



CITY OF FORT COLLINS JULY 2017 MONTHLY REPORT

AUGUST 3RD , 2017

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West Nile Virus Risk

As of July 25, 2017, a total of 33 states have reported West Nile virus infections in people, birds, or mosquitoes. Overall, 67 cases of West Nile virus disease in people have been reported to CDC. Of these, 40 (60%) were classified as neuroinvasive disease (such as meningitis or encephalitis) and 27 (40%) were classified as non-neuroinvasive disease.

West Nile virus was detected in mosquitoes collected from Larimer County during the first week of July and while virus activity is on the rise and spreading to new areas the overall Vector Index for all sentinel zones within Larimer County remain below historical averages. To date only one asymptomatic human cases of West Nile virus has been reported from residents of Larimer County and this was identified in the South East quadrant of town. There have been three reported cases of a person contracting the disease within Colorado to date. Last year, the state had 149 reported human cases, which included eight deaths, according to the Colorado Department of Public Health and Environment.

These number are guaranteed to increase according to the CDPHE, as the majority of West Nile virus cases in humans are identified in August and September, during the season's peak.

During the month of July Colorado State University tested 571 sample pools of mosquitoes collected from traps set in Larimer County. 23 of these samples tested positive for West Nile virus relative to only 8 this time last year and 19 in 2015. 13 of these positive mosquito pools were collected from Fort Collins, 3 were collected in Loveland and 7 were collected from Berthoud. West Nile virus positive locations in Loveland include trap sites LV-020 (Cattail Ponds), LV-089 (9th and Des Moines) and LV-095 (Boyd Lake). West Nile positive mosquito pools collected from Fort Collins were primarily concentrated in the Southeast and Northeast quadrants of town. It is important to note that this is the first year Berthoud is participating in West Nile virus monitoring of mosquitoes collected within Town Limits which may account for an increase in both the number of mosquito pools tested and the number of positive pools collected in 2017.

Fort Collins - WNV Positive Location - July 2017

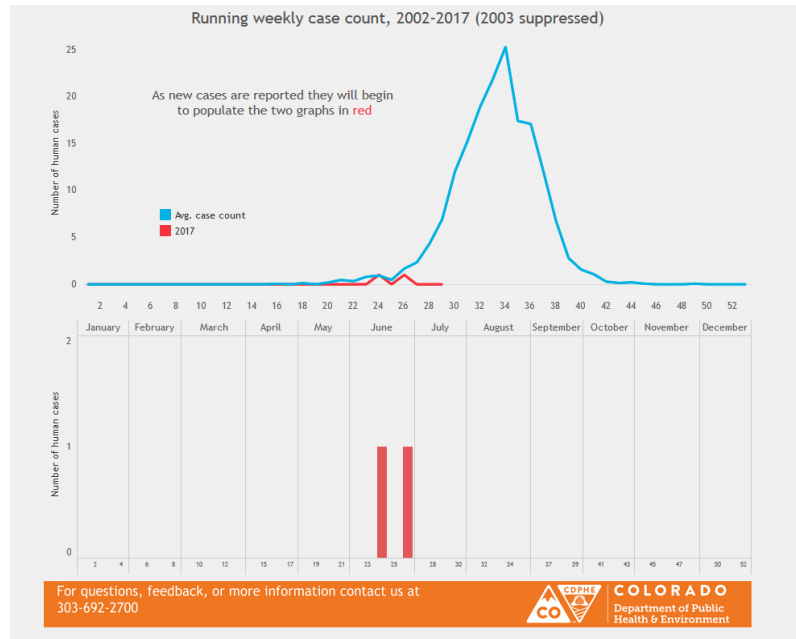
| Date | Trap # | Species | Trap Type |
|------------|----------|----------------|-----------|
| 07/18/2017 | FC-004 | Culex tarsalis | LIGHT |
| 07/25/2017 | FC-031 | Culex tarsalis | LIGHT |
| 07/10/2017 | FC-040gr | Culex pipiens | GRAVID |
| 07/17/2017 | FC-040gr | Culex pipiens | GRAVID |
| 07/26/2017 | FC-041 | Culex tarsalis | LIGHT |
| 07/11/2017 | FC-053 | Culex tarsalis | LIGHT |
| 07/11/2017 | FC-053 | Culex tarsalis | LIGHT |
| 07/18/2017 | FC-053 | Culex tarsalis | LIGHT |
| 07/11/2017 | FC-064 | Culex tarsalis | LIGHT |
| 07/24/2017 | FC-066 | Culex tarsalis | LIGHT |
| 07/24/2017 | FC-072 | Culex tarsalis | LIGHT |
| 07/25/2017 | FC-088gr | Culex pipiens | GRAVID |
| 07/24/2017 | FC-092gr | Culex pipiens | GRAVID |

Wear Your Repellent!

Use approved mosquito repellents containing DEET, picaridin or oil of lemon eucalyptus.

DEET products generally provide the longest protection. The other repellents work but must be applied more frequently.

Follow the product label for correct use. Products with 10 percent or less DEET are recommended for children.

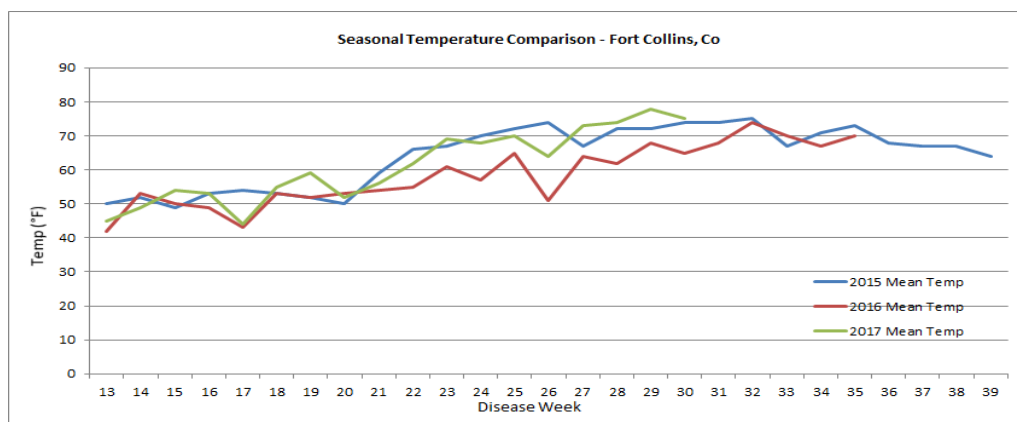
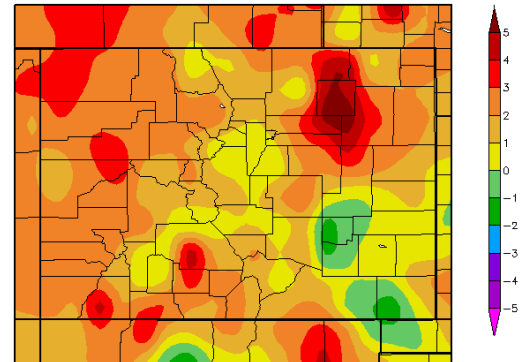


(CDPHE image taken from <https://www.colorado.gov/pacific/cdphe/west-nile-virus-data>)

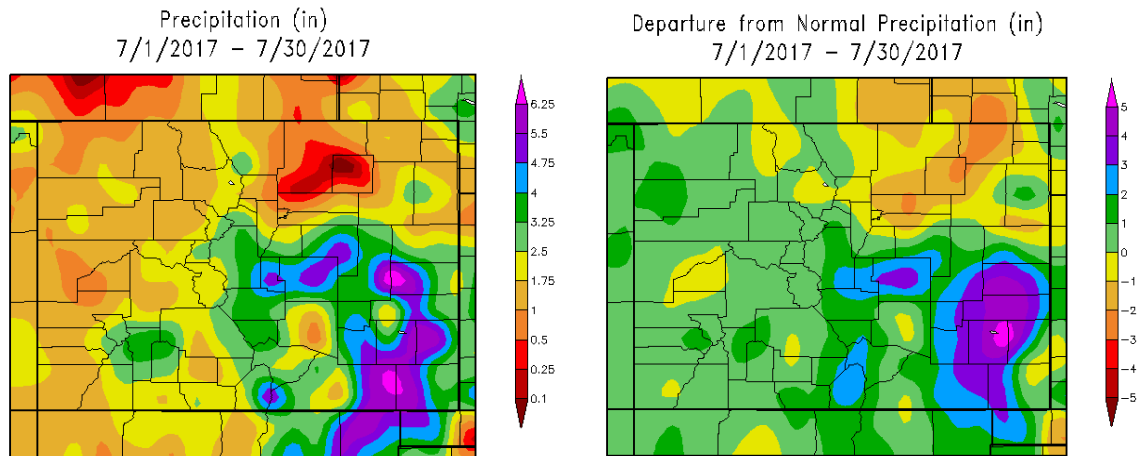
Weather

July 2017 was hotter than average with a 3 to 5 degree departure from normal. These warm temperatures kept larval production at a fast pace during the month of July. While higher than last year, overall larval counts and product application totals remain comparable to average seasons. The species composition of *Culex tarsalis* larvae spiked during July largely as a result of warm temperatures and a lack of rainfall. Subsequent increases in adult *Cx. tarsalis* abundance data were observed from mosquito trapping at the end of the month.

Departure from Normal Temperature (F)
7/1/2017 - 7/30/2017



The average temperature for Fort Collins in the month of July 2017 was 75 °F which is much higher than last year. Rainfall in the month of July 2017 was lower than average with only 0.2 inches of precipitation on record. Drought conditions and minimal rainfall during the month of July led to increased flood irrigation, over watering of lawns, stagnant ditches and artificial habitat which all provide optimal larval growth habitat.



Larval Control Operations

VDCI field technicians performed 1,839 site inspections as part of the inspection and larviciding program for the City of Fort Collins in July 2017. Of the 1,839 inspections, 1,583 sites were wet (86.1%) and 924 sites were producing mosquito larvae (58.2% of the wet sites). Of the 418.9 acres treated in July 2017, 2,623.6 lbs. of VectoBac (*Bti*), 66 Altosid Briquettes (Methoprene) and 43.1 gallons of BVA mosquito larviciding oil were applied.

CMC field technicians performed 2,120 site inspections as part of the inspection and larviciding program for the City of Fort Collins in July 2016. Of the 2,120 inspections, 1,762 sites were wet (83.1%) and 910 sites were producing mosquito larvae (58.8% of the wet sites). Of the 339 acres treated in July 2016, 2,054 lbs. of VectoBac (*Bti*), 98.5 lbs. of VectoLex (*Bsph*), and 28.5 gallons of BVA mosquito larviciding oil were applied.

CMC field technicians performed 1,555 site inspections in the month of July 2015 as part of the inspection and larviciding program for the City of Fort Collins. Of the 2,106 inspections, 1,809 sites were wet (85.9% of the total inspected sites) and 1031 sites were producing larvae (55.1% of the wet sites). An estimated 984 million larvae were killed before emerging in 2015. Of the 636.4 acres treated in July 2015, 4,288 lbs. of VectoBac (*Bti*), 502 lbs. of VectoLex (*Bsph*), 0.5 lbs. of Altosid (Methoprene) and 51 gallons of BVA larviciding oil were applied.

VDCI's backyard and storm drain technician performed 65 site inspections as a part of the Fort Collins backyard program in July 2017. Of the 65 inspections, 52 sites were wet and 19 were producing or had the potential to produce mosquito larvae.

Mosquito Population Surveillance

There were 227 light traps set in the City of Loveland during July 2017. Mosquito surveillance traps set during July 2017 in Loveland collected a total of 31,929 mosquitoes. Of these there were 17,573 (55%) *Aedes spp.*, 246 (1%) *Culiseta inornata*, 8 (<1.0%) *Anopheles spp.*, 13,564 (42%) *Culex spp.* mosquitoes collected. There was an average of 141 mosquitoes collected per trap night and 60 *Culex spp.* mosquitoes per trap night during July 2017 in the City of Fort Collins

There were 201 light traps set in the City of Fort Collins during July 2016. Mosquito surveillance traps set during July 2016 in Fort Collins collected a total of 18,319 mosquitoes. Of these there were 8,033 (44%) *Aedes spp.*, 113 (1.4%) *Culiseta inornata*, 3 (<1.0%) *Anopheles spp.*, 8,928 (49%) *Culex spp.* mosquitoes collected. There was an average of 91 mosquitoes collected per trap night and 44 *Culex spp.* mosquitoes per trap night during July 2016 in the Fort Collins.



There were 202 light traps set in the City of Fort Collins during July 2015. Mosquito surveillance traps set during July 2015 in Fort Collins collected a total of 38,388 mosquitoes. Of these there were 22,621 (59%) *Aedes spp.*, 627 (2%) *Culiseta inornata*, 14,380 (37%) *Culex spp.* mosquitoes collected. There was an average of 190 mosquitoes collected per trap night and 71 *Culex spp.* mosquitoes per trap night during July 2015 in the City of Fort Collins.

There were 43 gravid traps set during the month of July 2017 in the City of Fort Collins. Gravid traps set in the City of Loveland collected 2,993 total mosquitoes. There were 2,926 *Culex spp.* and 62 *Aedes spp.* mosquitoes collected from gravid traps.

Adult Mosquito Control Operations

VDCI is contracted to perform ULV Truck fogging for adult mosquitoes by Lindenwood HOA, Greenstone HOA, Paragon Point HOA, and Willow Springs HOA during the 2017 season when mosquito counts surpass 100 mosquitoes in a single trapping night. The City of Fort Collins has not budgeted money for adult mosquito control operations for 2017.

ULV Truck-based applications of AquaKontrol3030 covered a total of 18 road miles within and adjacent to the City of Fort Collins during the month of July 2017.

VDCI performed 2 truck ULV applications using AquaKontrol30-30 in Lindenwood HOA due to mosquito traps that contained more than 100 mosquitoes. A total of 6 miles of road were driven in these applications. VDCI performed 1 truck ULV applications in Greenstone HOA, totaling 3 miles of roads. VDCI performed 1 truck ULV applications in Paragon Point HOA, totaling 1 mile of roads. VDCI performed 2 truck ULV applications in Willow Springs HOA, totaling 8 miles of roads.

Vector Disease Control International

Adulticide Data

| Customer | Subdiv/Area | Material | Start Time | End Time | Miles |
|---------------------------|----------------|--------------------|------------|----------|-------|
| Greenstone HOA | | | | | |
| Truck | | | | | |
| 07/18/2017 | Greenstone HOA | Aqua Kontrol 30 30 | 20:40:00 | 20:56:00 | 3.0 |
| Truck | | | | Sum | 3.0 |
| | | | | Avg | 3.0 |
| | | | | Min | 3.0 |
| | | | | Max | 3.0 |
| Lindenwood HOA | | | | | |
| Truck | | | | | |
| 07/05/2017 | LINDENWOOD | Aqua Kontrol 30 30 | 21:00:00 | 21:27:00 | 3.0 |
| 07/19/2017 | LINDENWOOD | Aqua Kontrol 30 30 | 21:45:00 | 21:59:00 | 3.0 |
| Truck | | | | Sum | 6.0 |
| | | | | Avg | 3.0 |
| | | | | Min | 3.0 |
| | | | | Max | 3.0 |
| Paragon Pointe HOA | | | | | |
| Truck | | | | | |
| 07/24/2017 | Paragon Point | Aqua Kontrol 30 30 | 23:13:00 | 23:21:00 | 1.0 |
| Truck | | | | Sum | 1.0 |
| | | | | Avg | 1.0 |
| | | | | Min | 1.0 |
| | | | | Max | 1.0 |
| Willow Springs HOA | | | | | |
| Truck | | | | | |
| 07/12/2017 | WILLOW SPRINGS | Aqua Kontrol 30 30 | 20:35:00 | 20:57:00 | 4.0 |
| 07/31/2017 | WILLOW SPRINGS | Aqua Kontrol 30 30 | 20:26:00 | 20:47:00 | 4.0 |
| Truck | | | | Sum | 8.0 |
| | | | | Avg | 4.0 |
| | | | | Min | 4.0 |
| | | | | Max | 4.0 |
| Grand Total | | | | | 18.0 |

Public Relations

VDCI received 6 phone calls from residents of Fort Collins during the month of July 2017. VDCI received 2 new larval site reports. Both of the sites reported sites were new locations and inspected for the presence of larval mosquitoes and were treated for the potential to produce mosquito larvae or were producing mosquito larvae. VDCI received 4 calls requesting information about private barrier sprayings which were scheduled and done at the request of private residents. VDCI gave information about the costs of private sprayings.