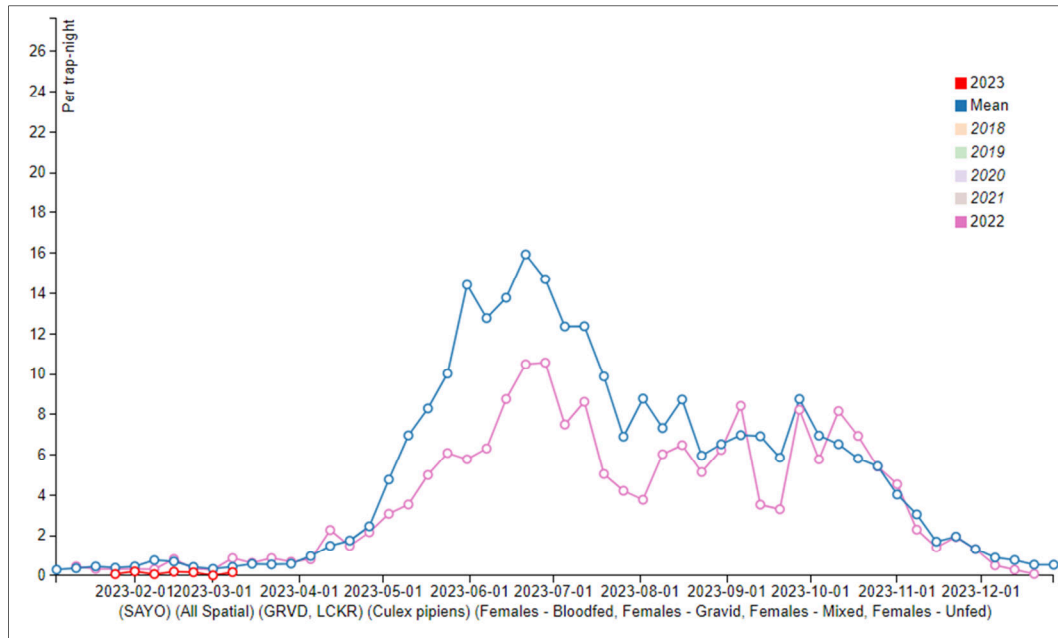
Species	Name	Origin	Resistance Status
<i>Culex tarsalis</i>	KNWR	Kern National Wildlife Refuge (2009)	susceptible
<i>Culex quinquefasciatus</i>	CQ1	Merced, CA (1950s)	susceptible
<i>Culex pipiens</i>	WCP	Woodland, CA (2017)	resistant: pyrethrins/pyrethroids, methoprene, and spinosad
<i>Culex tarsalis</i>	VFCT	Vic Fazio Yolo Wildlife Area (2020)	resistant: pyrethrins/pyrethroids
<i>Culex pipiens</i>		Elk Grove (2022)	status under investigation
<i>Aedes sierrensis</i>		Sonoma County (2016)	susceptible

2023 Surveillance update through 3/9/2023

Weekly mosquito collections – The following graphs show overall *Culex tarsalis* and *Culex pipiens* abundance from gravid traps and locker traps placed in permanent locations throughout Sacramento and Yolo Counties. Trap counts are currently very low.



Weekly *Culex tarsalis* abundance traps in locker and gravid traps



Weekly *Culex pipiens* abundance

Encephalitis virus surveillance (EVS) – This program has concluded for the season and will resume in May 2023

West Nile virus (WNV) testing – Testing will resume in May 2023

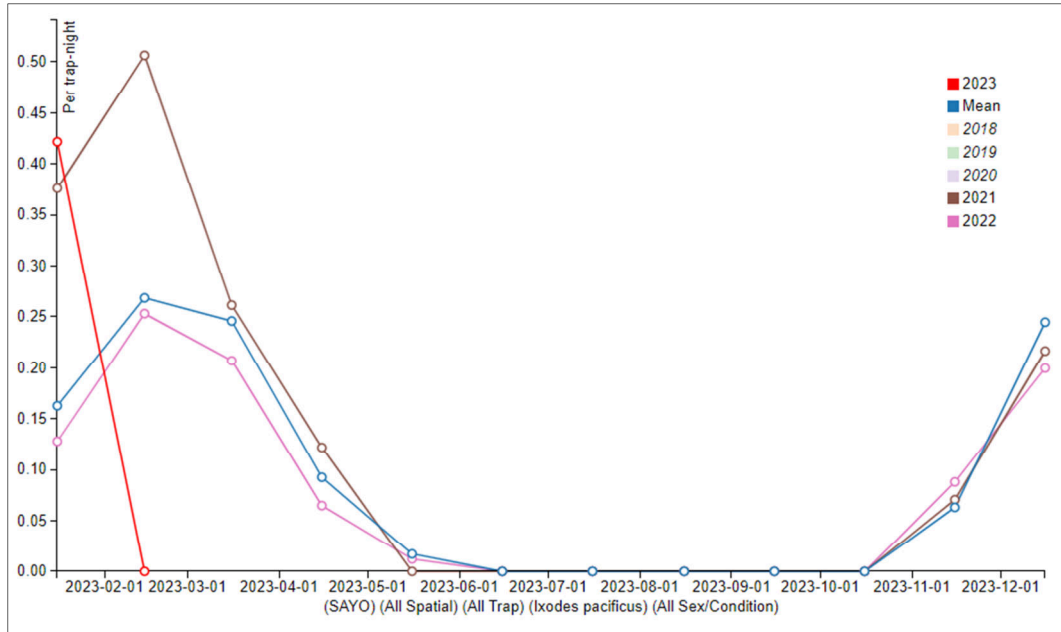
Dead birds – The dead bird program will resume in April 2023

Sentinel chickens – The sentinel chicken program is completed for the year and will resume in April 2023.

Rice Surveillance – Counter traps have been collected from the rice fields. Surveillance will resume in May 2023.

Human disease response surveillance – No new human cases were reported to the District.

Tick surveillance – During January 2023, 19 of the 20 permanent tick sites were visited and flagged for ticks. Cache Creek was not accessible due to construction. *Ixodes pacificus* were collected from 16 sites, and 5 sites had pools that tested positive for *Borrelia burgdorferi*, the causative agent of Lyme diseases. Below is a graph showing *Ixodes pacificus* abundance across all sites over time and a table describing detections of *Borrelia burgdorferi*. January capture rates of *Ixodes pacificus* were higher than the five-year mean, but similar to rates observed in 2021. February collection results were not completed in time for inclusion in this update.



Total number of *Ixodes pacificus* collected across all sampling locations; February collection and testing is not included; Tick flagging is not performed June – October.

2022-2023 Season – Detections of *Borrelia burgdorferi*

Year	Month	Location	<i>Ixodes pacificus</i> pools positive for <i>Borrelia burgdorferi</i>		
			Total Collected	Total pools	Positive pools
2022	November	Snipes Pershing	6	2	1
		Willow Creek	10	2	1
		Sacramento Bar	15	3	1
2022	December	East Lake Natoma	65	13	3
		Willow Creek	4	1	1
		Black Miner's Bar	29	6	1
2023	January	Willow Creek	42	9	5
		Willow Creek - Humbug	5	2	1
		Mississippi Bar	19	4	1
		Lower Sunrise	7	2	1
		Upper Sunrise	24	5	1

Aedes aegypti trapping effort in Sacramento and Yolo Counties – Surveillance for invasive *Aedes* will resume in April.

The California Arbovirus Surveillance Bulletin updates will resume in May.

ECOLOGICAL MANAGEMENT DEPARTMENT

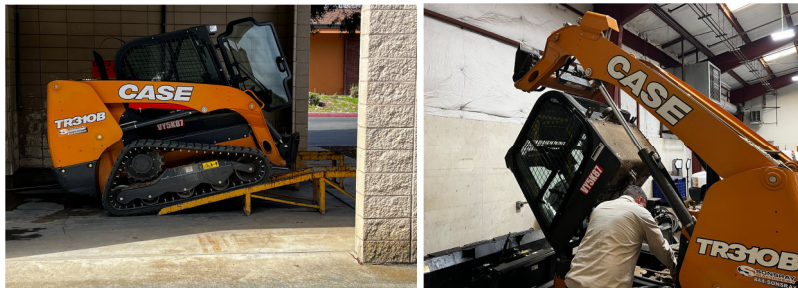
Monthly Report for the March 2023 Board Meeting

General

Staff began training on current departmental functions and evaluating existing programs. Staff assisted the North Sacramento staff with the Pool Program mailer process, which mailed out approximately 361 mailers in Zone 27 which includes, but is not limited to; western Citrus Heights, Carmichael, North Highlands, Arden, etc. Staff continues to assess and make modifications to the current Best Management Projects (BMP) projects for the upcoming season due to environmental factors and flooding during weather events.

Eco Projects

Technicians have completed all of their annual Vector Solutions assigned training and continuing education webinars for their California Department of Public Health Vector Control Certifications (A,B, C, D). Technicians conducted preventive maintenance on the department's heavy equipment and implements prior to the upcoming season. The Ecological Department is evaluating the current mowing and mosquito source access projects that will begin as soon as the rainy season subsides and unpaved roads become drivable allowing the dispatch of equipment to the sites.



Planning Program

Staff reviewed a total of 8 planning documents that were submitted to the District. The majority of the documents reviewed did not have any substantial impacts to mosquito control activities.. Staff is currently participating during the comment period on two planned projects that may have impacts to mosquito control activities. Comments will include suggested BMP improvements for the site plans.

- Mariposa Subdivision (City of Citrus Heights)
- Edgewater at Delta Shores (City of Sacramento)

BIOLOGICAL CONTROL
Monthly Report for the March 2023 Board Meeting

In the month of February the Fisheries Department has been restocking supplies and preparing for the busy mosquito season. This winter has been marked by many storms and inconsistencies in weather. As a result, we have been repairing and replacing netting and fencing as needed, along with pumping down ponds to maintain water levels. We have also fertilized most ponds to maintain health and turbidity due to the extra water the ponds have received. With most annual training and continuing education completed the focus will shift to preparing for the moving of fish from our predatory exclusion ponds to our open grow out ponds. The grow out pond stocking process will begin when pond temperatures stabilize near 55 + degrees fahrenheit. Daily activities such as tank cleaning were also performed to maintain the high quality of our fish population. Fisheries have about 40 lbs of fish on hand available for Field Tech use as Service Request and Pool Program appointments continue to come in.

Log of Treatment Applied for February

<u>Material</u>	<u>AMT</u>	<u>Area Treated</u>	<u>Treatments</u>
Mosquitofish (<i>Gambusia affinis</i>)	.25 lbs	2.5 Acres	1
Guppies (<i>Poecilia reticulata</i>)	On hold until weather conditions warm up.		

Log of Treatment Applied for the year 2023

<u>Material</u>	<u>AMT</u>	<u>Area Treated</u>	<u>Treatments</u>
Mosquitofish	4.36 lbs	12.114 Acres	38

Fisheries Budget

<u>Total</u>	<u>Spent</u>	<u>Remaining</u>	<u>% Spent</u>
36,000	14,321.15	21,678.85	40%



CONTROL OPERATIONS

Monthly Report for March 2023 Board Meeting

Culex and West Nile Virus (WNV) Control

As winter weather continues, trap repair and maintenance continues as the lab prepares for the upcoming season. There is no WNV testing currently being performed. Weekly traps are still being utilized to monitor adult mosquito numbers in areas throughout the District. North Sacramento crews started treating some treeholes, while both Sacramento crews were able to look at some spring sources, and conduct treatments as necessary in between rain storms.

Annual Training and Calibration

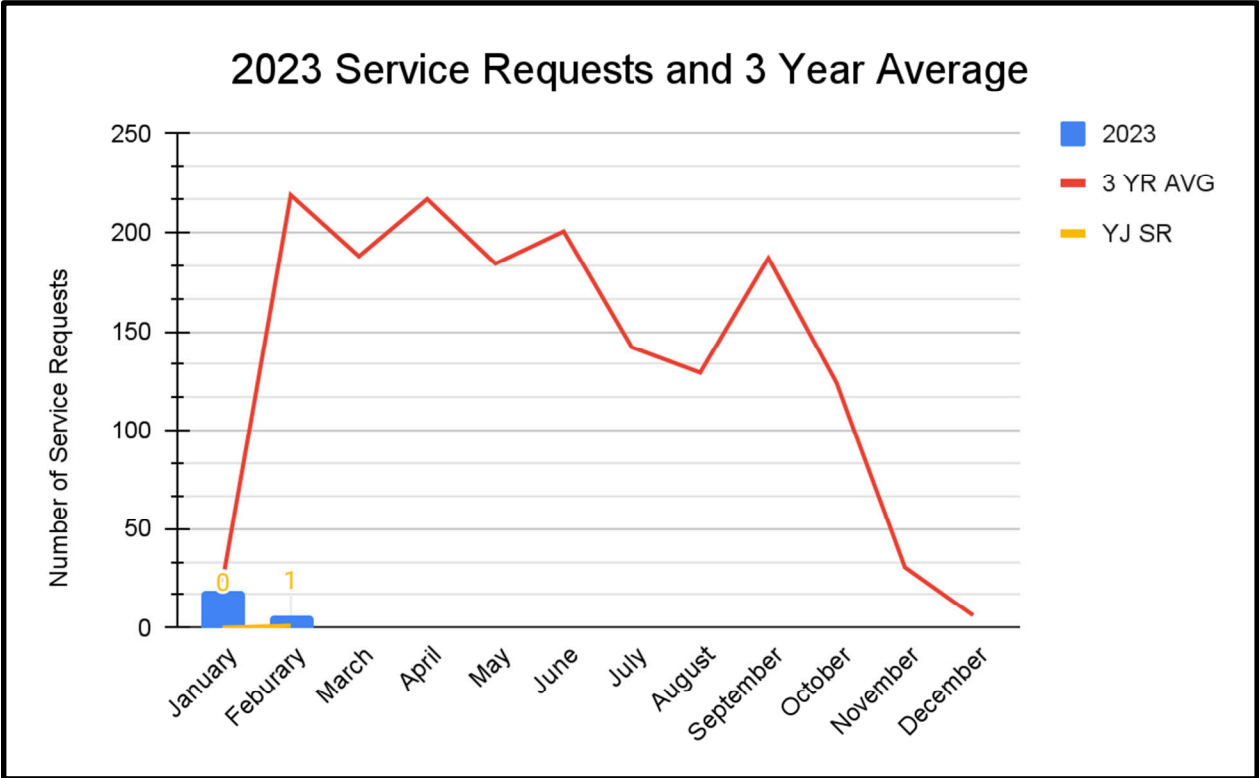
Calibration of application tools such as outboard sprayers, Maruyamas and backpack sprayers is ongoing. The District's Program Coordinator will begin calibration on ATV and truck mounted Ultra Low Volume (ULV) sprayers with droplet testing being performed soon after when weather allows. Field Technicians continue to complete the District's suite of annual training modules. Annual Pesticide training is scheduled for March 15, 2023.

Invasive Aedes Control

There were no invasive Aedes detected in any permanent trap areas in the month of February.

Winter Projects

In house projects continue around the District. Fence repairs around the boundary of the District property in Elk Grove have begun as weather allows for new fence posts to be set in concrete. Onsite storm damage cleanup and maintenance such as small tree trimming and mulch replacement are ongoing. Technicians are completing their annual truck cleaning, detailing, and getting set up for the coming season.



Larvicide Applications thru February 28 th				
Locations/Roles	2023		2022	
	Treatments	Acres	Treatments	Acres
Sacramento County	50	63	192	40.7
Sac County Aerial	0	0	0	0
Sac County Drone Treatments	0	0	0	0
Yolo County	0	0	0	0
Yolo County Aerial	0	0	0	0
Yolo County Drone Treatments	0	0	0	0
CB Treated	2	--	0	--
CB Inspected -not treated	0	--	0	--

Aerial Adulthood Summary thru February 28th

<u>County</u>	<u>2023</u>		<u>2022</u>	
	<u># Applications</u>	<u>Acres</u>	<u># Applications</u>	<u>Acres</u>
Sacramento Ag	0	0	0	0
Sacramento Urban	0	0	0	0
Yolo Ag	0	0	0	0
Yolo Urban	0	0	0	0

Totals

Adulthood Summary through February 28, 2023 compared to: 2022

Acres used = 0 0 0

At this time there have been no aerial adulthood flights performed in 2023

**PUBLIC INFORMATION AND EDUCATION
Monthly Report for March Board Meeting**

Advertising

Planning for the 2023 advertising and media buy has begun. Upon approval of the advertising budget we have moved forward along with our media consultant Benjamin/Luken who is working on a media strategy and a draft advertising plan. Currently we are evaluating demographic information as well as reviewing ratings and pricing for the various radio and television stations so we can make informed decisions that will allow us to better reach our target audience. A plan that includes a wide mix of advertising outlets will be put together and implemented to kick off Mosquito Awareness Week in April!

Media coverage:

The Sacramento Bee reached out with a media interview request for a story about ticks and Lyme disease. While the article was short, it did discuss the increase in ticks being collected as part of our lab surveillance along the American River Parkway. It also offered information on how to prepare for a hike, performing a tick check upon returning from a hike and how to remove a tick.

Events:

The 2023 community outreach and event season is upon us! Over the past weeks we've received applications to return as sponsors for many community events. We've been gathering information and have put together the list of events where we will set up our informative and educational booth. The list of events was disseminated to staff to sign up and work each of the events. The first event of the season is the 18th Gardener's Market sponsored by the Sacramento Perennial Plant Club. This will be a great event where we'll be able to network with local plant enthusiasts and disseminate information on invasive mosquitoes.

2023 Fight the Bite Contest

The 2023 annual Fight the Bite Contest is underway! Fliers were approved by the various districts and sent out schools. The contest is being promoted on social media, at school assemblies and also by emailing past teachers who have submitted entries as well as contacting schools that consistently submit entries. Contest deadline is April 5th and some entries have already been received.

School Assemblies

The "What Bugs You" assemblies coordinated by Red Shoe Productions continue at a variety of different schools. In February, a total of 8 assemblies took place reaching approximately 2350 children.

The following assemblies are currently scheduled:

March

3/1: Herman Leimbach Elementary in Sacramento

3/3/ Greer Elementary in Sacramento

3/6 Theodore Judah Elementary, Folsom

3/31 Allison Elementary, North Highlands

Social Media

Our social media campaign continues and a lot of the content shared recently is about tick prevention. The Sacramento Bee article about ticks was shared on social media along with other tick related articles from other sources. Social media posts are currently promoting the Fight the Bite contest and reminding people to inspect their yard after the recent storms.

Presentations:

A presentation was given to a group of 20 home schooled children and their parents. The presentation was held at the Elk Grove library. In addition to the presentation we set up stations where children looked at a variety of mosquito specimens, ticks and other fun insects under a microscope.

Government affairs:

As part of our government affairs and outreach to local elected officials, we have been reaching out to all city councils to set up our annual update and presentation given by Gary Goodman.

Annual Report

The 2022 Annual Report has been completed and printed copies will be available soon.

Sacramento-Yolo Mosquito and Vector Control District

March 23, 2023 Board Meeting

4. Board Review and Consideration of an Amendment to the Leading Edge Contract for Aerial Larviciding Services by UAS

Staff Report:

The District has been working with Leading Edge for larviciding applications by UAS (unmanned aerial system) for the last seven years. Leading Edge treated just under 5000 acres by UAS for the District in 2022 in a fraction of the time it would have taken ground crews to do so and also freeing staff time to perform other inspections and treatments. Additionally, Leading Edge is capable of treating areas that the District's current agricultural aerial applicator is unable to fly over due to FAA limitations.

Leading Edge has not increased their cost to the District over the past 7 years. They have recently reevaluated their costs and are proposing an increase to their fee structure based on an increase to their business expenses. They are proposing an increase from \$18.00/acre to \$19.78 per acre. The amendment would cover us up through the 2028 mosquito season and would also incorporate an annual price review for potential increases of 0-4% based on negotiations with the Manager. A copy of the current proposal is included along with the proposed amendment.

Recommendation:

Authorize the General Manager to sign the amendment to the contract with Leading Edge for UAS Services.

AERIAL PESTICIDE APPLICATION AGREEMENT

In consideration of the mutual obligations set forth herein, Sacramento-Yolo Mosquito & Vector Control District (DISTRICT) and Leading Edge Aerial Technologies, Inc., a Florida corporation (CONTRACTOR), agree as follows:

1. CONTRACTOR shall perform the aerial application of pesticides using FAA Registered Unmanned Aerial Systems (UAS) owned and operated by CONTRACTOR and render other related services described in the attached Appendix A. The type and location of pesticides to be applied and the general time of the pesticide application will be determined by DISTRICT and DISTRICT will supply the pesticide material to CONTRACTOR. CONTRACTOR shall provide all labor, services, equipment, tools, material and supplies required or necessary to properly, competently and completely perform the services under this Agreement. CONTRACTOR shall determine the method, details and means of doing the work consistent with the location and instructions provided by DISTRICT.

2. This Agreement shall be effective on April 15, 2023 and continue until December 31, 2025, with two renewable years after December 31, 2025, unless sooner terminated by either party by giving written notice of termination to the other party at least 30 days prior to termination. Such notice shall be sent to:

If notice to DISTRICT:

Sacramento-Yolo Mosquito and Vector Control District
8631 Bond Road
Elk Grove, CA 95624

If notice to CONTRACTOR:

Leading Edge Aerial Technologies, Inc.
3310 E. Locanda Circle
New Smyrna Beach, Florida 32168

Upon termination, CONTRACTOR shall be fairly compensated for all work performed to the date of termination as calculated by DISTRICT based on the fee and payment provisions below. Such compensation will not include any termination-related expenses, cancellation or demobilization charges, or lost expected or anticipated profit. The parties also may agree in writing to extend the term of this Agreement.

3. CONTRACTOR agrees to utilize UAS pilots maintaining valid FAA remote pilot certificates or more advanced pilot certificates. The certificates and licenses required to perform the services under this Agreement are more particularly described in Appendix A.

4. CONTRACTOR agrees to file with the appropriate agencies within the County where the work is to be performed and maintain all certifications or licenses necessary for the permission to perform UAS aerial application.

5. CONTRACTOR must possess the proper FAA waiver for any UAS weighing 55 pounds or more
6. CONTRACTOR must possess a FAA Part 137 Certificate
7. After delivery of the pesticide material by DISTRICT to CONTRACTOR, the application, handling and storage of pesticides by CONTRACTOR shall be in strict conformity with all applicable federal, state and local laws, regulations, and requirements and including the requirements and limitations of the applicable pesticide label and Material Safety Data Sheet. CONTRACTOR shall at all times be properly licensed and certified by appropriate agencies for the application, handling and storage of pesticides under this Agreement and for the operation of UAS used in such application. CONTRACTOR shall provide the appropriate County with monthly pesticide reports in a timely manner. In accordance with California Code of Regulations title 13, section 2022.1, CONTRACTOR shall comply with all federal, state and local air pollution control laws and regulations applicable to the CONTRACTOR and its work.
8. The locations and timing of the application of pesticides by CONTRACTOR shall be at the discretion and direction of DISTRICT. CONTRACTOR will perform its work consistent with the directions provided by DISTRICT.
9. Pesticides to be applied shall be only those approved by the California Department of Pesticide Regulation and applied under the Cooperative Agreement between the District and the California Department of Public Health. Application shall be by aerial application in accordance with specifications, calibrations, and application rates specified by DISTRICT and the pesticide manufacturer's approved label. CONTRACTOR shall strictly adhere to the specifications and application rates, location and timing provided by DISTRICT and label. In the event that, as a result of improper application techniques or misplacement of pesticide, mosquito populations are not reduced to a level determined to be acceptable by DISTRICT, CONTRACTOR shall not be entitled to compensation for such application. Such compensation may be withheld from any funds due or to become due from DISTRICT.
10. DISTRICT'S representative may inspect and monitor all pesticide storage, handling, and application procedures used by CONTRACTOR. However, any inspection or monitoring by DISTRICT shall not affect the duties or responsibilities of CONTRACTOR as described in this Agreement.
11. CONTRACTOR shall maintain and permit DISTRICT to inspect records showing date, location, type of pesticide, quantity used, and number of acres treated on its behalf. CONTRACTOR shall provide the District with a digital map and records of each mission showing type of pesticide, quantity used and number of acres treated.
12. CONTRACTOR shall provide current written calibration records for all pesticide application equipment used on the DISTRICT'S behalf at the beginning of each application season.
13. CONTRACTOR shall be compensated for its services and expenses as provided in Appendix A of this Agreement. Each invoice submitted to DISTRICT by CONTRACTOR for

payment shall be accompanied by a copy of the applicable records, together with the exact times of application if requested by DISTRICT.

14. CONTRACTOR shall provide pesticide application, surveillance and imagery services relating to the requested applications for the entire geographical area within DISTRICT'S jurisdiction and shall cooperate and assist DISTRICT in obtaining any grants of permission necessary to permit the spraying of pesticides using UAS when requested. Application services shall be performed generally when requested by DISTRICT, weather and flying safety factors permitting.

15. CONTRACTOR's relationship to DISTRICT is that of an independent contractor. All persons hired by CONTRACTOR and performing the Work shall be CONTRACTOR's employees or agents. CONTRACTOR and its officers, employees and agents are not DISTRICT employees, and they are not entitled to DISTRICT employment salary, wages or benefits. CONTRACTOR shall pay, and DISTRICT shall not be responsible in any way for, the salary, wages, workers' compensation, unemployment insurance, disability insurance, tax withholding, and benefits to and on behalf of CONTRACTOR's employees. CONTRACTOR shall, to the fullest extent permitted by law, indemnify DISTRICT, and its officers, employees, volunteers and agents from and against any and all liability, penalties, expenses and costs resulting from any adverse determination by the federal Internal Revenue Service, California Franchise Tax Board, other federal or state agency, or court concerning CONTRACTOR's independent contractor status or employment-related liability.

16. CONTRACTOR shall keep and maintain all ledgers, books of account, invoices, vouchers, and other records and documents evidencing or relating to charges for services, expenditures and disbursements charged to DISTRICT for a minimum period of three years (or for any longer period required by law) from the date of final payment to CONTRACTOR under this Agreement. DISTRICT may inspect and audit such books and records, including source documents, to verify all charges, payments and reimbursable costs under this Agreement.

17. HOLD HARMLESS AND INDEMNITY:

CONTRACTOR agrees to indemnify, defend, protect, and hold harmless DISTRICT, and its officers, employees, volunteers and agents from and against any and all liability, losses, claims, damages, expenses, demands, and costs (including, but not limited to, attorney, expert witness and consultant fees, and litigation costs) of every nature arising out of CONTRACTOR'S performance of the services and caused by any negligent act or omission, willful misconduct or violation of law of or by CONTRACTOR or its employees, agents and subcontractors, except where caused by the active negligence, sole negligence or willful misconduct of DISTRICT or as otherwise provided or limited by law. CONTRACTOR'S obligations under this indemnification provision shall survive the termination of, or completion of services under, the contract.

18. INSURANCE REQUIREMENTS:

CONTRACTOR shall procure and maintain, at its own expense, for the duration of the contract, insurance against claims for injuries to person or damages to property which may arise from or in connection with the performance of the work hereunder by CONTRACTOR, its agents, representatives, or employees. Certified copies of such policies, including endorsements and

renewals, shall be given to DISTRICT prior to the effective date of the policies, endorsements or renewals.

A. Minimum Scope of Insurance

Coverage provided by CONTRACTOR shall include the following:

1. Automobile Liability coverage that is at least as broad as CA 00 01 covering Automobile Liability, code 1 (any auto).
2. Workers' Compensation insurance as required by the State of California and Employer's Liability insurance.
3. Aviation Liability insurance including Chemical Coverage Endorsements, on a form acceptable to DISTRICT.

B. Minimum Limits of Insurance

1. Automobile Liability: \$1,000,000 per accident for bodily injury and property damage.
2. Workers' Compensation: Benefits as per California statutory requirements.
3. Employer's Liability: \$1,000,000 per accident for bodily injury or disease.
4. Aviation Liability Insurance: \$1,000,000 per occurrence. Any Chemical Coverage sub-limits shall be at least \$1000,000/\$300,000/\$100,000 for bodily injury per person, bodily injury per accident & property damage.

C. Other Insurance Provisions

The Automobile Liability and Aviation Liability policies are to contain, or be endorsed to contain, the following provisions:

1. The DISTRICT, its officers, officials, employees, agents, and volunteers are to be named as additional insured as respects liability arising out of the operations of the CONTRACTOR including automobiles owned, leased, hired or borrowed by CONTRACTOR.
2. Each insurance policy required shall be endorsed to state that DISTRICT will be notified of any material change to the policies, and that coverage shall not be suspended, voided, canceled by either party, or reduced in coverage or in limits, except the reduction of aggregate limits by payments of claims, without thirty (30) days prior written notice by certified mail, return receipt requested, being given to DISTRICT.
3. Only to the extent required in Sections 15 (Hold Harmless and Indemnity) and Section 16.C.1 (Insurance Requirements, Other Insurance Provisions), the CONTRACTOR'S insurance coverage shall be primary insurance as respects DISTRICT, its officers, officials, employees, agents, or volunteers. Any insurance or self-insurance maintained by DISTRICT, its officers, officials,

employees, agents, or volunteers shall be excess of CONTRACTOR'S insurance and shall not contribute with it to the extent the CONTRACTOR'S policies apply.

4. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be canceled by either party, except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the DISTRICT.

5. CONTRACTOR'S insurance shall apply separately to each insured against whom a claim is made or suit is brought, except with respect to the limits of the insurer's liability.

D. Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and approved by DISTRICT. At the option of DISTRICT, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects DISTRICT, its officers, officials, employees, agents, and volunteers; or CONTRACTOR shall provide a financial guarantee satisfactory to DISTRICT guaranteeing payment of losses and related investigations, claim administration and defense expenses.

E. Acceptability of Insurers

Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII unless otherwise acceptable to DISTRICT

F. Verification of Coverage

CONTRACTOR shall furnish DISTRICT with certified copies of the insurance policies, including all endorsements and renewals. All policies and endorsements are to be received and approved by DISTRICT prior to commencement of performance under this Agreement.

G. Subcontractors

CONTRACTOR agrees not to enter into any subcontracting agreements for work contemplated under the Agreement without first obtaining the prior written approval from the DISTRICT. Any approved subcontractor must comply with the same indemnity and insurance requirements and shall be subject to the same provisions as CONTRACTOR. CONTRACTOR shall be fully responsible for the performance of any subcontractor. CONTRACTOR shall act as the single principal for all service in this contract and will specify a single point of contact representing the CONTRACTOR. Subject to the foregoing, this Agreement will bind and inure to the benefit of the successors of the parties

17. DISTRICT'S duties and responsibilities shall include the following:

A. DISTRICT shall not unreasonably request services from CONTRACTOR and shall assist, where possible, in coordinating the timing of services to be performed.

B. DISTRICT shall be responsible to pay all invoices within 30 days of receipt if the work has been satisfactorily completed and the invoice is accurately computed, properly documented and not in dispute.

C. DISTRICT shall identify, in Appendix B, the geographical areas that may be treated with pesticides, including any towns, or cities that may be exposed to the applied pesticides.

D. DISTRICT from time to time shall provide to CONTRACTOR a list of the pesticides that may be used in aerial application and their labels and Material Data Safety Sheets.

E. DISTRICT shall provide the pesticides for application at a location and time upon which DISTRICT and CONTRACTOR agree.

18. State Audit Contingency. In accordance with California Government Code section 8546.7, the parties acknowledge that this Agreement, and performance and payments under it, are subject to examination and audit by the State Auditor General for three years following final payment under the Agreement.

19. CONTRACTOR represents that it is specially trained and experienced, and possesses the skill, ability, knowledge and certification, to competently perform the work provided by this Agreement. DISTRICT has relied upon CONTRACTOR's training, experience, skill, ability, knowledge and certification as a material inducement to enter into this Agreement. All work performed by CONTRACTOR shall be in accordance with applicable legal requirements and meet the standard of care and quality ordinarily to be expected of competent professionals in CONTRACTOR's field.

20. CONTRACTOR shall perform its work and services in compliance with all applicable federal, state and local laws and regulations. CONTRACTOR also shall possess, maintain and comply with all federal, state and local permits, licenses and certificates that may be required for it to perform the work.

21. Any waiver at any time by either party of its rights as to a breach or default of this Agreement shall not be deemed to be a waiver as to any other breach or default. No payment by DISTRICT to CONTRACTOR shall be considered or construed to be an approval or acceptance of any work or a waiver of any breach or default.

22. This Agreement will be governed by and construed in accordance with the laws of the State of California. The county and federal district court where DISTRICT's office is located shall be the venue for any state and federal court litigation concerning the enforcement or construction of this Agreement.

Signatures on the following page

SACRAMENTO-YOLO MOSQUITO
AND VECTOR CONTROL DISTRICT

LEADING EDGE AERIAL
TECHNOLOGIES, INC

By: _____

By:  *W. Reynolds*

Gary Goodman, Manager

William Reynolds, President & CEO

Date:

Date: 2/22/23

APPENDIX A

DESCRIPTION OF SERVICES AND COMPENSATION

Services

Leading Edge Aerial Technologies, Inc. (LEAT) shall provide the following services to Sacramento-Yolo Mosquito & Vector Control District (District):

- Provide contract aerial pesticide application services using UAS. These services consist of:
 - Dedicated instrument licensed pilots with more than 4,680 hours of UAS and full-scale aircraft logged flight hours;
 - FAA Part 137 Certificate;
 - FAA Part 107 pilot licenses;
 - UAS aircraft insurance;
 - Proper registration with FAA for the use of UAS for imagery, lidar and surveillance;
 - Certificate of Authorization Exemption No. 18779 Reg. Docket No. FAA-2019-0275;
 - Certified required training of staff as FAA Visual Observers (VO);
 - Two dedicated UAS systems for use under the Agreement;
 - Ability to apply liquid and granular materials;
 - The capacity to treat up to 200-300 acres per day (granular materials at 5 pounds per acre), inclusive of areas untreatable by conventional ground methods, and the ability to treat near sensitive habitats, organic crops, duck clubs, or similar habitats.
- Provide integration assistance for performing in-house imagery and surveillance functions and utilizing UAS for aerial pesticide applications.
- The specific equipment and personnel dedicated for use under the Agreement are detailed in the next page.

Compensation

The District agrees that a minimum payment (and acres) of \$79,120.00 for up to 4,000 acres (\$19.78/acre) per year is required for the term of the Agreement (April 15, 2023 through December 31, 2025) for the services set forth below. The DISTRICT can exceed the \$79,120.00 or 4,000 acres. If additional acres are required to be treated by the CONTRACTOR, the same per acre cost of \$19.78/acre would apply. This agreement is a 3-year agreement with two additional renew years, extending to 2028.

Price increase per acre per year is 0-4%, to be negotiated and agreed between the District's General Manager and Leading Edge Aerial Technologies at the end of every calendar year. In the event the CONTRACTOR stores materials, additional insurance and cost may apply

Larviciding Pricing:

The CONTRACTOR'S pricing will be based on an \$19.78.00/acre. If the acres for a single day are less than 60 acres, the per day rate will be a fixed cost of \$1,450.00

Adulticiding Pricing:

The CONTRACTOR can provide the DISTRICT UAS aerial ULV adulticiding services. The daily number of acres treated per evening or morning is up to 1,800. The per acre rate is \$1.20 per acre. At present time, the CONTRACTOR can only fly over rural/unpopulated areas. Flight times are required to be completed 30 minutes after sunset or up until light conditions prevent visual contact with the UAS. Or 30 minutes after sun-rise. Leading Edge Aerial Technologies, Inc. has submitted a waiver request for night operations. This would extend the total time and acres that could be treated.

APPENDIX B

The geographic areas to be treated with insecticides may include any area located within Sacramento or Yolo counties or a neighboring County. The majority of aerial UAS applications habitats will consist of agricultural, wildlife areas, wetlands, riparian, and other similar habitats. Towns, cities, or other populated areas will generally not be included in aerial applications; however, in the event of emergency conditions which could result in transmission of vector-borne diseases, aerial applications near populated areas may occur. The FAA authorizes LEAT the ability to perform applications near populated areas if the pilot in command deems the application safe and those not involved with the applications are protected such as in a home or near a structure that would prevent any harm.

Sacramento-Yolo Mosquito and Vector Control District

March 23, 2023 Board Meeting

5. Board Review and Consideration of Supporting the AMCA Research Foundation in the Amount of \$50,000

Staff Report:

The District has a strong history of supporting the work done by the Mosquito Research Foundation to further the study of vectors and vector borne diseases. The District's annual budget has \$75,000 allocated for research. I have included a request by the AMCA president, Kristen Healy, requesting funds to support the program.

Recommendation:

Authorize the Donation to the AMCA Research Foundation in the Amount of \$50,000



One Capitol Mall, Suite 800
Sacramento, CA 95814
Phone: (888) 626-0630
Fax: (916) 444-7462
www.mosquito.org

March 9, 2023

Gary Goodman
District Manager
Sacramento Yolo Mosquito & Vector Control District
8631 Bond Road
Elk Grove, CA 95624

Dear Mr. Goodman:

On behalf of the American Mosquito Control Association, we want to thank you for the support over the past years by the Sacramento Yolo Mosquito & Vector Control District of the AMCA Research Fund.

Thanks to donors like you, the AMCA Research Fund was able to support two grants in the 2023 cycle:

- Emily Mader, “Analysis of perceived risks and benefits of mosquito abatement and personal protection strategies”, Cornell University and the Northeast Regional Center of Excellence in Vector-Borne Diseases
- Julieanne Miranda-Bermúdez, “Infrastructure to evaluate community engagement efforts for an Integrated Vector Management Program”, Puerto Rico Vector Control Unit

The AMCA Research Fund has now kicked off the 2024 grant cycle and has begun receiving pre-proposals. We are excited to see the research opportunities that will come our way this year!

We do hope the Sacramento Yolo Mosquito & Vector Control District will continue its support of the Research Fund during the next year and request a contribution for the 2024 AMCA Research Fund cycle.

Your contribution will make a notable impact in our ability to continue funding research that will lead to new tools and strategies for mosquito surveillance and control and ultimately protecting the public from mosquito-borne disease and discomfort from mosquito bites.

Please don't hesitate to contact myself or AMCA's Executive Director, Megan MacNee at mmacnee@mosquito.org.

Thank you again for your continued support.

Best regards,

Kristen Healy
President, 2023-2024
American Mosquito Control Association