

Tarrant County Public Health

Weekly Arbovirus Surveillance Report: MMWR Week Jul 7-Jul 13, 2024



Week 28 Summary

- 143 mosquito pools* have been tested in NTRL from week 28
 - Year-to-date NTRL has tested a total of 2430 mosquito pools
- 49 mosquito pools tested positive for WNV this week:
 - Arlington (7) Benbrook (1) Burleson* (1) DFW Airport (1) Euless (3) Fort Worth* (20) Haltom City (3) Haslet (1) Hurst (2) Keller (1) Mansfield (3) Pantego (2) River Oaks (2) Unincorporated (1)
- There have been 0 imported human cases of SLE or Zika in 2024. There have been 0 cases of Dengue Fever.
 - There have been < 5 human cases of West Nile disease.
- Average number of mosquitoes/trap include:
 - *Culex spp*: 27.2
 - *Aedes aegypti* and 4.7
 - *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 218 positives in 2024

Arlington (23) Bedford (3) Benbrook (1) Burleson *(6) Colleyville (6) DFW Airport*(1) Euless (16) Fort Worth* (82) Grapevine (8) Haltom City (11) Haslet (1) Hurst (9) Keller (5) Mansfield* (13) North Richland Hills (12) Pantego (10) River Oaks (3) Unincorporated (7) Watauga (1)

Table 1. MLE⁽¹⁾ and VI⁽²⁾ for County Quadrants, Weeks 27 and 28

	County Quadrant	# Gravid traps	Ave F <i>Culex</i> spp	Positive pools	MLE (Lower-Upper Limit)	VI
Week 27	Northeast	82	21.4	28.0	27.96 (18.87-40.84)	0.594
	Northwest	25	39.2	9.0	14.17 (7.10-26.41)	0.549
	Southeast	42	36.5	14.0	16.63 (9.55-27.82)	0.606
	Southwest	20	48.2	5.0	9.99 (3.86-22.06)	0.476
Week 28	Northeast	55	25.3	20.0	23.78 (14.99-36.77)	0.601
	Northwest	26	30.5	7.0	21.71 (9.67-45.68)	0.661
	Southeast	35	27.9	11.0	20.31 (10.96-35.83)	0.565
	Southwest	23	32.9	5.0	15.02 (5.69-33.86)	0.494

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 25-28

Week	Jun 16- Jun 22	Jun 23- Jun 29	Jun 30- Jul 6	Jul 7-Jul 13	YTD
MMWR Week	25	26	27	28	
Total number of gravid traps set in Tarrant Region	184	185	198	167	2473
Average number of <i>Culex spp</i> per gravid trap	59.5	54.1	33.1	27.2	76.4
Number of mosquito pools tested ¹ (NTRL; non-NTRL)	166;10	162;17	159;6	143;15	2430;156
Number of positive mosquito pools (NTRL; non-NTRL) ¹	27;0	52;0	60;0	49;0	218;0
Confirmed WNV human cases (WNF; WNND) ²	0;<5	0;<5	0;<5	0;<5	0;<5
WNV infection rate per 1,000 <i>Culex spp</i> ³	5.98	14.95	19.08	21.59	
Weekly vector index ⁴	0.340	0.796	0.606	0.577	
Total BG Sentinel traps set in Tarrant Region	20	15	16	18	313
Average number of female <i>Aedes aegypti</i> and <i>Aedes albopictus</i> per BG trap	12.8	11.7	6.2	4.7	5.8

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

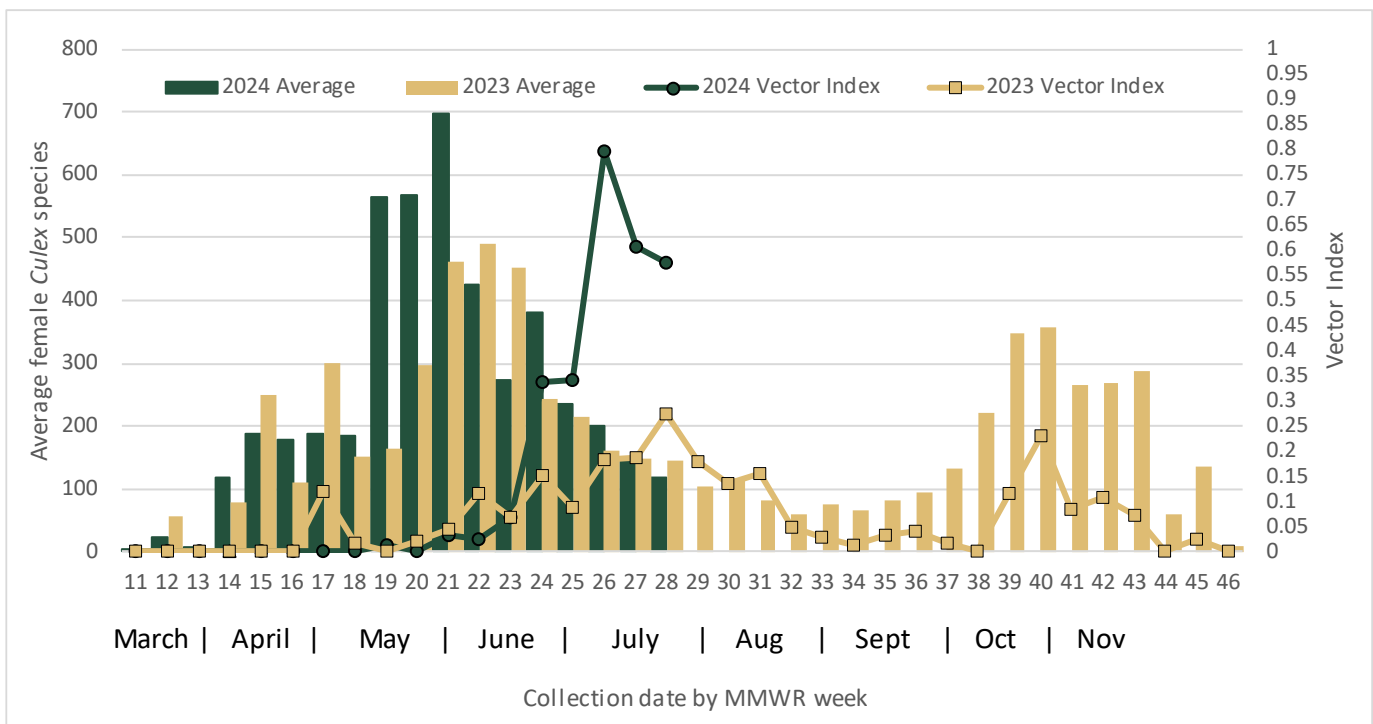
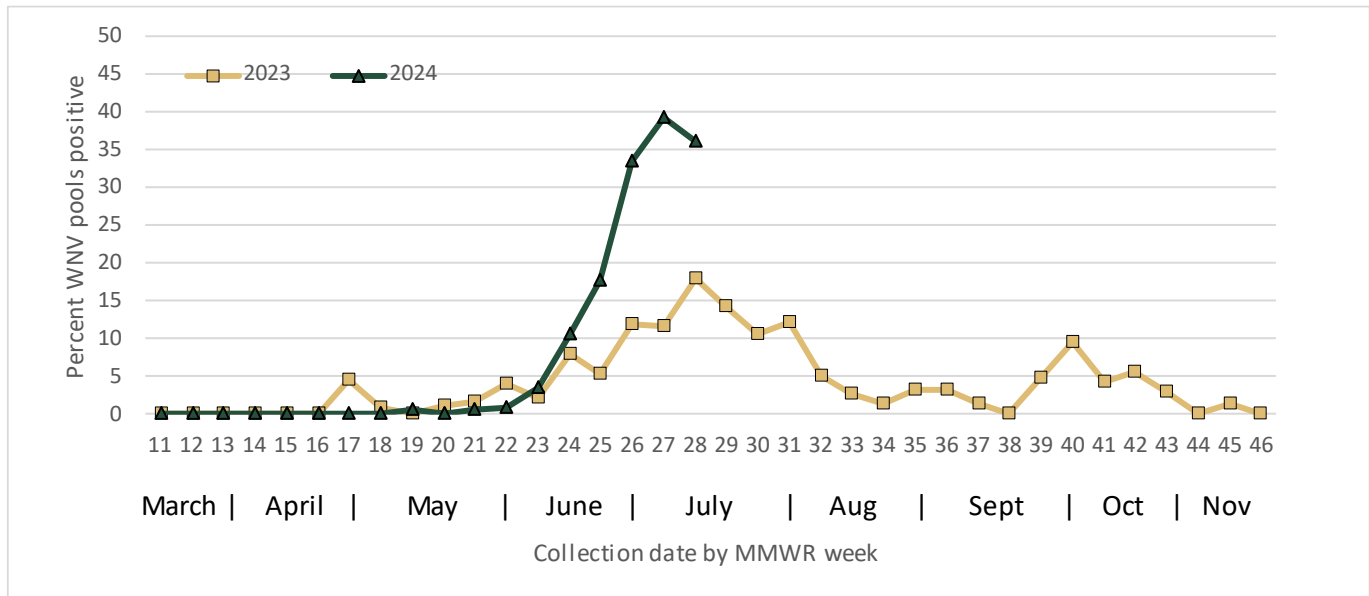


Figure 2. Percentage of Mosquito Pools Positive for WNV by Collection Date, Tarrant County, 2023-2024



Data Source: Tarrant County Public Health

Table 3. North Texas Arbovirus Activity as Reported by Texas DSHS on July 16, 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	16	0 WNF;	0 WNND	0	0	0	2	0	0	0	0	
Dallas	163	0 WNF;	0 WNND	0	0	0	3	0	0	0	0	
Denton	17	0 WNF;	0 WNND	0	0	0	0	0	0	0	0	
Johnson	7	0 WNF;	0 WNND	0	0	0	0	0	0	0	0	
Non-Tarrant North Texas	203	0	0	0	0	0	5	0	0	0	0	
All Texas Counties	1051	3	0	0	1	0	16	0	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](#)