

DELTA MOSQUITO & VECTOR CONTROL DISTRICT

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REPORT OF THE MANAGER NOVEMBER 2023

I. Water and Weather

The Delta Mosquito and Vector Control District (DMVCD) Weather Station reported an average elevated temperature of 70.6°F with an average low of 43.2°F and 0.32 inches of rainfall as of November 30, 2023. The National Oceanic and Atmospheric Administration 1991-2020 seasonal averages for high and low temperatures in November were 64.4°F and 43.3°F respectively, with average rainfall of 0.99 inches.

Water storage at Pine Flat Reservoir decreased to 573,162 acres (about the area of Yosemite National Park)-feet as of December 1, 2023. Pine Flat Reservoir's water inflow rate is 477 cubic feet (about half the volume of a large U-Haul truck) per second (CFS) while its release decreased to 358 CFS. The Lake Kaweah Reservoir storage increased to 23,760 acres (about the area of Manhattan)-feet. Lake Kaweah's inflow also increased to 535 CFS and its release increased to 552 CFS as of December 2, 2023.

II. Narrative

Field operations received 9 mosquito service requests in November. The service request inspection 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 used this opportunity to educate residents on mosquito-breeding prevention and how to protect themselves from mosquito bites and mosquito-borne diseases.

Operations

The vehicle and equipment shop staff worked hard to complete all the smog repairs for the vehicles that needed to have an annual smog inspection for the year 2022-2023 cycle.

We have had the re-cabling project from EMD on-going all of November and will be done by the end of December. We have finished receiving all the bids for the GPS Cameras and Solar System and will be presenting them to the Board of Trustees (BOT) during the BOT December Meeting. After the Boards of Trustees approval decision of the Solar System bid, we will apply for the Energy Conservation Assistance Act Low-Interest Loan Program of 1% interest.

A newly enforced front fence and a new gate with a rod iron fence were installed in late November and completed on December 8, 2023 (Figure1). We will also be replacing the front landscaping and adding some concrete to park the trailers on it.



Figure 1a. View of old fence and shrubs.



Figure 1b. View of the new fence



Figure 2a. View of the old rolling gate.

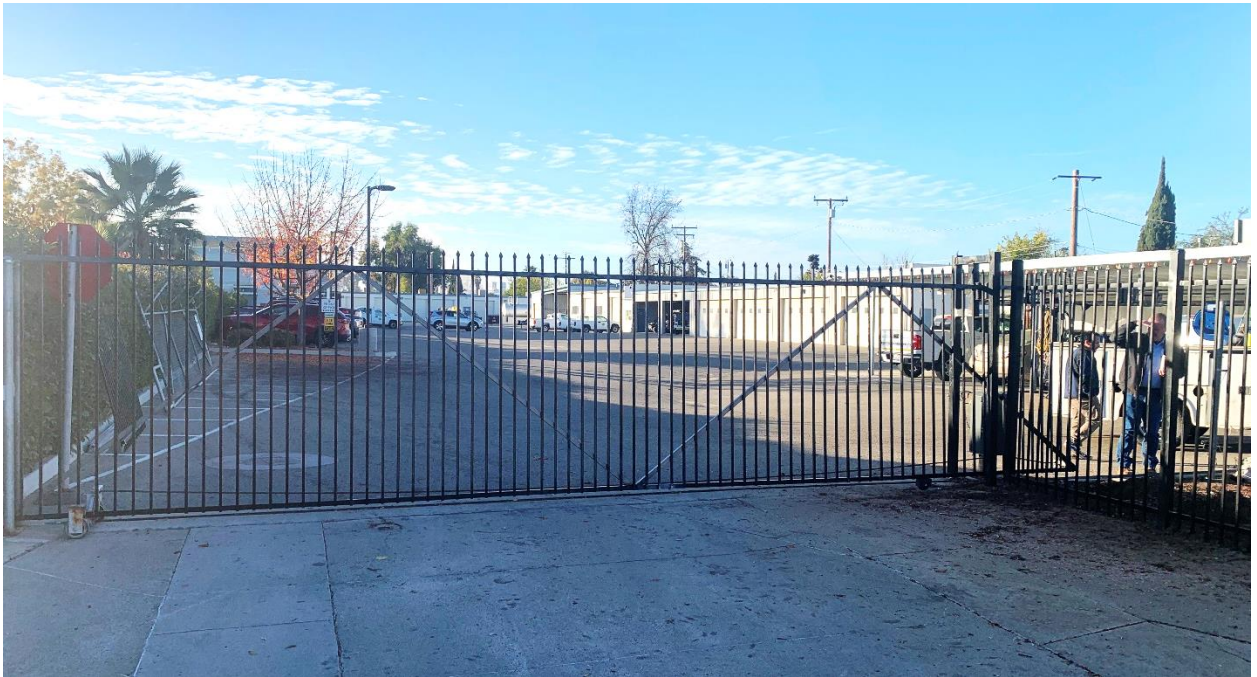


Figure 2b. View of the new rod-iron rolling gate.

Dr. Debboun and the Operations Program Manager, Paul Harlien met with Senator Melissa Hurtado for the open house of her new Tulare office in Tulare City on Thursday, November 30, 2023. We showed the Senator some of the outreach materials we usually present to the public and the community education and outreach van.

In November, the DMVCD participated and attended 4 community and education outreach events: 2 presentations at Dinuba High School, 1 at Mt Whitney High School

and a tour for the same group of students. We took part in the first of 8 science, technology, engineering, and math (STEM) events with 8 Visalia Elementary schools on Tuesday, 28 November. The district's Website transparency page was updated to show all current financial documents and Board of Trustees' information.

Our Foreman, Brian Ferguson was selected as the DMVCD Employee of the Quarter.

Routine mosquito surveillance stopped for November but started back up on December 1, 2023, due to the lack of freezing weather, and laboratory staff finding larvae at the Rock Plant in Woodlake. Mosquito traps were set pre-treatment and will be set once a week after treatment to check abundance. Traps will also be set throughout the District once a week in Goshen, Traver, Delft Colony, Dinuba, Orosi, Seville, Woodlake, Ivanhoe, Exeter, Farmersville and Visalia. As the weather changes or mosquito abundance changes, we will move traps to different areas. Laboratory staff found a mosquito species called *Culex restuans* at the Rock Plant (formerly Santa Fe Aggregates) in Woodlake. This mosquito species has not previously been found in our District. Conditions at the rock plant are currently what this mosquito species prefers, and we happened to set a trap there to catch mosquitoes for a school tour and this species was found accidentally.

Mosquito abundance for 2023 was 313,502 mosquitoes collected across 9,330 trap nights for an average of 33.6 mosquitoes per trap night for the mosquito season. The top three mosquito species caught in 2023 were *Culex quinquefasciatus* at 61.8% of total abundance, *Cx. tarsalis* at 19.3% and *Aedes aegypti* at 15.6%. In 2022, 232,127 mosquitoes were caught over 9,293 trap nights for an average of 25.0 mosquitoes per trap night. The top three mosquito species caught in 2022 were *Culex quinquefasciatus* at 77.8% of total abundance, *Aedes aegypti* at 16.3%, and *Cx. tarsalis* at 3.6%.

For 2023, a total of 473 mosquito samples tested positive for West Nile virus (WNV), 172 for St. Louis encephalitis virus (SLEV), and 47 for both WNV and SLEV out of 7,028 mosquito samples tested. For 2022, 977 mosquito samples tested positive for WNV, 6 for SLEV, and 3 for both WNV and SLEV out of 4,753 tested.

There was 1 technician request for mosquitofish in November, we distributed 200 fish and there were 0 homeowner requests. In November 2022, there was 1 homeowner mosquitofish request, and they distributed 48 mosquitofish. Approximately 3,105 mosquitofish fry were produced in November 2023, while in November of last year, approximately 3,025 fry were produced.

No mosquito larvae samples were brought to the laboratory for species identification in November 2023. Similarly, no larval samples were collected in November 2022.

There was no arbovirus testing for West Nile virus (WNV), St. Louis Encephalitis virus (SLEV), and Western equine encephalitis virus (WEEV) in November.

Laboratory staff went tick flagging at the rock plant, which is private land, and found 33 *Dermacentor occidentalis* ticks. They are also known as the Pacific Coast tick and can

spread Rocky Mountain spotted fever, Pacific Coast tick fever, tularemia, and tick-bite paralysis. These ticks will be sent into the California Department of Public Health for rickettsial testing.

Routine laboratory maintenance continued during November. Monthly safety checks for fire extinguishers and emergency lights were performed as well as weekly safety showers and eyewash inspections.

The laboratory staff tested zero mosquito samples from Tulare Mosquito Abatement District (MAD) and zero samples collected from Tulare by Vector Disease Control International in November. The laboratory Scientific Program Manager will contact Tulare MAD and Kings MAD to find out if they are interested in testing their samples at our laboratory during the 2024 mosquito season.

We hosted the California Department of Public Health (CDPH) Vector Control Technician Exam 89 for the South San Joaquin Valley Region (SSJVR) at DMVCD on November 16, 2023. The exam was taken by 45 technicians from 8 Districts, i.e., Consolidated, Delta, Fresno, Kern, Kings, Madera, South Fork, and Tulare across the SSJVR.

There were 9 service requests in November.

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
September	8	0	205	0	0	208
October	3	0	91	0	0	94
November	0	0	9	0	0	9
Total	79	0	946	0	1	1,012

III. Vector and Disease Surveillance

Delta MVCD Summaries

Humans: No new human cases reported to DMVCD in November. So far this year, there have been 3 confirmed human cases of WNV and SLEV co-infection, 1 probable WNV and SLEV co-infection, 1 confirmed WNV case, and 6 probable WNV cases.

Birds: No dead birds were tested in November; however, we did receive a dead bird from a resident which will be tested this winter. So far this season, 12 dead birds have been tested with 5 positives for WNV in 2023.

Mosquitoes: No samples were tested in November. There are some mosquito pools waiting to be tested over the winter. So far this year, 7,028 mosquito samples have been tested with 473 samples positive for WNV, 172 positives for SLEV, and 47 positives for both WNV and SLEV.

State Surveillance:

Humans: As of November 30, 2023, 343 human cases of WNV from 33 counties and 12 cases of SLEV from 6 counties have been reported so far in 2023. Additionally, there have been 22 asymptomatic WNV blood donors.

Birds: On December 1, 2023, 849 dead birds from 31 counties tested positive. So far, 1,953 dead birds have been tested in 2023.

Mosquitoes: As of November 30, 2023, 4,512 mosquito samples from 31 counties have tested positive for WNV. Also, 728 samples from 15 counties have tested positive for SLEV. So far, 52,375 mosquito samples have been tested for WNV and 47,205 samples for SLEV in 2023.

V1. Expenditures & Revenues – 2023/24

Total Budget \$5,068,115,26

EXPENDITURES – July 1, 2023, to November 30, 2023

Salaries	\$1,373,784.65
Services & Supplies	\$857,420.63
Tax Admin Fee	\$0.00
Capital	\$23,512.19
Long-Term Debt	\$58,914.03
TOTAL EXPENDITURES	\$2,313,631.50

REVENUE RECEIVED - July 1, 2023– November 30, 2023

July	\$75.00
August	\$39,702.16

September	\$31,916.62
October	\$7,591.00
November	Unavailable
TOTAL REVENUE TO DATE	\$79,284.78

IV. **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
September	5,376	150.5	5,225.50	97.2
October	4,400	265.75	4,134.25	93.9
November	2,992	178	2814	94.0

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.

** November expenditures and revenue are not available as of 12/8/2023*