



**Arbovirus Final Surveillance Report**  
**MMWR Week Oct 16-Oct 22, 2022**

**Week 42 Summary**

- 168 mosquito pools\* have been tested in NTRL from week 42
  - Year-to-date NTRL has tested a total of 4761 mosquito pools
- 3 mosquito pools tested positive for WNV this week:
  - Burleson\* (1) Colleyville (1) Fort Worth\* (1)
- There have been 0 imported human cases of SLE or Zika in 2022. There have been 4 cases of Dengue Fever.
  - There has been 1 human case of West Nile disease.
- Average number of mosquitoes/trap include:
  - *Culex* spp: 53.6
  - *Aedes aegypti*: 11.5
  - *Aedes albopictus* 1.4

NTRL– North Texas Regional Lab  
WNV= West Nile virus; CHIKV= chikungunya virus; DENV= dengue virus; SLEV St. Louis encephalitis virus \* May include data from outside Tarrant County

**Cumulative Positive WNV Pools per Municipality**

There has been a total of 33 positive in 2022.

Arlington (3) Bedford (2) Burleson \*(7) Colleyville (1) Euless (1) Fort Worth\* (5) Grand Prairie\* (6) North Richland Hills (1) Pantego (1) Richland Hills (1) Unincorporated (4) Watauga (1)

\* May include data from outside 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</i> spp	Positive pools	MLE (Lower-Upper Limit)	VI
Week 41	Northeast	80	37.0	1.0	0.48 (0.03-12.62)	0.018
	Northwest	34	61.2	0.0	0.00 (0.00-1.62)	0.000
	Southeast	40	44.3	1.0	1.17 (0.07-2.87)	0.052
	Southwest	30	105.7	1.0	0.85 (0.05-22.60)	0.090
Week 42	Northeast	64	59.5	2.0	1.13 (0.20-18.38)	0.067
	Northwest	30	73.6	0.0	0.00 (0.00-1.71)	0.000
	Southeast	36	54.4	0.0	0.00 (0.00-91.37)	0.000
	Southwest	27	56.0	0.0	0.00 (0.00-137.14)	0.000

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. 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



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

Week	Sep 25- Oct 1	Oct 2-Oct 8	Oct 9-Oct 15	Oct 16-Oct 22	YTD
MMWR Week	39	40	41	42	
Total number of gravid traps set in Tarrant Region	171	170	184	157	4394
Average number of <i>Culex</i> spp per gravid trap	66.6	67.2	56.1	53.6	42.7
Number of mosquito pools tested <sup>1</sup> (NTRL; non-NTRL)	175;16	207;16	198;12	168;0	4761;305
Number of positive mosquito pools (NTRL; non-NTRL) <sup>1</sup>	2;0	5;0	5;0	3;0	27;6
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</i> spp <sup>3</sup>	0.41	0.97	0.58	0.43	
Weekly vector index <sup>4</sup>	0.027	0.065	0.033	0.023	
Total BG Sentinel traps set in Tarrant Region	33	30	24	23	777
Average number of female <i>Aedes aegypti</i> per BG trap	15.9	12.8	10.3	11.5	5.9
Average number of female <i>Aedes albopictus</i> per BG trap	1.9	1.2	2.2	1.4	2.2

<sup>1</sup> Based on mosquito collection date; NTRL = North Texas Regional Laboratory

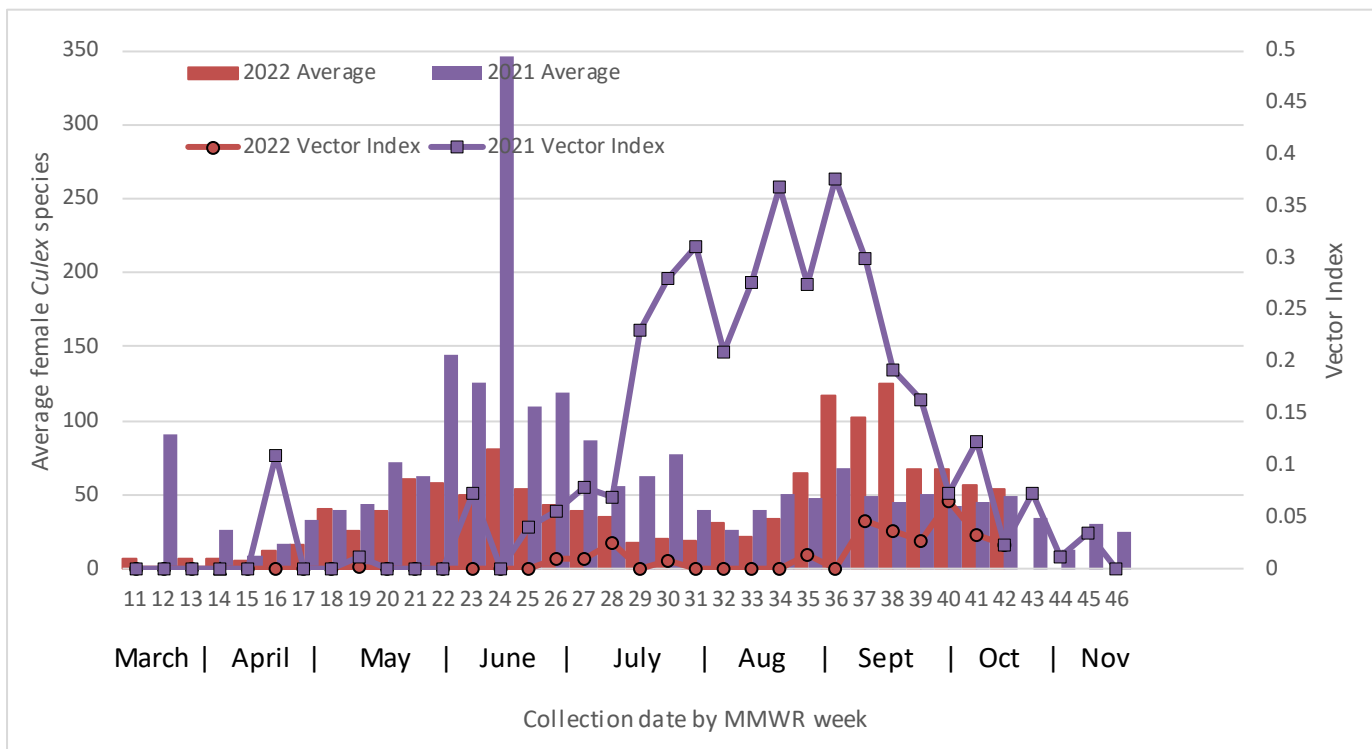
<sup>2</sup> Based on onset of illness date for cases reported to Tarrant County Public Health; WNF=West Nile Fever; WNND = West Nile Neuroinvasive Disease

<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 *Culex* spp includes pools of both *Cx restuans* and *Cx quinquefasciatus*. These MLEs are calculated separately, per species and added together as per instructions by CDC.

<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 now includes pools from outside laboratories; Data subject to change due to on-going case investigations, mosquito collection, and testing. Data source: Tarrant County Public Health

**Figure 1. Average Number of Female *Culex* Species Per Trap and Vector Index by Collection Date, Tarrant County, 2021-2022**

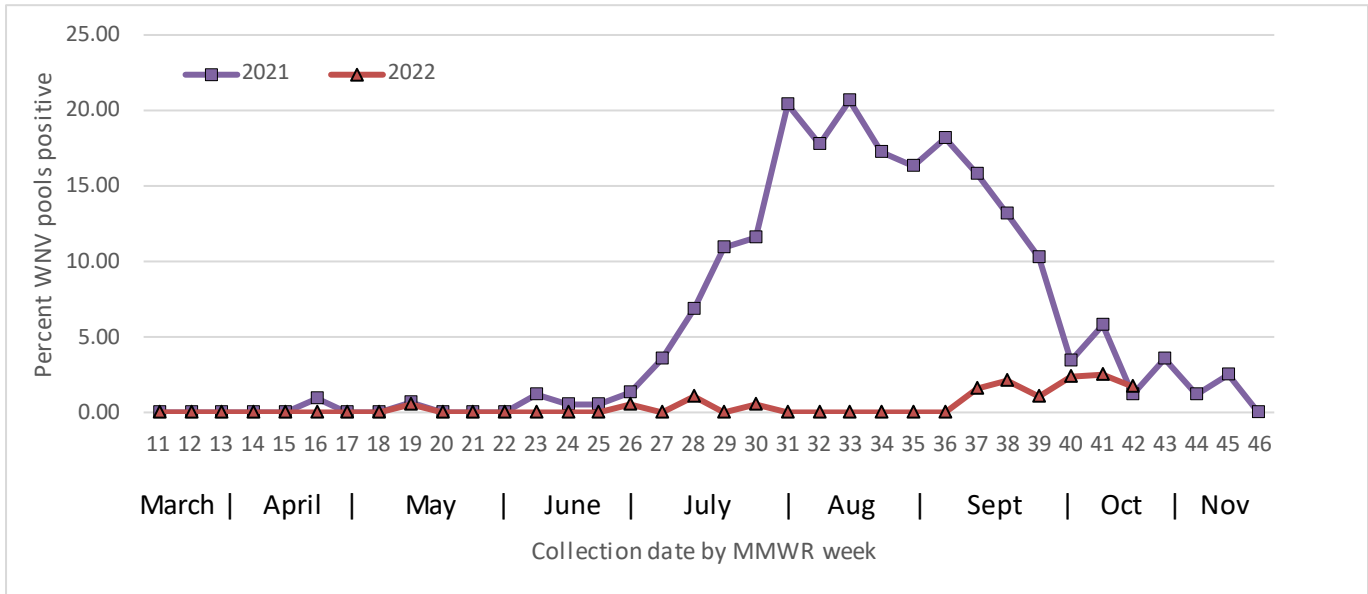


Data Source: Tarrant County Public Health



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**Figure 2. Percentage of Mosquito Pools Positive for WNV by Collection Date, Tarrant County, 2021-2022**



Data Source: Tarrant County Public Health

**Table 3. North Texas Arbovirus Activity as Reported by Texas DSHS on October 25, 2022**

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	19	0 WNF; 0 WNND	0	0	0	3	0	0	0	0
Dallas	47	0 WNF; 1 WNND	0	0	0	7	0	0	0	0
Denton	17	0 WNF; 0 WNND	0	0	0	0	0	0	0	0
Johnson	5	0 WNF; 0 WNND	0	0	0	0	0	0	0	0
<b>Non-Tarrant North Texas</b>	<b>88</b>	<b>0</b>	<b>1</b>		<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>All Texas Counties</b>	<b>380</b>	<b>2</b>	<b>16</b>		<b>0</b>	<b>28</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</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](#)
- [WNV Interactive Mapping Tool](#)

Environmental Protection Agency:

- [Insect Repellent Information](#)

Center for Disease Control and Prevention:

- [Zika Travel Information](#)