



**BE MOSQUITO FREE**  
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**Arbovirus Surveillance Report**  
**MMWR Week Oct 13th-Oct 19th, 2019**

**Week 42 Summary**

- 186 mosquito pools\* have been tested in NTRL from week 42
    - Year-to-date NTRL has tested a total of 4660 mosquito pools
  - 1 mosquito pools tested positive for WNV this week:
    - Fort Worth (1)
  - There have been 0 human cases of SLE, or Zika but 1 imported case of CHIK and 2 imported cases of Dengue in 2019.
    - There has been 1 human case of West Nile disease
  - Average number of mosquitoes/trap include:
    - *Culex quinquefasciatus*: 31.6
    - *Aedes aegypti*: 1.1
    - *Aedes albopictus*: 0.4
- NTRL= North Texas Regional Lab WNV= West Nile virus; CHIKV= Chikungunya virus; DENV= Dengue virus; SLEV St. Louis encephalitis virus  
\* May encompass counties outside of Tarrant County \*\* Non-NTRL results

**Tarrant County Region WNV Positive Year to Date Summary**

There have been a total of # positive in 2019.

Colleyville (1) Fort Worth\*(6) Keller (2) Unincorporated (1)

\* May encompass counties outside of Tarrant County

**Table 1. MLE<sup>(1)</sup> and VI<sup>(2)</sup> for County Quadrants, Week 41 and 42**

	County Quadrant	# gravid traps	Ave F <i>Culex quinq</i>	Positive pools	MLE (Lower-Upper Limit)	VI
Week 41	Northeast	57	32.4	0.0	0.00 (0.00-2.36)	0.000
	Northwest	23	14.8	0.0	0.00 (0.00-5.86)	0.000
	Southeast	37	13.1	0.0	0.00 (0.00-5.04)	0.000
	Southwest	26	12.8	0.0	0.00 (0.00-7.40)	0.000
Week 42	Northeast	66	22.8	0.0	0.00 (0.00-3.18)	0.000
	Northwest	30	11.1	1.0	1.45 (0.09-6.96)	0.047
	Southeast	40	18.9	0.0	0.00 (0.00-6.36)	0.000
	Southwest	25	15.3	0.0	0.00 (0.00-7.31)	0.047

Data source: Tarrant County Public Health

1. MLE= Maximum Likelihood Estimate or the estimate of the mosquito infection rate per mosquito species. 2. VI= Vector Index which is a measure of infectivity accounting for vector species composition, vector species population density, and proportion of vector population infected with WNV

Averages, MLE, and limits will be given for species with identified infection rates only and only for the latest two week. MLE, Lower and Upper Limits are based on a 95% confidence interval. All data in this table is based on collection date.

Calculated using a Maximum Likelihood Estimation (MLE). Biggerstaff, Brad J. PooledInRate, Version 4.0: a Microsoft® Office Excel® Add-In to compute prevalence estimates from pooled samples. Centers for Disease Control and Prevention, Fort Collins, CO, U.S.A., 2009



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## Cumulative Data for the Tarrant County Region, Weeks 39-42

Week	Sep 22- Sep 28	Sep 29- Oct 5	Oct 6-Oct 12	Oct 13-Oct 19	YTD
MMWR Week	39	40	41	42	
Total number of gravid traps set in Tarrant Region	181	187	160	177	4877
Average number of <i>Culex quinquefasciatus</i> per gravid trap	38.0	46.5	28.8	21.2	39.2
Number of mosquito pools tested <sup>1</sup>	173	112	149	186	4660
Number of positive mosquito pools (NTRL; non-NTRL) <sup>1</sup>	0;0	0;0	1;0	1;0	10;0
Confirmed WNV human cases (WNF; WNND) <sup>2</sup>	0;0	0;0	0;0	0;0	1;0
WNV infection rate per 1,000 <i>Culex quinquefasciatus</i> <sup>3</sup>	0.00	0.00	0.00	0.35	
Weekly vector index <sup>4</sup>	0.000	0.000	0.000	0.011	
Total BG Sentinel traps set in Tarrant Region	39	37	28	33	1005
Average number of female <i>Aedes aegypti</i> per BG trap	5.6	4.1	1.8	1.1	2.3
Average number of female <i>Aedes albopictus</i> per BG trap	2.3	2.9	2.0	0.4	2.5

<sup>1</sup> Based on mosquito collection date NTRL = North Texas Regional Laboratory, non-NTRL includes Tarrant County only

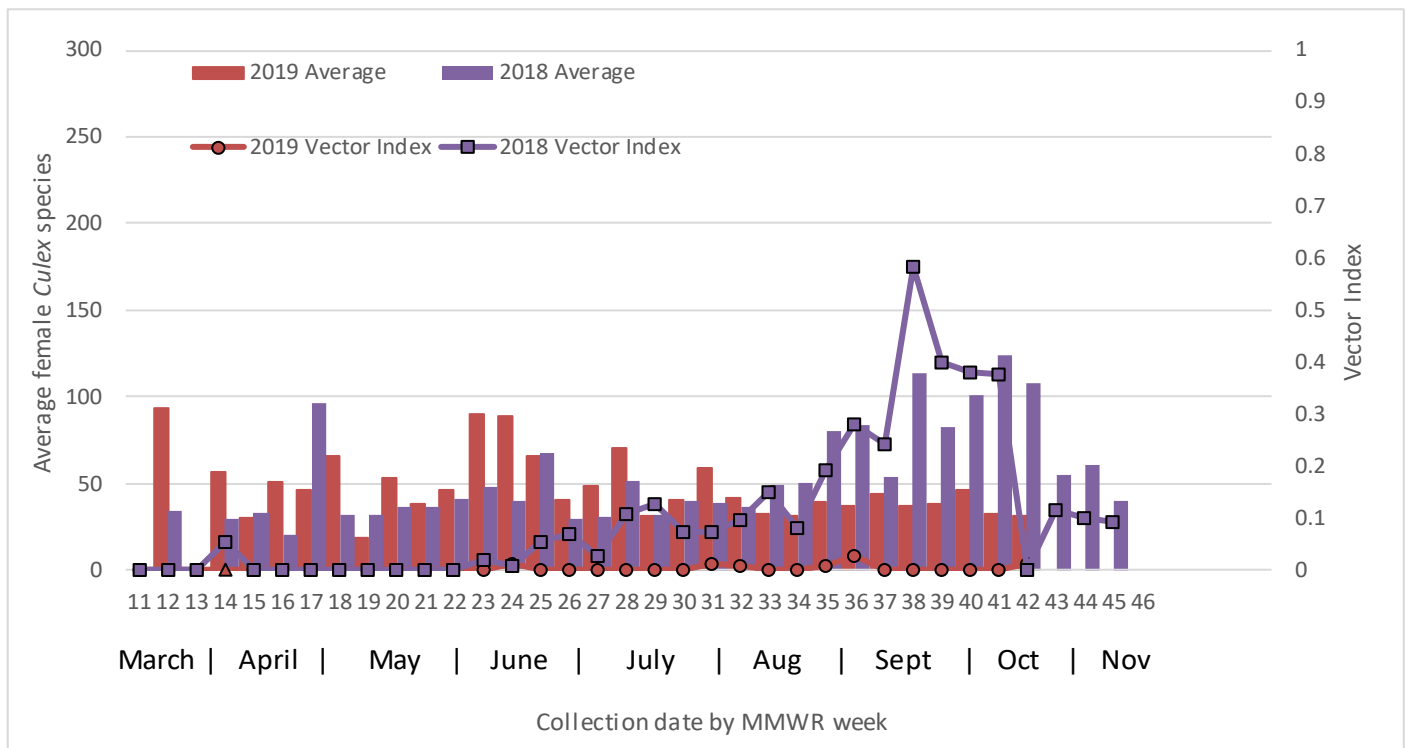
<sup>2</sup> Based on onset of illness date for cases reported to Tarrant County Public Health; WNF=West Nile Fever; WNND = West Nile Neuroinvasive Disease

<sup>3</sup> Calculated using a Maximum Likelihood Estimation (MLE). Biggerstaff, Brad J. PooledInfRate, Version 4.0: a Microsoft® Office Excel® Add-In to compute prevalence estimates from pooled samples. Centers for Disease Control and Prevention, Fort Collins, CO, U.S.A., 2009

<sup>4</sup> Vector Index is a measure of infectivity accounting for vector species composition, vector species population density, and proportion of vector population infected with WNV

Note: Infection rate and vector index calculations may not include positive pools from Non-NTRL laboratories; Data subject to change due to on-going case investigations, mosquito collection, and testing

**Figure 1. Average Number of Female *Culex* Species Per Trap and Vector Index by Collection Date, Tarrant County, 2018-2019**

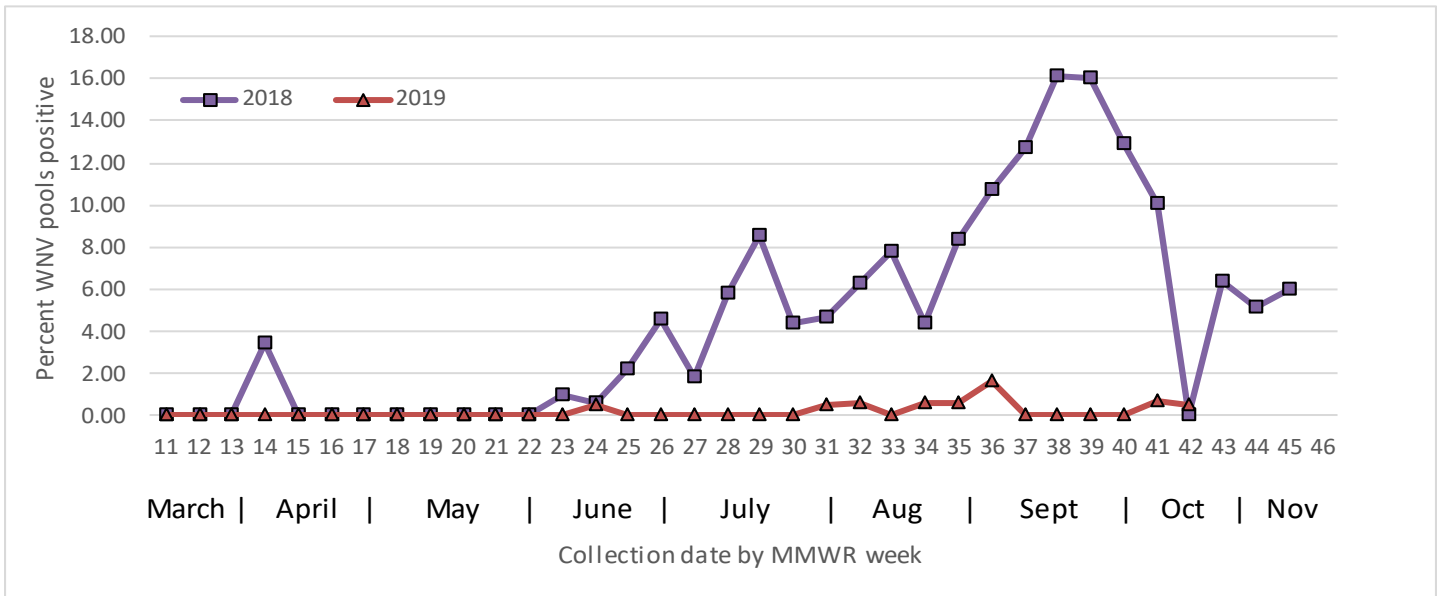


Data Source: Tarrant County Public Health



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**Figure 2. Percentage of Mosquito Pools Positive for WNV by Collection Date, Tarrant County, 2018-2019**



**Table 3. North Texas Arbovirus Season Activity as Reported by Texas DSHS on Oct 15th, 2019**

North Texas Counties	WNV			CHIKV		DENV		SLEV		Zika	
	Positive Mosquito Pools	Human cases		Positive Mosquito Pools	Human Cases	Positive Mosquito Pools	Human Cases	Positive Mosquito Pools	Human Cases	Positive Mosquito Pools	Human Cases
Collin	0	0 WNF; 0 WNND		0	0	0	2	0	0	0	0
Dallas	35	0 WNF; 1 WNND		0	1	0	7	0	0	0	0
Denton	3	0 WNF; 0 WNND		0	0	0	0	0	0	0	0
Johnson	0	0 WNF; 0 WNND		0	0	0	0	0	0	0	0
Non-Tarrant North Texas	38	0	1	0	1	0	9	0	0	0	0
<b>All Texas Counties</b>	<b>112</b>	<b>7</b>	<b>19</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>32</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>1</b>

*\*All reported CHIKV, DENV, & Zika human cases are travel-related  
WNV- West Nile virus; WNF- West Nile fever; WNND- West Nile neuroinvasive disease; CHIKV- Chikungunya virus;  
DENV- Dengue virus; SLEV- St. Louis encephalitis virus*

**For Additional Information Please Visit The Links Below:**

Department of State Health Services:

- [Arbovirus Activity Reports](#)
- [Texas Zika](#)

Tarrant County educational videos and documents:

- [Eliminating Mosquito Breeding Sites](#)
- [Barrier Treatments for Mosquitoes](#)
- [Mosquitoes Love Water](#)
- [Mosquito Prevention Tool Kit](#)

Tarrant County web pages:

- [Be Mosquito Free](#)
- [Zika](#)
- [Vector Control](#)

Environmental Protection Agency:

- [Insect Repellent Information](#)

Center for Disease Control and Prevention: