

Tarrant County Public Health

Final Weekly Arbovirus Surveillance Report: MMWR Week Nov 3-Nov 9, 2024



Week 45 Summary

- 75 mosquito pools* have been tested in NTRL from week 45
 - Year-to-date NTRL has tested a total of 5250 mosquito pools
- 2 mosquito pools tested positive for WNV this week:
 - Arlington (1) Grapevine (1)
- There have been 0 imported human cases of SLE or Zika in 2024. There have been 5 cases of Dengue Fever. There have been 71 human cases of West Nile disease.
- Average number of mosquitoes/trap include:
 - *Culex spp*: 34.1
 - *Aedes aegypti* and 0.7
 - *Aedes albopictus*:

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 have been a total of 809 positives in 2024

Arlington (67) Bedford (13) Benbrook (8) Burleson *(82) Colleyville (32) Crowley (8)
Dalworthington Gardens (2) DFW Airport*(4) Euless (47) Fort Worth* (279) Grand Prairie*
(14) Grapevine (26) Haltom City (25) Haslet (3) Hurst (22) Keller (30) Mansfield* (38) North
Richland Hills (30) Pantego (17) Richland Hills (6) River Oaks (7) Southlake (7)
Unincorporated (37) Watauga (4) Westover Hills (1)

Table 1. MLE⁽¹⁾ and VI⁽²⁾ for County Quadrants, Weeks 44 and 45

	County Quadrant	# Gravid traps	Ave F <i>Culex</i> spp	Positive pools	MLE (Lower-Upper Limit)	VI
Week 44	Northeast	54	27.7	2.0	1.83 (0.33-5.98)	0.042
	Northwest	39	47.0	1.0	0.90 (0.05-4.36)	0.039
	Southeast	37	58.2	1.0	0.88 (0.05-5.84)	0.047
	Southwest	26	59.2	2.0	2.29 (0.41-7.60)	0.130
Week 45	Northeast	32	27.9	1.0	1.52 (0.09-7.47)	0.037
	Northwest	13	53.5	0.0	0.00 (0.00-8.66)	0.000
	Southeast	23	32.6	1.0	1.85 (0.11-8.93)	0.051
	Southwest	9	17.7	0.0	0.00 (0.00-19.54)	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

Cumulative Data for the Tarrant County Region, Weeks 42-45

Week	Oct 13- Oct 19	Oct 20- Oct 26	Oct 27- Nov 2	Nov 3- Nov 9	YTD
MMWR Week	42	43	44	45	
Total number of gravid traps set in Tarrant Region	197	167	173	79	5632
Average number of <i>Culex spp</i> per gravid trap	52.3	57.3	43.5	34.1	57.5
Number of mosquito pools tested ¹ (NTRL; non-NTRL)	169;14	164;0	161;0	75;0	5250;359
Number of positive mosquito pools (NTRL; non-NTRL) ¹	7;0	8;0	6;0	2;0	795;14
Confirmed WNV human cases ²	0	0	0	0	71
WNV infection rate per 1,000 <i>Culex spp</i> ³	1.21	1.41	1.45	1.17	
Weekly vector index ⁴	0.056	0.073	0.055	0.034	
Total BG Sentinel traps set in Tarrant Region	25	16	17	15	666
Average number of female <i>Aedes aegypti</i> and <i>Aedes albopictus</i> per BG trap	3.9	1.5	1.6	0.7	5.2

¹ Based on mosquito collection date; NTRL = North Texas Regional Laboratory

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

³ 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.

⁴ 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, 2023-2024

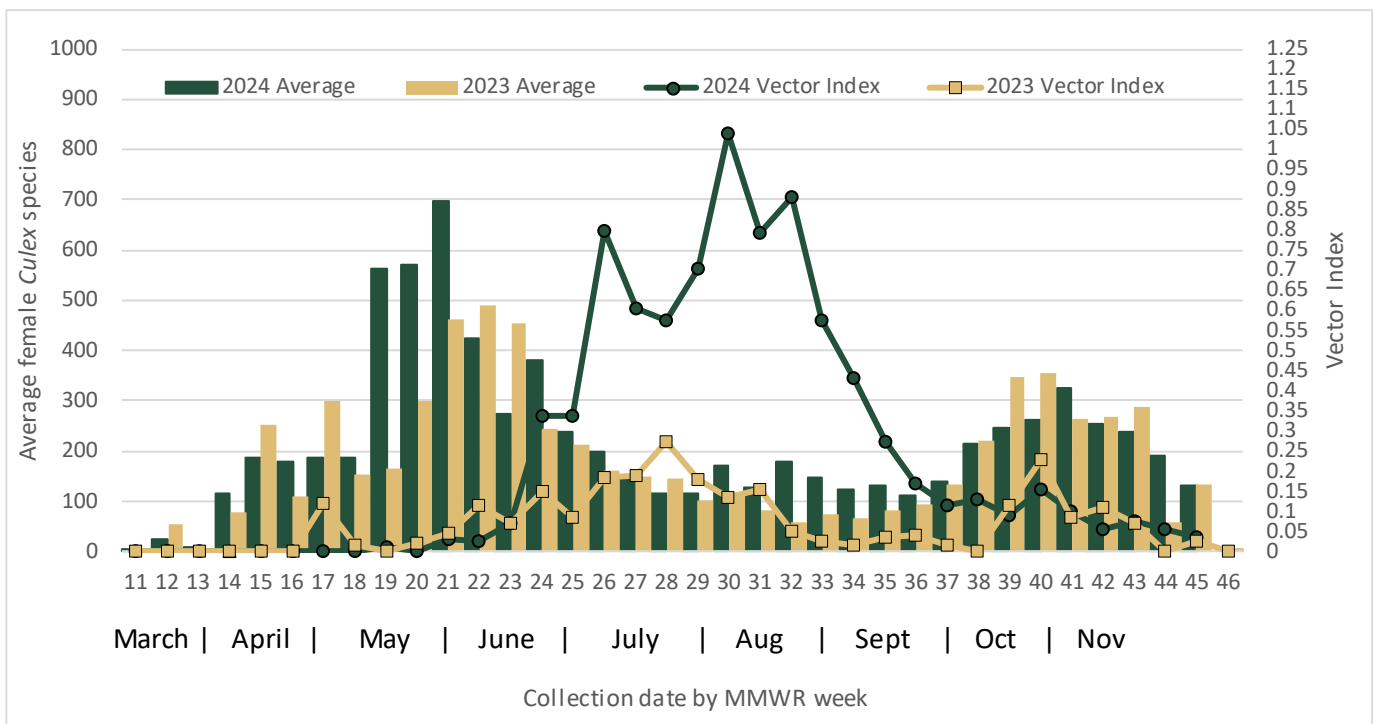
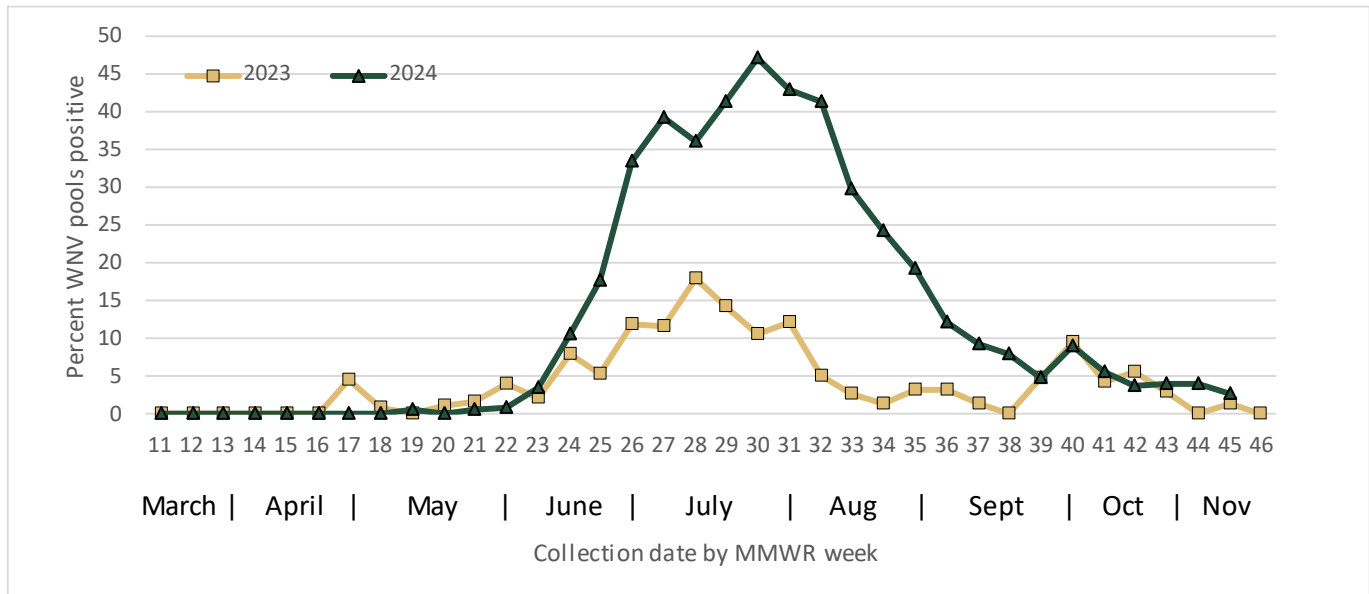


Figure 2. Percentage of Mosquito Pools Positive for WNV by Collection Date, Tarrant County, 2023-2024



Data Source: Tarrant County Public Health

Table 3. North Texas Arbovirus Activity as Reported by Texas DSHS on November 12, 2024

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	99	0 WNF; 4 WNND	0	4	0	9	0	0	0	0	0
Dallas	699	5 WNF; 5 WNND	0	2	0	13	0	0	0	0	0
Denton	82	1 WNF; 5 WNND	0	0	0	6	0	0	0	0	0
Johnson	82	0 WNF; 0 WNND	0	0	0	0	0	0	0	0	0
Non-Tarrant North Texas	962	6	14		0	6	28	0	0	0	0
All Texas Counties	3296	38	91		0	14	95	8	0	0	1

*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](#)