

DELTA MOSQUITO & VECTOR CONTROL DISTRICT

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REPORT OF THE MANAGER

August 2023

I. Water and Weather

The weather was hot throughout most of August. The Delta Mosquito and Vector Control District (DMVCD) Weather Station reported an average high temperature of 96.3°F with an average low of 68.8°F and 0.84 inches of rainfall as of 8/29/23. The National Oceanic and Atmospheric Administration 1981-2010 seasonal averages for high and low temperatures in August were 93.2°F and 64.9°F respectively, with average rainfall of 0 inches.

Water storage at Pine Flat Reservoir decreased to 839,897 acre-feet as of 8/29/2023. Pine Flat Reservoir's water inflow decreased to 2,577 cubic feet per second (CFS) while its release decreased to 5,131 CFS. The Lake Kaweah Reservoir storage decreased to 94,851 acre-feet. Lake Kaweah's inflow also decreased to 499 CFS and its release decreased to 1,579 CFS as of 8/29/2023.

II. Narrative

Field operations received 142 service requests in August which consisted of a Vector Control Technician inspecting the reported property for any standing water that mosquito larvae could breed in. During this time, the technician used 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.

We conducted Ultra Low Volume (ULV) fogging in the high trap and West Nile virus (WNV) positive areas along with the Wide Area Larvicide System (WALS) treatments early in the morning from 2:00 AM to 5:30 AM. We will continue treating throughout the District as needed.

Dr. Debboun and Paul Harlien, our Operations Program Manager attended a meeting with the Tulare County Health Emergency Committee (TCHEC) on August 16, 2023, taskforce where we received updates from the Tulare County Health Officer, California Office of Emergency Services (Cal OES), Epidemiology, Mosquito Abatement and Vector Control Districts, etc... and were given several pallets of medical gloves by the TCHEC which we shared with Kings Mosquito Abatement District, Consolidated Mosquito Abatement District, and Fresno Westside Mosquito Abatement District.

We conducted four drone treatments in August, i.e., one at the Rock Plant in Woodlake and the other three in corn fields north of Visalia. One of our Vector Control Technicians, Alysia Davis passed the 107 Drone certification license and is now studying and preparing to take the California Department of Pesticide Regulation (DPR) Unmanned Aircraft Vector Control Technician License.

With the consistent work of the Administrative Office and EMD networking services, our **.org** e-mail address has been completely transformed to **deltamvcd.gov**. We continued checking the In2Care Mosquito Traps to help control the invasive Yellow Fever mosquito, *Aedes aegypti*. The traps are checked and serviced every two weeks. We observed over 90% of traps with all stages of mosquito larvae in the first 30 days with plenty of dead larvae in the In2Care Mosquito Traps as seen in Figure 1. We will continue to evaluate all 100 traps that have been set throughout the District for the next two months until the end of October 2023.



Figure 1. Examples of dead mosquito larvae in the In2Care Mosquito Traps.

We have been using the following utility terrain vehicles: amphibious extreme terrain vehicle known as Argos, all-terrain vehicle known as Quad or four-wheeler all-terrain vehicle, Side by Side all-terrain utility vehicle, and truck mounted A-1 Mist blowers more than usual this season due to the large amount of water in the District. Bryan Ferguson, our Foreman upgraded the Quad with a boomless sprayer to make it more efficient for spraying in the Kiwi Orchards with a better spray pattern and efficiency as seen in Figure 2 and it only takes one person to run the task compared to the Argo which takes two people to run.



Figure 2. Photos showing the boomless spray mounted on the Quad four-wheeler all-terrain vehicle.

We removed the old out of date and unsafe automotive vehicle lift rack from the Wash Bay area seen in Figure 3 A to replace it with a new Occupational Safety and Health Administration (OSHA) compliance safe automotive heavy-duty lift with safety locks on the lift that can handle the weight of the bigger heavier trucks as seen in Figure 3 B and C.

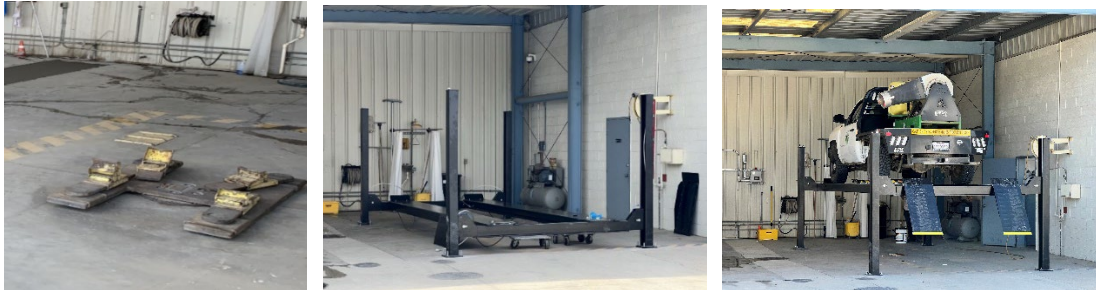


Figure 3 A-C: The old unsafe vehicle lift on the left (A) is replaced with the new OSHA safe vehicle lift shown on the right (B,C).

Routine mosquito surveillance continued through August. 47,970 mosquitoes were collected across 1,731 trap nights as of August 31, 2023. The District-wide average of 27.7 mosquitoes per trap night in August is 4.3% higher than the previous 5-year average of 26.6 and 20.8% lower than the 2022 average of 35.0 mosquitoes per trap night. The top 3 mosquito species caught in August were *Culex quinquefasciatus* at 58.2%, followed by *Aedes aegypti* at 34.1% and *Cx. stigmatosoma* at 4.0%. Compared to August of 2022, the top 3 mosquito species caught were *Cx. quinquefasciatus* at 71.7%, followed by *Ae. aegypti* at 24.2% and *Cx. tarsalis* at 2.7%.

Arbovirus testing for West Nile virus (WNV), St. Louis Encephalitis virus (SLEV), and Western equine encephalitis virus (WEEV) continued in August. Laboratory staff tested 848 mosquito samples collected in August 2023. 173 mosquito samples collected in August have tested positive for WNV, 48 for SLEV, and 25 for SLEV and WNV. Positive mosquito samples were collected from Calgro, Cutler, Delft Colony, Dinuba, Exeter, Farmersville, Goshen, Ivanhoe, Orosi, Peral, Seville, South Kings River region, Traver, Visalia, and Woodlake. Additionally, the Tulare County Public Health Department reported 3 probable human cases of WNV, two from Visalia and one from Cutler. In August 2022, there were 512 WNV positive mosquito samples out of 1,015 tested.

There were 29 technician and homeowner mosquitofish requests in August and 6,074 fish were distributed as of August 30, 2023. In August of 2022, there were 6 technician and homeowner mosquitofish requests, and 164 mosquitofish were distributed. A total of 23,027 mosquitofish fry were produced in August 2023. In August of 2022, 927 mosquitofish fry were produced.

100 mosquito larvae samples were brought to the laboratory for processing in August. In August of 2022, 52 larvae samples were collected and processed. Cleaning and reorganizing of the insectary continued in August.

Routine maintenance continued during August. Air filters were replaced on the BSL-2/3 HVAC system of the laboratory and the actuator end switch was replaced. Monthly safety checks for fire extinguishers and emergency lights were performed as well as weekly safety showers and eyewash inspections.

The laboratory tested 48 mosquito samples from Tulare Mosquito Abatement District (MAD) and 11 samples collected from Tulare by Vector Disease Control International. Kings MAD has stopped testing with the District for the year.

In August, the DMVCD participated and attended 9 outreach events: two Visalia Rawhide Baseball games, 2 Wednesday Visalia Farmers Markets, and 1 Saturday Visalia Farmers Market. We also attended the Exeter National Night Out, a Backpack giveaway event in London, and attended Farmersville and Woodlake senior centers where we provided information and answered any questions or concerns they had. We ordered two retractable banners, one in English and one in Spanish to be primarily used at indoor events where a canopy cannot be used.

There were 142 service requests in August.

2023 Service Request Summary

2023	Mosquitofish	Inspection	Mosquito	Source	Other	Total
January	0	0	5	0	0	5
February	1	0	4	0	0	5
March	3	0	7	0	1	11
April	12	0	83	0	0	95
May	25	0	122	0	0	147
June	9	0	147	0	0	156
July	10	0	130	0	0	140
August	8	0	134	0	0	142
Total	68	0	632	0	1	701

III. Vector and Disease Surveillance

Delta MVCD Summaries

Humans: 3 probable human cases of WNV have been reported so far in August.

Birds: No dead birds tested positive in August. So far, 11 dead birds have been tested with 5 positives for WNV in 2023.

Mosquitoes: 848 mosquito samples were tested in August, of which 173 were positive for WNV, 48 positives for SLEV, and 25 positives for WNV and SLEV. So far this year, 5,656 mosquito samples have been tested with 404 samples positive for WNV, 51 positives for SLEV, and 29 positives for both WNV and SLEV.

State Surveillance:

Humans: As of August 25, 2023, 55 human cases of WNV from 18 counties and 1 case of SLEV from 1 county have been reported so far in 2023. Additionally, there have been 6 asymptomatic WNV blood donors.

Birds: As of August 25, 2023, 354 dead birds from 23 counties have tested positive for WNV in August. So far, 1,237 dead birds have been tested in 2023.

Mosquitoes: As of August 25, 2023, 2,797 mosquito samples from 28 counties have tested positive for WNV. Also, 262 samples from 11 counties have tested positive for SLEV. So far, 34,886 mosquito samples have been tested for WNV and 31,510 samples for SLEV in 2023.

IV. Expenditures & Revenues – 2023/24

Total Budget \$5,068,115,26

EXPENDITURES – July 1, 2023 to August 31, 2023

Salaries	\$717,005.66
Services & Supplies	\$579,016.17
Tax Admin Fee	\$0.00
Capital	\$0.00
Long-Term Debt	\$0.00
TOTAL EXPENDITURES	\$1,296,021.83

REVENUE RECEIVED - July 1, 2023– August 31, 2023

July	\$0.00
August	Unavailable
TOTAL REVENUE TO DATE	Unavailable

V. Timesheet Summary

Month	Available Work Hrs	Sick Hrs Used	Total Hrs Avail. For Work	Pct. Of Hrs Avail for Work
July	6,048	129	5,919	97.86
August	6,440	320.4	6,119.60	95.02

The District has a vacation policy that requires 24-hour notice 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.

** August expenditures and revenue are not available as of 9/8/2023*