

# DELTA MOSQUITO & VECTOR CONTROL DISTRICT

Dr. Mustapha Debboun  
*General Manager*

1737 West Houston Avenue \* Visalia, California 93291  
Phone (559) 732-8606 \* (877) 732-8606 \* Fax (559)-732-7441

Crystal Grippin  
*Scientific Program Manager*

Hector Cardenas  
*Operations Program Manager*

[www.deltamvcd.org](http://www.deltamvcd.org)

Erick Arriaga  
*Community Education & Outreach Coordinator*

Mary Ellen Gomez  
*Administrative Assistant*



Paul Harlien  
*Foreman*

Rick Alvarez  
*Vector Control Supervisor*

Bryan Ruiz  
*Supervisor Assistant*

## REPORT OF THE MANAGER SEPTEMBER 2022

### I. Water and Weather

The temperature remained high throughout the month of September. The Delta Mosquito and Vector Control District (DMVCD) Weather Station reported an average high temperature of 94.7°F with an average low of 66.6°F and 0.0 inches of rainfall. The National Oceanic and Atmospheric Administration 1981-2010 seasonal averages for high and low temperatures in September were 88.3°F and 60.1°F respectively, with average rainfall of 0.07 inches.

Water storage at Pine Flat Reservoir increased to 149,473 acre-feet by the end of September. By September 30, 2022, Pine Flat Reservoir's water inflow had decreased to 792 cubic feet per second (CFS) while its release continued to decrease to 234 CFS. The Lake Kaweah Reservoir had less water than the previous month with 11,654 acre-feet on September 30, 2022. Lake Kaweah's inflow decreased to 13 CFS and its release dropped to 47 CFS.

### II. Narrative

Field operations received 113 service requests in September which consisted of a vector control technician inspecting the reported property for any standing water that can breed mosquito larvae. During this time, the technician uses an integrated vector management strategy to reduce any mosquito breeding found. In addition, technicians use this opportunity to educate residents on mosquito breeding prevention, and how to protect themselves from mosquito bites. Field staff completed a total of 3,746 mosquito inspections throughout the District including rural and urban locations. Staff conducted 1,032 larval applications, and continued storm drain operations for September. Operations treated 10,086 storm drains in relation to streets, parks, commercial complexes, and parking lots. Storm drains are treated using a 30-day residual product (Altosid WSP), and inspections are done monthly.

Larviciding aerial treatment for the Kaweah River Rock Plant Continued with the 4th treatment occurring on September 6, 2022. During the application, 8 acres were treated with an insect growth hormone regulator, Methoprene (Altosid XRG Ultra).

Due to high mosquito counts in the rural portion of the District, we continued large *Bacillus thuringiensis israelensis* (Bti) applications to reduce the mosquito populations near dense corn crops in the northern region of Visalia. Due to high viral activity operations, 3 adult mosquito treatments were conducted on September 14, 22, and 29. The treatments were conducted on the Northwest section of Visalia covering approximately 1,328 acres.

Due to high *Aedes aegypti* abundance, the District conducted an application technique called Wide Area Larvicide System (WALS). The WALS is a technique to target *Ae. aegypti* and its cryptic breeding locations. The application technique consists of about 6-8 applications. The first WALS application was conducted on June 28, 2022, in 6 locations. The District completed all 48 applications with the last application ending on September 15, 2022. The WALS Program treated a total of 2,400 acres.

Due to the 1997 Chevrolet Silverado truck's extreme old age of 25 years, high mileage of 169,626 miles, and the need of extensive repair to the transmission, the vehicle was sent to auction on Govdeals.com which is a liquidity service marketplace. On September 15 for an 8-day auction ending on September 23. The vehicle was sold for \$2,350.00 to a public member from Kingsburg, California.

On 9/28/2022, The Operations Staff, conducted our third drone operation this mosquito season at the Woodlake rock plant. Staff completed a granule application covering 6 acres.

(Image of aerial application on 9/28/2022)



Routine mosquito surveillance continued throughout September. A total of 46,818 mosquitoes were collected across 1,487 trap nights. The District-wide average of 31.5 mosquitoes per trap night for September is 15.8% higher than the previous 5-year average of 27.2 but 37.1% lower than the 2021 average of 20.8 mosquitoes per trap night. The top 3 mosquito species trapped in September were *Culex quinquefasciatus* at 76.8% of total abundance, followed by *Ae. aegypti* at 19.2% and *Cx. tarsalis* at 2.6%. Compared to September of 2021, the top three mosquito species caught were *Cx. quinquefasciatus* at 86.0%, followed by *Ae. aegypti* at 7.9% and *Cx. tarsalis* at 3.2% of mosquito total abundance.

Mosquito-borne disease testing for West Nile virus (WNV), St. Louis Encephalitis virus (SLEV), and Western Equine Encephalitis virus (WEEV) continued in September. The DMVCD tested 818 of the 889 mosquito samples collected in September, with 183 mosquito samples positive for WNV and 5 samples positive for SLEV. Test results are pending for the remaining samples. In September 2021, 1,136 mosquito samples and 1 dead bird were collected with 109 mosquito samples positive for WNV and 4 for SLEV. So far in 2022, a total of 955 mosquito samples have tested positive for WNV and 5 for SLEV out of 3,955 samples tested. At this time last year, 275 mosquito samples tested positive for WNV and 4 for SLEV out of 2,778 mosquito samples collected.

There were 7 technician and homeowner mosquitofish requests in September to distribute a total of 212 mosquitofish. In September 2021, there were 14 technician and homeowner mosquitofish requests to distribute a total of 297 mosquitofish. Approximately 1,305 mosquitofish fry were produced in September 2022. In September 2021, 737 fry were produced. The outdoor mosquitofish holding tanks were restocked with plenty of mosquitofish.

A total of 91 mosquito larvae samples were brought to the laboratory for species identification and resistance testing. Susceptible *Cx. quinquefasciatus*, *Cx. tarsalis*, and *Ae. aegypti* colonies were maintained for insecticide resistance testing.

In September 2022, DMVCD attended 5 outreach events, 3 of them were the last games of the Visalia Rawhide Baseball season. The engagement with the residents at the events was very high, most had many questions on mosquito-bite and mosquito-breeding prevention tips.

The At-a-Glance infographic has been updated with final statistics and printed for the 100-year Anniversary Celebration event. A short history has been posted on the Tulare Historical Society's website, and a more detailed history will be published in its December issue of the newsletter. All signage was created, printed, and delivered a week before the event. The signs will be posted at each station to inform the visitors about what is displayed, in case they aren't able to speak with an employee. All the giveaway items have been delivered, i.e., coasters, pens, Koozies and drawstring bags, where each station will have one of these items.

The full-time staff has received two new polo shirts with the updated logo to be used during the event, the shirts were done locally by Smith Promotions, who matched an

online price. Technicians were given a postcard sized invitation to give out to residents when each inspection was completed.

Timeline for the 100-year Anniversary Celebration.

7:00 am - Begin moving all District vehicles to the nearby school parking lot. The van will shuttle drivers back and forth.

Vehicles that will stay are: Argo with Boss, 3 jeeps, side by side, Polaris, Old oil truck, the newest super duty, adulticide, drone trailer and outreach van.

7:30 am - Set up canopies for each station (Laboratory, Operations, and Outreach). Lab will have Crystal at the traps, Andrea in the Lab, Javier with insectary displays in the garage, Mark in the fish hatchery.

Operations will have Rick, Paul, and Mario with the vehicles and the booth with other equipment. The drone trailer will be in front of the wash bay.

Outreach Booth: Erick will set up in front of the north auto shop bay door next to the Oxitec booth.

Food and seating: Bryan and Rebecca will be in the first garage bay cooking.

Mary-Ellen will be in the large canopy at the welcome table.

8:30am - Staff Breakfast

9:00am - Food setup

10:00am - Start event, staff is in position.

10:30am - Facility tours will begin and run every 30 minutes.

2:00pm - Close the gate after the last guest has left.

2:00pm - Cleanup and shuttle drivers to pick-up District vehicles from the school lot.

2:30pm - Rental equipment will be picked up.

**There were 113 service requests in September:**

**2022 Service Request Summary**

<b>2022</b>	<b>Fish</b>	<b>Inspection</b>	<b>Mosquito</b>	<b>Source</b>	<b>Other</b>	<b>Total</b>
<b>January</b>	0	0	0	5	0	<b>5</b>
<b>February</b>	2	0	7	7	0	<b>16</b>
<b>March</b>	4	0	7	14	0	<b>25</b>
<b>April</b>	12	0	10	17	0	<b>39</b>
<b>May</b>	15	6	9	23	0	<b>53</b>
<b>June</b>	15	43	28	36	0	<b>122</b>
<b>July</b>	9	29	86	24	1	<b>149</b>
<b>August</b>	9	17	153	48	0	<b>227</b>
<b>September</b>	5	21	63	22	2	<b>113</b>
<b>Total</b>	<b>62</b>	<b>99</b>	<b>210</b>	<b>148</b>	<b>3</b>	<b>522</b>

**III. Vector and Disease Surveillance**

**Delta MVCD Summaries**

Humans: There was 1 probable human case of an WNV reported by the Tulare local public health department in September.

Birds: No dead birds were tested in September. In 2022, 2 dead birds tested positive for WNV out of the 8 dead birds tested so far.

Mosquitoes: In September, 183 mosquito samples were positive for WNV out of the 818 samples tested so far. Test results are pending for the remaining 52 samples collected in September. So far in 2022, a total of 3,137 mosquito samples have been tested with 615 samples positive for WNV.

**State Surveillance:**

Humans: 81 human cases of WNV from 16 counties and 6 SLEV human cases from 4 counties have been reported so far 2022.

Birds: 166 dead birds from 22 counties have tested positive for WNV. So far, 1,125 dead birds have been tested in 2022.

Mosquitoes: 2,925 mosquito samples have tested positive for WNV out of 34,191 samples tested in 2022. Additionally, 131 mosquito samples have tested positive for SLEV out of 30,785 mosquito samples tested in 2022.

**IV. Expenditures & Revenues – 2022/23**

TOTAL BUDGET \$4,833,308.73

EXPENDITURES – July 1, 2022 – September 30, 2022

Salaries	\$1,029,521.02
Services & Supplies	\$338,634.05
Tax Admin Fee	\$0.00
Capital	\$59,962.84
Long Term Debt	\$0.00
<b>TOTAL EXPENDITURES</b>	<b>\$1,425,117.91</b>

REVENUE RECEIVED – July 1, 2022 – September 30, 2022

July	\$1,120.28
August	\$0.00
September	\$0.00
<b>TOTAL REVENUE TO DATE</b>	<b>\$1,120.28</b>

**V. Time Sheet Summary**

<b>Month</b>	<b>Available Work Hrs</b>	<b>Sick Hrs Used</b>	<b>Total Hrs Available for Work</b>	<b>Pct. Of Hrs Avail for Work</b>
<b>July</b>	<b>5,880</b>	<b>20.5</b>	<b>5,859.5</b>	<b>99.65</b>
<b>August</b>	<b>6,440</b>	<b>39.5</b>	<b>6,400.5</b>	<b>99.38</b>
<b>September</b>	<b>5,456</b>	<b>48.25</b>	<b>5,407.75</b>	<b>99.12</b>

The District has a vacation policy that requires 24-hour notice in order to ensure the operational integrity of the workforce. Sick leave for doctor, dentist and/ or family medical necessity also requires advance notice- in so much as it is possible. Illness is unplanned and therefore unscheduled. Attendance records for the current year are shown in the table.

***\*September expenditures and revenue not available as of 10/07/2022***