

Tarrant County Public Health

Weekly Arbovirus Surveillance Report: MMWR Week May 26-Jun 1, 2024



Week 22 Summary

- 126 mosquito pools* have been tested in NTRL from week 22
 - Year-to-date NTRL has tested a total of 1442 mosquito pools
- 1 mosquito pools tested positive for WNV this week:
 - Fort Worth* (1) North Richland Hills (1)
- There have been less than 5 imported human cases of SLE or Zika in 2024. There have been less than 5 cases of Dengue Fever.
 - There have been less than 5 human cases of West Nile disease.
- Average number of mosquitoes/trap include:
 - *Culex spp*: 119.2
 - *Aedes aegypti* and 4.3
 - *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 4 positives in 2024

Arlington (1) Euless (1) Fort Worth* (1) North Richland Hills (1)

Table 1. MLE⁽¹⁾ and VI⁽²⁾ for County Quadrants, Weeks 21 and 22

	County Quadrant	# Gravid traps	Ave F <i>Culex</i> spp	Positive pools	MLE (Lower-Upper Limit)	VI
Week 21	Northeast	66	139.2	1.0	0.38 (0.02-2.43)	0.052
	Northwest	19	125.6	0.0	0.00 (0.00-4.64)	0.000
	Southeast	32	285.3	0.0	0.00 (0.00-2.94)	0.000
	Southwest	23	148.6	0.0	0.00 (0.00-3.83)	0.000
Week 22	Northeast	52	127.5	1.0	0.49 (0.03-3.71)	0.064
	Northwest	16	148.7	0.0	0.00 (0.00-5.25)	0.000
	Southeast	34	62.4	0.0	0.00 (0.00-3.43)	0.000
	Southwest	15	87.5	0.0	0.00 (0.00-4.70)	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. 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 19-22

Week	May 5- May 11	May 12- May 18	May 19- May 25	May 26- Jun 1	YTD
MMWR Week	19	20	21	22	
Total number of gravid traps set in Tarrant Region	179	186	166	133	1339
Average number of <i>Culex spp</i> per gravid trap	120.0	138.0	178.7	119.2	89.7
Number of mosquito pools tested ¹ (NTRL; non-NTRL)	198;18	197;20	152;11	126;0	1442;75
Number of positive mosquito pools (NTRL; non-NTRL) ¹	1;0	0;0	1;0	2;0	4;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	0.14	0.00	0.18	0.23	
Weekly vector index ⁴	0.011	0.000	0.032	0.026	
Total BG Sentinel traps set in Tarrant Region	24	19	23	15	195
Average number of female <i>Aedes aegypti</i> and <i>Aedes albopictus</i> per BG trap	4.0	3.5	5.4	4.3	2.6

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

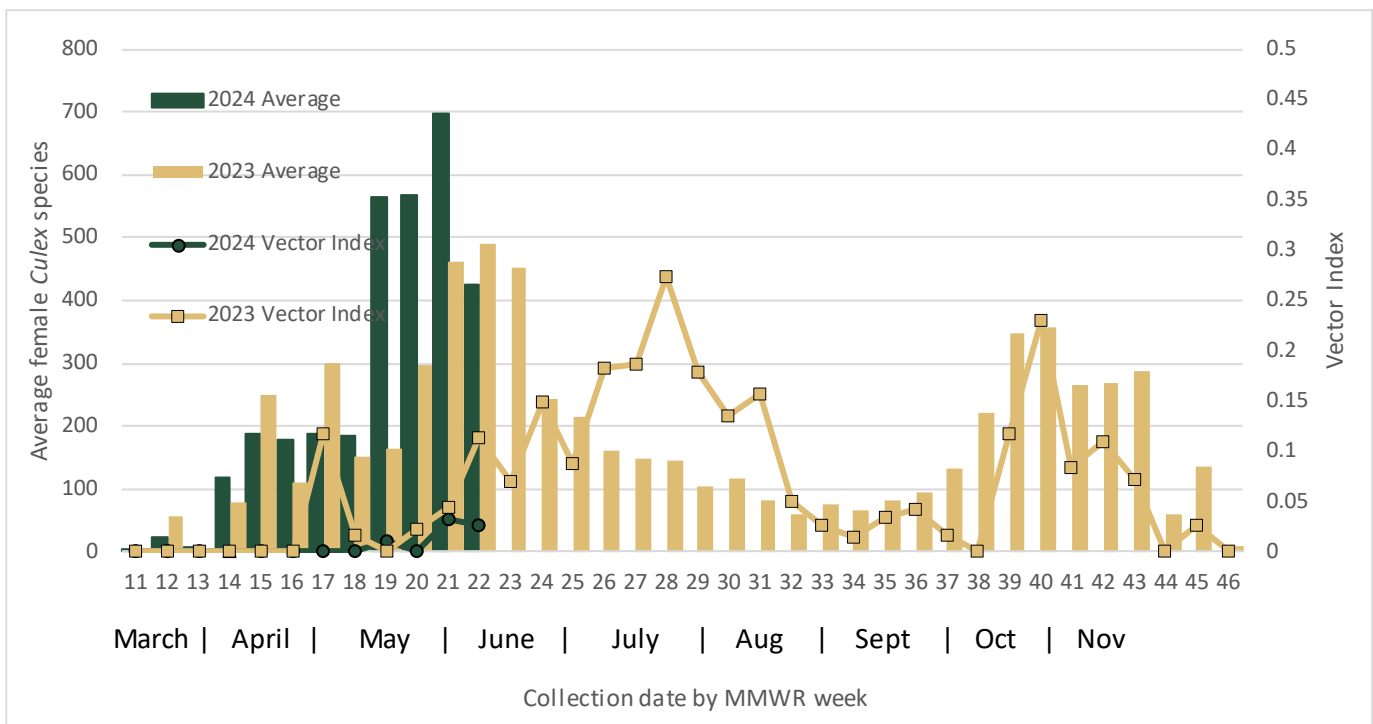
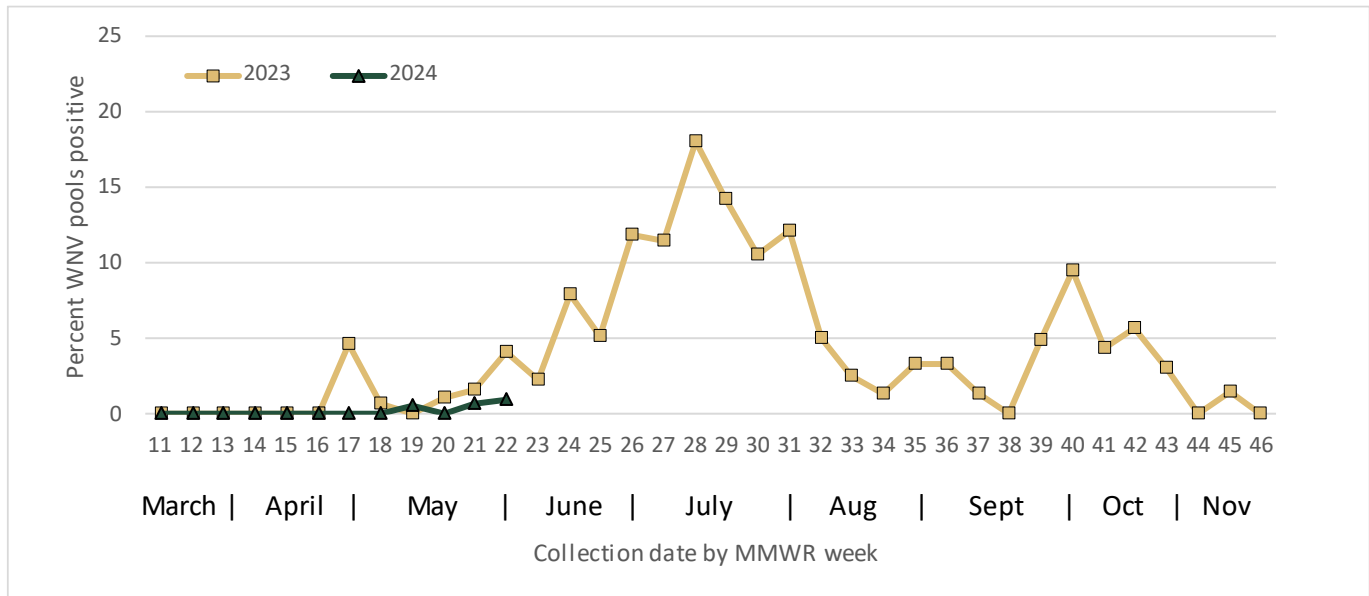


Figure 2. Percentage of Mosquito Pools Positive for WNV by Collection Date, Tarrant County, 2023-2024



Data Source: Tarrant County Public Health

Table 3. North Texas Arbovirus Activity as Reported by Texas DSHS on June 4, 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	0	0	WNF; 0 WNND	0	0	0	0	0	0	0	0	
Dallas	0	0	WNF; 0 WNND	0	0	0	0	0	0	0	0	
Denton	1	0	WNF; 0 WNND	0	0	0	0	0	0	0	0	
Johnson	0	0	WNF; 0 WNND	0	0	0	0	0	0	0	0	
Non-Tarrant North Texas	1	0		0	0	0	0	0	0	0	0	
All Texas Counties	32	0	0	0	0	0	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](#)