

DELTA VECTOR CONTROL DISTRICT

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REPORT OF THE MANAGER August 2019

I. Water and Weather

Temperatures stayed high in August. The average high temperature for the month was 99.6°F, and the average low was 65.2 °F, with 0.00 inches of rainfall reported as preliminary data by the National Weather Service, Hanford Station. The 30-year seasonal averages for high and low temperature in July are 92.8 °F and 65.0°F respectively, with the 30-year average rainfall reported as 0.01 inches by the National Oceanic and Atmospheric Administration.

Water storage at Pine Flat Reservoir decreased by over 25% in August, to be 640,836 acre-feet. By the end of the month Pine Flat Reservoir's inflow had decreased by over 55% to 1,548 cubic feet per second (CFS), while the release decreased by over 30% to 4,688 CFS. Lake Kaweah Reservoir water storage decreased significantly during the month, by over 95%, to be 28,539 acre-feet at the end of the month. Lake Kaweah's inflow decreased by nearly 65% to 182 CFS, and its release decreased by over 55%, ending the month at 1,033 CFS.

II. Narrative

The Delta Vector Control District laboratory staff continued its WNV surveillance program, *Aedes* surveillance program, and strategic trapping with both urban Biogents Sentinel (BG) traps and rural Encephalitis Virus Surveillance (EVS) traps. Gravid trap averages were elevated from last year, for the month, at around 16 mosquitoes per trap per night, versus the 11 mosquitoes per trap per night we saw in 2018. Routed BG trap averages were almost doubled, however, coming in around 24 mosquitoes per trap per night, versus the 12.5 mosquitoes per trap per night we got in 2018. Strategic traps aren't directly comparable due to the lack of consistency in trap placement, but strategic BG traps had higher counts whereas the EVS traps were lower, compared to last year.

More of the invasive *Aedes* have been found across the District, with a total of 9,806 individual mosquitoes caught so far. For comparison, by the end of August in 2018, a total of 1,076 *Aedes aegypti* had been caught. Residents are noticing the mosquitoes more this year as well, and there's been an increase in service requests for day biting mosquitoes. There are over fifty inspection areas where traps have caught more than the threshold ten adult female mosquitoes.

The lab had completed nearly 1,300 inspections for these mosquitoes, by the end of August, finding breeding in just over a quarter of them. Of those found breeding, a little more than half have required follow up inspections to verify the elimination of the breeding source.

The lab has hired it's full staff, although with the start of the school year several of the seasonal employees are working amended hours so as to take their evening or afternoon classes.

Arbovirus screening for West Nile Virus (WNV), St. Louis Encephalitis Virus (SLEV), and Western Equine Encephalitis Virus (WEEV) continued in July. A total of 253 mosquitoes tested positive for WNV in August, and 20 tested positive for SLEV, out of the 750 samples that were tested in August. So far, no samples have tested positive for Western Equine Encephalitis Virus (WEEV).

In August the house mosquito program still only had two seasonal employees, with no expected return this year of the two employees who were injured. The catch basin treatments remained on schedule. Weed control treatments were kept within a 16 day return interval for most of August, although they have started to slow down near the end of August due to limited weed growth. Scheduled treatments of BTI have kept requested lagoon oil treatments to low numbers. On the northwest side of Visalia, oil has been applied twice a week to eight dairies in order to help suppress the numbers that were being seen in that area. Adulticide treatments have continued, ramping up to two trucks in the evening and two in the morning most work days as positive WNV pools and high trap counts indicated a need. Adulticide treatments have been made across the district. Both of the machines for the ULV treatments broke down near the end of August, one was fixed, and one is still out for repairs. To keep up with the expected number of treatments, a truck and fogger were borrowed from Kings Mosquito Abatement District. The backpacks, skid, and chemical for the Larviciding treatments were purchased and arrived in August. The backpacks have been put together and work properly; the WALs skid arrived September 3rd and has not yet been evaluated.

There were three hundred and seventy-two service requests during the month of August:

2019 Service Request Summary

	Fish	Inspection	Mosquito	Source	Other	Total
January	0	4	1	1	1	7
February	0	9	0	0	0	9
March	3	14	0	4	0	21
April	7	29	27	29	0	92
May	5	23	23	25	0	76
June	9	25	116	58	0	208
July	6	31	284	85	8	414
August	11	34	228	94	5	372
Total	41	169	679	296	14	1199

III. Vector and Disease Surveillance

Delta VCD Summaries:

Humans:

As of August 30th, 2019, 2 confirmed human cases of WNV and 6 probable cases of WNV from within the district borders have been reported to Delta VCD. At this time last year there were no cases reported from within district borders.

Birds:

During the month of August, 14 dead birds were reported within Tulare County, 12 within the city of Visalia, and two from the city of Tulare. 11 of the birds from within the district met the requirements for arbovirus testing, and 6 birds from the city of Visalia tested positive for WNV. There have been a total of 26 testable dead birds from within the district in 2019, and 15 of them have tested WNV positive.

Mosquito:

Mosquito abundance data was collected weekly from 172 fixed gravid trap locations, 60 fixed BG trap locations, approximately 20 strategic BG trap locations, and approximately 20 strategic EVS trap locations. A total of 3,123 mosquito samples, each consisting of between 10 and 50 female mosquitoes, have been tested so far this year, with 715 samples testing positive for WNV, 58 samples testing positive for SLEV, and no samples testing positive for WEEV. Samples have tested positive from across the entire district.

State Surveillance:

Humans:

As of August 30th, 2019, 57 human cases of WNV have been detected across the state of California, in 12 counties, including two fatalities. Three were neuroinvasive disease and one was fatal. Seven asymptomatic infections have also been reported from five counties. At this date in 2018, 42 human cases of WNV had been detected in 18 counties. Additionally, 3 human cases of SLEV have been reported from two counties. These are the first SLEV cases reported this year. There were no human cases for SLEV reported at this time last year.

Birds:

As of August 30th, 2019, 91 bird had tested positive for WNV from 13 counties. At this date in 2018, 397 WNV positive birds had been reported from 18 counties.

Mosquitoes:

As of August 30th, 2019, 2,516 mosquito samples have tested positive for WNV from 24 counties. Additionally, 179 mosquito samples from seven counties have tested positive for SLEV. At this date in 2018, 1,456 mosquito samples had tested positive for WNV from 27 counties, and 264 mosquito samples had tested positive for SLEV from eight counties.

Expenditures & Revenues – 2019/20

TOTAL BUDGET

\$4,053,625.97

EXPENDITURES – July 1, 2019 – August 31, 2019

Salaries	\$594,522.04
Services & Supplies	\$212,837.71
Tax Admin Fee	\$0
Capital	\$0
Building Improvements	\$4,605.00
TOTAL EXPENDITURES	\$811,964.75

REVENUE RECEIVED – July 1, 2019 – August 31, 2019

July	\$356.00
August*	
TOTAL REVENUE TO DATE	\$356.00

V. Time Sheet Summary

Month	Available Work Hrs	Sick Hrs Used	Total Hrs Available for Work	Pct. Of Hrs Avail for Work
July	4928	94.25	4833.75	98.08
August	5104	106.00	4998.00	97.93

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.

*August revenue not available from Tulare County as of 9/6/19.