

Tarrant County Public Health

Weekly Arbovirus Surveillance Report: MMWR Week Sep 1-Sep 7, 2024



Week 36 Summary

- 147 mosquito pools* have been tested in NTRL from week 36
 - Year-to-date NTRL has tested a total of 3794 mosquito pools
- 24 mosquito pools tested positive for WNV this week:
Arlington (1) Benbrook (1) Burleson* (9) Colleyville (2) Fort Worth* (8) Mansfield (1) North Richland Hills (1) Pantego (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 57 human cases of West Nile disease.
- Average number of mosquitoes/trap include:
 - *Culex spp*: 29.3
 - *Aedes aegypti* and *Aedes albopictus*: 3.6

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 708 positives in 2024

Arlington (59) Bedford (13) Benbrook (5) Burleson *(65) Colleyville (29) Crowley (7) Dalworthington Gardens (2) DFW Airport*(4) Euless (42) Fort Worth* (247) Grand Prairie* (9) Grapevine (22) Haltom City (25) Haslet (3) Hurst (20) Keller (20) Mansfield* (34) North Richland Hills (27) Pantego (17) Richland Hills (6) River Oaks (7) Southlake (7) Unincorporated (33) Watauga (4) Westover Hills (1)

Table 1. MLE⁽¹⁾ and VI⁽²⁾ for County Quadrants, Weeks 35 and 36

	County Quadrant	# Gravid traps	Ave F <i>Culex</i> spp	Positive pools	MLE (Lower-Upper Limit)	VI
Week 35	Northeast	77	21.1	15.0	12.53 (7.35-20.26)	0.264
	Northwest	23	65.9	6.0	9.01 (3.69-19.31)	0.594
	Southeast	43	22.4	9.0	13.77 (6.95-25.30)	0.039
	Southwest	27	21.4	1.0	1.83 (0.11-8.98)	0.594
Week 36	Northeast	61	16.6	6.0	6.77 (2.79-14.12)	0.112
	Northwest	19	18.6	3.0	10.11 (2.70-28.37)	0.188
	Southeast	35	39.7	4.0	3.78 (1.25-9.05)	0.150
	Southwest	22	35.8	3.0	5.37 (1.43-14.76)	0.192

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

Cumulative Data for the Tarrant County Region, Weeks 33-36

Week	Aug 11- Aug 17	Aug 18- Aug 24	Aug 25- Aug 31	Sep 1-Sep 7	YTD
MMWR Week	33	34	35	36	
Total number of gravid traps set in Tarrant Region	198	204	199	153	4030
Average number of <i>Culex spp</i> per gravid trap	36.4	31.0	27.0	29.3	59.8
Number of mosquito pools tested ¹ (NTRL; non-NTRL)	170;17	169;19	168;20	147;0	3794;273
Number of positive mosquito pools (NTRL; non-NTRL) ¹	58;2	48;2	32;0	24;0	699;9
Confirmed WNV human cases ²	7	8	3	0	57
WNV infection rate per 1,000 <i>Culex spp</i> ³	15.93	14.11	10.28	5.82	
Weekly vector index ⁴	0.573	0.432	0.275	0.169	
Total BG Sentinel traps set in Tarrant Region	24	21	26	14	494
Average number of female <i>Aedes aegypti</i> and <i>Aedes albopictus</i> per BG trap	5.2	2.3	2.2	3.6	5.4

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

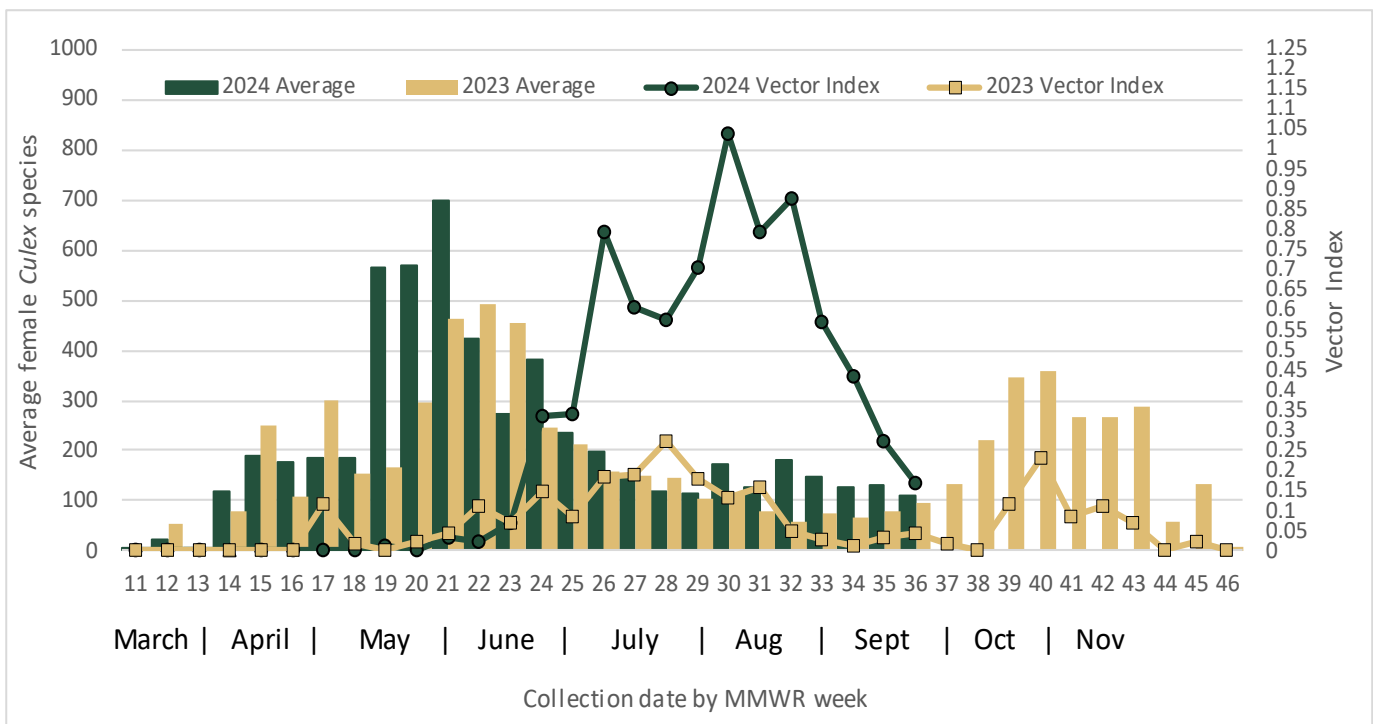
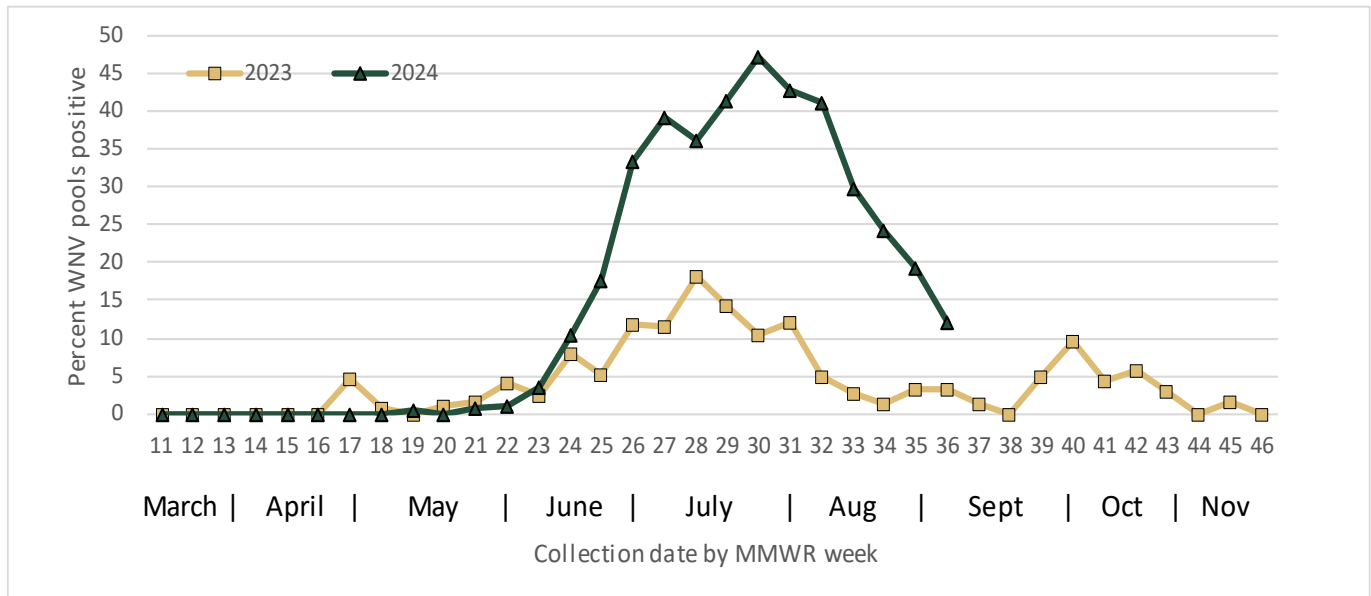


Figure 2. Percentage of Mosquito Pools Positive for WNV by Collection Date, Tarrant County, 2023-2024



Data Source: Tarrant County Public Health

Table 3. North Texas Arbovirus Activity as Reported by Texas DSHS on September 10, 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	68	0 WNF;	1 WNND	0	1	0	5	0	0	0	0
Dallas	580	5 WNF;	0 WNND	0	1	0	5	0	0	0	0
Denton	72	1 WNF;	2 WNND	0	0	0	4	0	0	0	0
Johnson	66	0 WNF;	0 WNND	0	0	0	0	0	0	0	0
Non-Tarrant North Texas	786	6	3	0	2	0	14	0	0	0	0
All Texas Counties	2826	22	28	0	7	0	43	2	0	0	0

*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](#)