

Arbovirus Final Surveillance Report MMWR Week Jul 3-Jul 9, 2022



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Week 27 Summary

- 172 mosquito pools* have been tested in NTRL from week 27
 - Year-to-date NTRL has tested a total of 2208 mosquito pools
- 1 mosquito pools tested positive for WNV this week:
 - Grand Prairie* (1)
- There have been 0 imported human cases of SLE or Zika in 2022. There has been 1 case of Dengue Fever.
 - There have been 0 human cases of West Nile disease.
- Average number of mosquitoes/trap include:
 - *Culex* spp: 42.8
 - *Aedes aegypti*: 2.8
 - *Aedes albopictus* 4.2

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 has been a total of 5 positive in 2022.

Bedford (1) Grand Prairie* (3) North Richland Hills (1)

* May include data from outside Tarrant County

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

	County Quadrant	# gravid traps	Ave F <i>Culex</i> spp	Positive pools	MLE (Lower-Upper Limit)	VI
Week 26	Northeast	73	40.1	1.0	0.48 (0.03-1.15)	0.021
	Northwest	26	29.5	0.0	0.00 (0.00-2.38)	0.000
	Southeast	40	46.8	0.0	0.00 (0.00-1.53)	0.000
	Southwest	28	43.4	0.0	0.00 (0.00-2.47)	0.000
Week 27	Northeast	66	39.9	0.0	0.00 (0.00-1.15)	0.000
	Northwest	29	29.3	0.0	0.00 (0.00-2.66)	0.000
	Southeast	40	72.0	1.0	0.77 (0.05-1.86)	0.056
	Southwest	27	34.0	0.0	0.00 (0.00-2.78)	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



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Cumulative Data for the Tarrant County Region, Weeks 24-27

Week	Jun 12- Jun 18	Jun 19- Jun 25	Jun 26- Jul 2	Jul 3-Jul 9	YTD
MMWR Week	24	25	26	27	
Total number of gravid traps set in Tarrant Region	172	169	167	162	1972
Average number of <i>Culex</i> spp per gravid trap	82.7	65.1	58.6	42.8	36.0
Number of mosquito pools tested ¹ (NTRL; non-NTRL)	184;8	173;13	180;10	172;9	2208;121
Number of positive mosquito pools (NTRL; non-NTRL) ¹	0;0	0;0	1;1	0;1	2;3
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</i> spp ³	0.00	0.00	0.21	0.24	
Weekly vector index ⁴	0.000	0.000	0.012	0.010	
Total BG Sentinel traps set in Tarrant Region	33	27	24	28	375
Average number of female <i>Aedes aegypti</i> per BG trap	9.7	4.7	4.5	2.8	2.9
Average number of female <i>Aedes albopictus</i> per BG trap	5.8	5.1	3.0	4.2	2.7

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

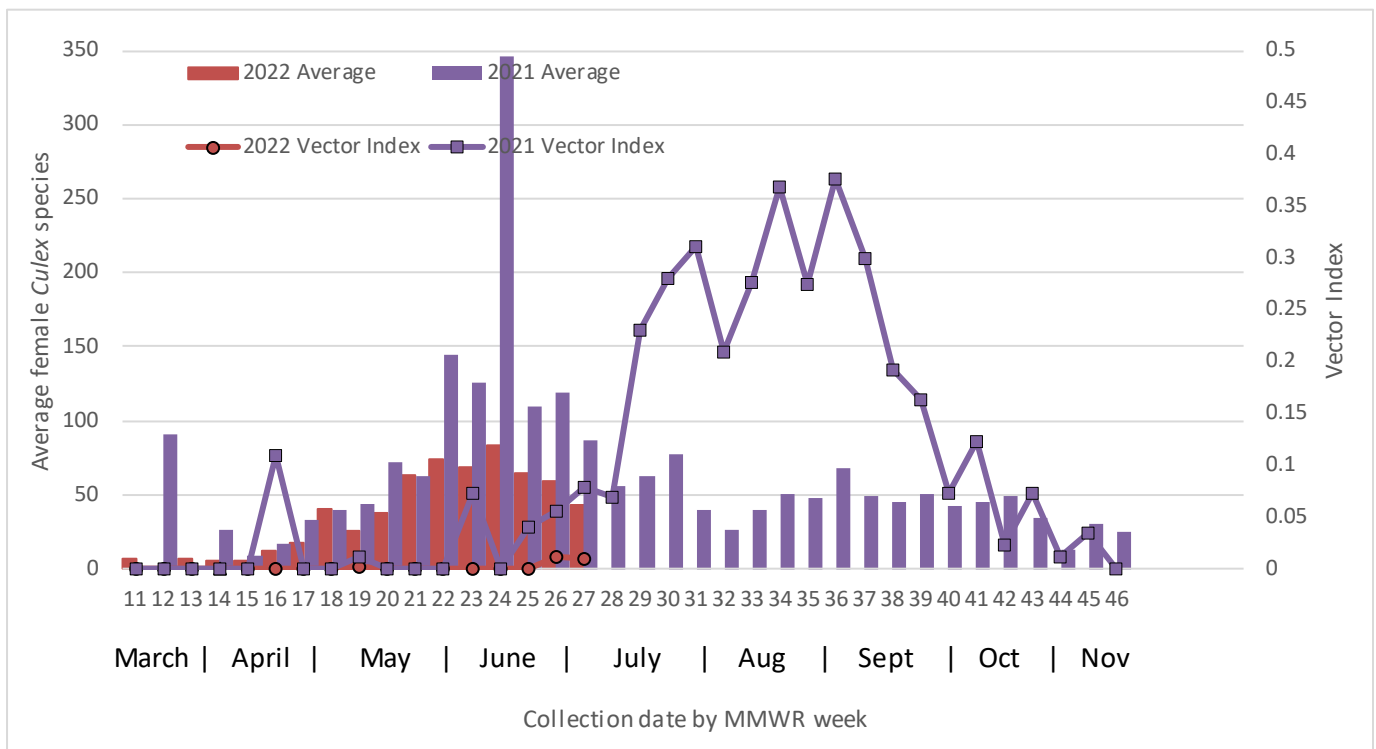
² Based on onset of illness date for cases reported to Tarrant County Public Health; WNF=West Nile Fever; WNND = West Nile Neuroinvasive Disease

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, 2021-2022

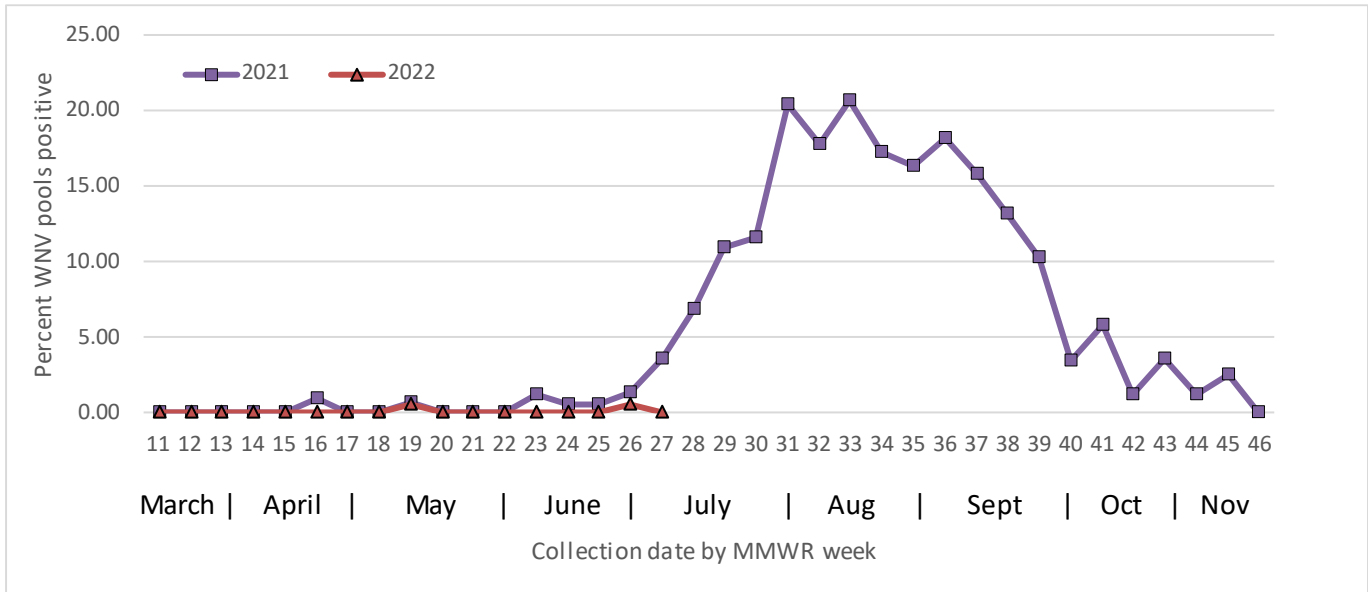


Data Source: Tarrant County Public Health



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Figure 2. Percentage of Mosquito Pools Positive for WNV by Collection Date, Tarrant County, 2021-2022



Data Source: Tarrant County Public Health

Table 3. North Texas Arbovirus Activity as Reported by Texas DSHS on July 12, 2022

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	3	0 WNF; 1 WNND	0	0	0	0	0	0	0	0
Dallas	3	0 WNF; 0 WNND	0	0	0	2	0	0	0	0
Denton	2	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	8	0	1		0	2	0	0	0	0
All Texas Counties	43	0	1		0	6	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](#)