

Tarrant County Public Health

Weekly Arbovirus Surveillance Report: MMWR Week Jun 30-Jul 6, 2024



Week 27 Summary

- 155 mosquito pools* have been tested in NTRL from week 27
 - Year-to-date NTRL has tested a total of 2283 mosquito pools
- 60 mosquito pools tested positive for WNV this week:
 - Arlington (6) Bedford (2) Burleson* (2) Colleyville (4) Euless (5) Fort Worth* (20) Grapevine (3) Haltom City (2) Keller (2) Mansfield (6) North Richland Hills (4) Pantego (3) 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 0 human cases of West Nile disease.
- Average number of mosquitoes/trap include:
 - *Culex spp*: 33.6
 - *Aedes aegypti* and 6.2
 - *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 169 positives in 2024

Arlington (16) Bedford (3) Burleson *(5) Colleyville (6) Euless (13) Fort Worth* (62) Grapevine (8) Haltom City (8) Hurst (7) Keller (4) Mansfield* (10) North Richland Hills (12) Pantego (8) River Oaks (1) Unincorporated** (6)

Table 1. MLE⁽¹⁾ and VI⁽²⁾ for County Quadrants, Weeks 26 and 27

	County Quadrant	# Gravid traps	Ave F <i>Culex</i> spp	Positive pools	MLE (Lower-Upper Limit)	VI
Week 26	Northeast	70	41.3	23.0	16.04 (10.53-23.83)	0.657
	Northwest	27	68.3	10.0	13.12 (6.95-23.34)	0.892
	Southeast	38	44.3	14.0	21.63 (12.30-36.79)	0.942
	Southwest	20	44.9	4.0	6.45 (2.11-15.85)	0.282
Week 27	Northeast	79	21.8	28.0	28.89 (19.52-42.22)	0.626
	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

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 24-27

Week	Jun 9- Jun 15	Jun 16- Jun 22	Jun 23- Jun 29	Jun 30- Jul 6	YTD
MMWR Week	24	25	26	27	
Total number of gravid traps set in Tarrant Region	194	184	185	194	2302
Average number of <i>Culex spp</i> per gravid trap	116.9	59.5	54.1	33.6	80.1
Number of mosquito pools tested ¹ (NTRL; non-NTRL)	173;19	166;10	162;17	155;6	2283;141
Number of positive mosquito pools (NTRL; non-NTRL) ¹	18;0	27;0	52;0	60;0	169;0
Confirmed WNV human cases (WNF; WNND) ²	0;0	0;0	0;0	0;0	0;0
WNV infection rate per 1,000 <i>Culex spp</i> ³	3.01	5.98	14.95	19.28	
Weekly vector index ⁴	0.338	0.340	0.796	0.622	
Total BG Sentinel traps set in Tarrant Region	22	20	15	16	295
Average number of female <i>Aedes aegypti</i> and <i>Aedes albopictus</i> per BG trap	18.4	12.8	11.7	6.2	5.9

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

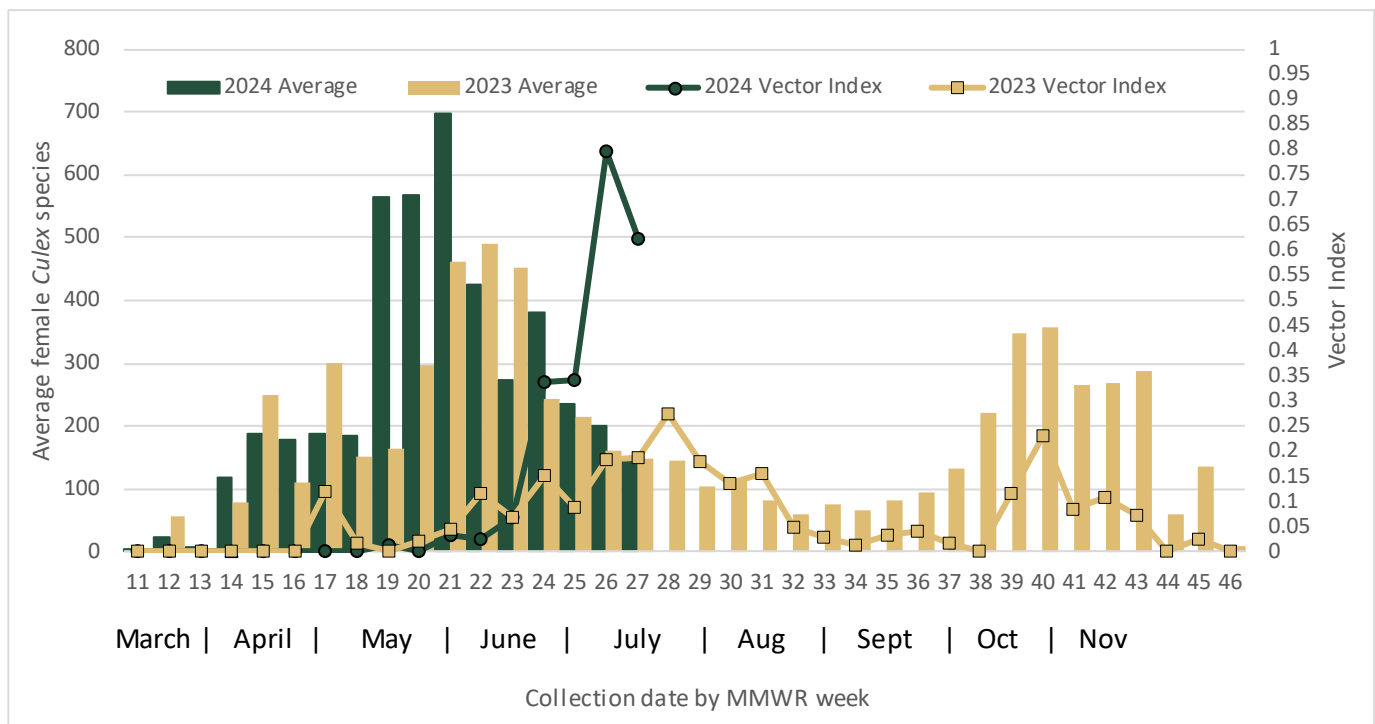
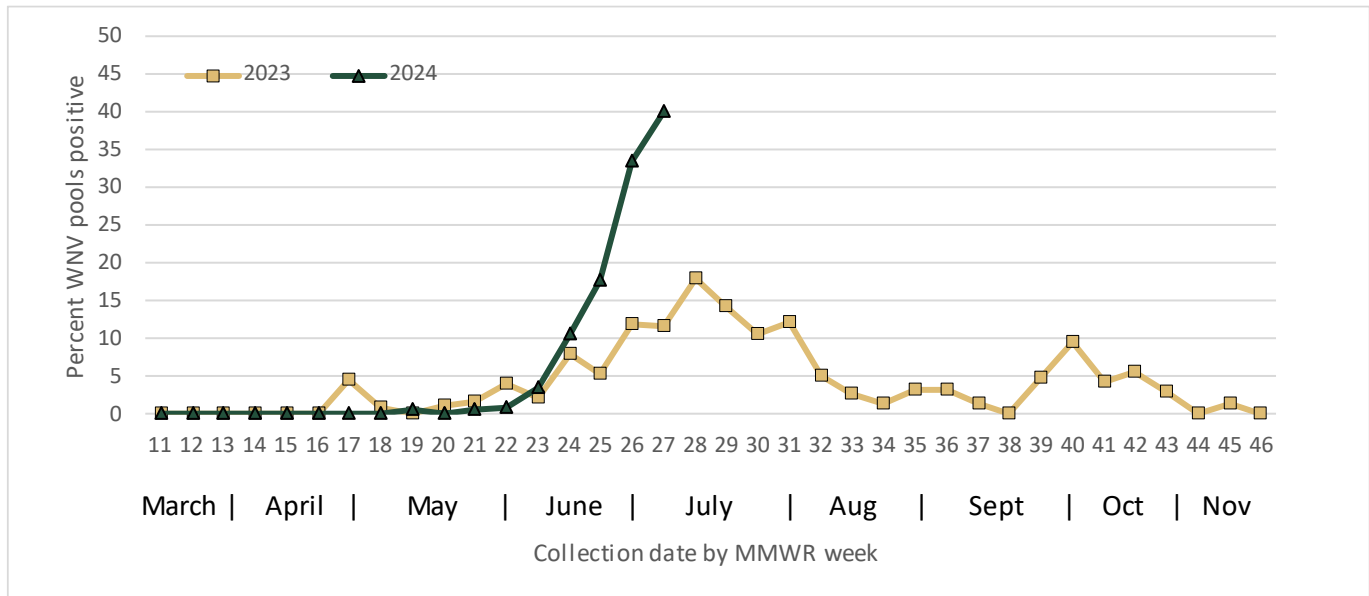


Figure 2. Percentage of Mosquito Pools Positive for WNV by Collection Date, Tarrant County, 2023-2024



Data Source: Tarrant County Public Health

Table 3. North Texas Arbovirus Activity as Reported by Texas DSHS on July 9, 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	8	0 WNF;	0 WNND	0	0	0	1	0	0	0	0	0
Dallas	117	0 WNF;	0 WNND	0	0	0	2	0	0	0	0	0
Denton	14	0 WNF;	0 WNND	0	0	0	0	0	0	0	0	0
Johnson	5	0 WNF;	0 WNND	0	0	0	0	0	0	0	0	0
Non-Tarrant North Texas	144	0	0	0	0	0	3	0	0	0	0	0
All Texas Counties	792	1	0	0	0	0	10	0	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](#)