

DELTA MOSQUITO & VECTOR CONTROL DISTRICT

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REPORT OF THE MANAGER APRIL 2022

I. Water and Weather

The temperature increased throughout the month of April. The Delta Mosquito and Vector Control District (DMVCD) Weather Station reported an average high temperature of 76.6°F with an average low of 49.9°F and 0.17 inches of rainfall. The National Oceanic and Atmospheric Administration 1981-2010 seasonal averages for high and low temperatures in April were 73.4°F and 49.2°F with average rainfall of 0.94 inches.

Water storage at Pine Flat Reservoir increased to 489,739 acre-feet by the end of April. By April 30, 2022, Pine Flat Reservoir's inflow had increased to 2,080 cubic feet per second (CFS) and its release increased slightly to 191 CFS. The Lake Kaweah Reservoir had more water than the previous month with 89,623 acre-feet on April 30, 2022. Lake Kaweah's inflow increased significantly, showing 656 CFS and its release was increased to 52 CFS.

II. Narrative

Operations hired a total of seven "Seasonal Operation Technician I" operators for the month of April. They will assist on inspections and treatments of urban and rural breeding mosquito sources. Offers have been made to two additional employees to start on May 9, 2022. These employees will assist the Urban Team in all operational tasks. Recruitment has begun for three "Seasonal Operation Technician II" positions which were posted on April 28, 2022. These positions will be dedicated to the *Aedes aegypti* program, and one of the classified positions will be dedicated as a zone operator for the Rural Team.

Field operations received 32 service requests for the month of April. Service requests consist 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 2,008 mosquito inspections throughout the District including rural and urban locations. Staff also conducted 1,784 larval applications.

Storm drain operations continued for the month of April, treating 5,983 mosquito storm drains in relation to streets, parks, commercial complexes, and parking lots. Storm drains are treated using a 30-day residual product, i.e., Altosid WSP and re-

inspections occur monthly. Our storm drain applicator also inspected and treated all school storm drains with a 180-day residual product, i.e., Natular XRT. Operations treated 281 school storm drains for the month of April.

Along with general facility maintenance, operations repaired all sprinkler units located at the front office and completed the gravel project located outside the front office. Operations also repaired vehicle T-41 which needed a clutch replacement. New field equipment was acquired such as a Utility Terrain Vehicle which will be used for application in pastures and orchards. Operations also purchased two A1 blowers to be used for wide area larviciding which are expected to arrive late May.

Operations and the laboratory staff conducted a site visit of Madera County Mosquito and Vector Control District on April 29, 2022, where they conducted utility vault inspections with PG&E staff in search of *Aedes aegypti* breeding sources. Staff learned what type of vault enclosures cause the most issues for their District and also learned what safety requirements are needed during inspections, data collections methods, and various surveillance methods.

Routine mosquito surveillance began the first week of April. A total of 4,321 mosquitoes were collected across 1,320 trap nights. The District-wide average of 3.3 mosquitoes per trap night for the month of April is 60.4% lower than the previous 5-year average of 8.3 but 13.5% higher than the 2021 average of 2.9 mosquitoes per trap night. The top 3 mosquito species caught in April were *Culex quinquefasciatus* at 81.1%, followed by *Cx. tarsalis* at 12.5% and *Cx. stigmatosoma* at 4.2%.

There were 9 technician and homeowner mosquitofish requests in April and a total of 377 fish were distributed. A total of 844 mosquitofish fry were produced in April. Routine fish hatchery maintenance was done weekly in April. A fried circuit in the cooling system of the fish hatchery caused some issues due to the increased temperature, , but was repaired quickly.

Mosquito-borne disease testing for West Nile virus (WNV), St. Louis Encephalitis virus (SLEV), and Western Equine Encephalitis virus (WEEV) also started in April. The DMVCD laboratory tested 125 mosquito samples and 0 bird carcasses in April with 0 samples positive for WNV, SLEV, or WEEV. To date in 2022, none of the 125 samples tested were positive for WNV, SLEV, or WEEV.

A total of 17 mosquito larvae samples were brought to the laboratory for processing. Susceptible *Culex quinquefasciatus* and *Aedes aegypti* colonies were maintained for insecticide resistance testing. A new susceptible *Culex tarsalis* colony was obtained from the Kearney Agricultural Research Center for resistance testing. *Culex quinquefasciatus* populations from Visalia and Exeter were shown to be susceptible to malathion-based insecticides via the CDC bottle bioassay. Field cage trials are planned as the next step to verify results.

New District maps were made and printed to replace the older maps in the District (Figure 1). Starting in May, all of the technicians will be using the updated door hangers that will be distributed to homes when an inspection is needed and completed. District employees all received a new lighter and cooler hat with the updated District name and logo (Figure 2). Planning for the 100-year anniversary celebration is underway, and a postcard invitation has been created for the October 1st event to begin the outreach for the District's monumental milestone.

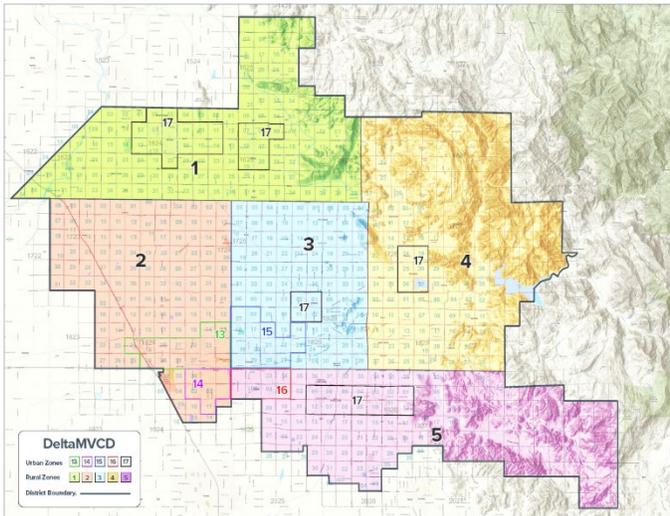


Figure 1. New Delta MVCD maps.



Figure 2. New hat with updated District name and logo.

There were 32 service requests in April:

2022 Service Request Summary

2022	Fish	Inspection	Mosquito	Source	Other	Total
January	0	0	0	5	0	5
February	1	0	7	7	0	15
March	1	0	7	14	0	22
April	5	0	10	17	0	32
Total	7	0	24	43	0	74

III. Vector and Disease Surveillance

Delta MVCD Summaries

Humans: There were no human cases of an arbovirus reported by the local public health department for the month of April.

Birds: No dead birds were reported in the month of March. To date in 2022, two dead birds have been reported to the District, with only one in good enough condition for testing. It was negative for WNV, SLEV, and WEEV.

Mosquitoes: A total of 125 mosquito samples were tested. None were positive for WNV, SLEV, or WEEV.

State Surveillance:

Humans: No human cases have tested positive in 2022.

Birds: No dead birds have tested positive in 2022.

Mosquitoes: No new mosquito samples have tested positive for a mosquito-borne disease. Two mosquito samples from Orange and Riverside Counties have tested positive for WNV.

IV. Expenditures & Revenues – 2021/22

TOTAL BUDGET \$3,974,074.00

EXPENDITURES – July 1, 2021 – April 30, 2022

Salaries	\$2,012,762.06
Services & Supplies	\$781,930.27
Tax Admin Fee	\$34,248.50
Capital	\$455,113.89
Long Term Debt	\$58,914.03
TOTAL EXPENDITURES	\$3,342,968.75

REVENUE RECEIVED – July 1, 2021 – April 30, 2022

July	\$137.48
August	\$0
September	\$12,309.21
October	\$35,667.25
November	\$0
December	\$2,379,114.09
January	\$290,119.86
February	\$0
March	\$10,513.35
April*	
TOTAL REVENUE TO DATE	\$2,727,861.24

V. Time Sheet Summary

Month	Available Work Hrs	Sick Hrs Used	Total Hrs Available for Work	Pct. Of Hrs Avail for Work
July	5,376	119.25	5,256.75	97.79
August	5,808	210.00	5,598.00	96.40
September	5,712	134.50	5,577.50	97.65
October	4,200	105.50	4,094.50	97.49
November	2,584	40.00	2,544.00	98.46
December	1,920	60.00	1,860.00	96.88
January	2,720	178.50	2,541.50	93.44

February	2,720	16.00	2,704.00	99.42
March	3,864	38.00	3,826.00	99.02
April	4,712	108.50	4603.50	97.70

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.

**April revenue not available as of 05/05/2022*