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**Arbovirus Final Surveillance Report
MMWR Week May 15-May 21, 2022**

Week 20 Summary

- 168 mosquito pools* have been tested in NTRL from week 20
 - Year-to-date NTRL has tested a total of 978 mosquito pools
- 0 mosquito pools tested positive for WNV this week:
- 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: 38.0
 - *Aedes aegypti*: 4.0
 - *Aedes albopictus* 6.2

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 1 positive in 2022.

Bedford (1)

* May include data from outside Tarrant County

Table 1. MLE⁽¹⁾ and VI⁽²⁾ for County Quadrants, Week 19 and 20

	County Quadrant	# gravid traps	Ave F <i>Culex</i> spp	Positive pools	MLE (Lower-Upper Limit)	VI
Week 19	Northeast	65	28.3	1.0	0.65 (0.04-36.71)	0.023
	Northwest	32	29.3	0.0	0.00 (0.00-93.89)	0.000
	Southeast	30	38.0	0.0	0.00 (0.00-19.76)	0.000
	Southwest	29	37.6	0.0	0.00 (0.00-59.77)	0.000
Week 20	Northeast	73	33.5	0.0	0.00 (0.00-1.00)	0.000
	Northwest	30	32.4	0.0	0.00 (0.00-37.65)	0.000
	Southeast	38	34.4	0.0	0.00 (0.00-31.76)	0.000
	Southwest	30	46.5	0.0	0.00 (0.00-64.16)	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 17-20

Week	Apr 24- Apr 30	May 1- May 7	May 8- May 14	May 15- May 21	YTD
MMWR Week	17	18	19	20	
Total number of gravid traps set in Tarrant Region	93	132	156	171	800
Average number of <i>Culex</i> spp per gravid trap	17.5	65.2	49.2	38.0	17.5
Number of mosquito pools tested ¹ (NTRL; non-NTRL)	107;4	181;10	161;8	168;14	978;43
Number of positive mosquito pools (NTRL; non-NTRL) ¹	0;0	0;0	1;0	0;0	1;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</i> spp ³	0.00	0.00	0.72	0.00	
Weekly vector index ⁴	0.000	0.000	0.001	0.000	
Total BG Sentinel traps set in Tarrant Region	26	27	27	34	178
Average number of female <i>Aedes aegypti</i> per BG trap	2.3	1.4	5.0	4.0	1.4
Average number of female <i>Aedes albopictus</i> per BG trap	0.8	3.4	4.3	6.2	1.5

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

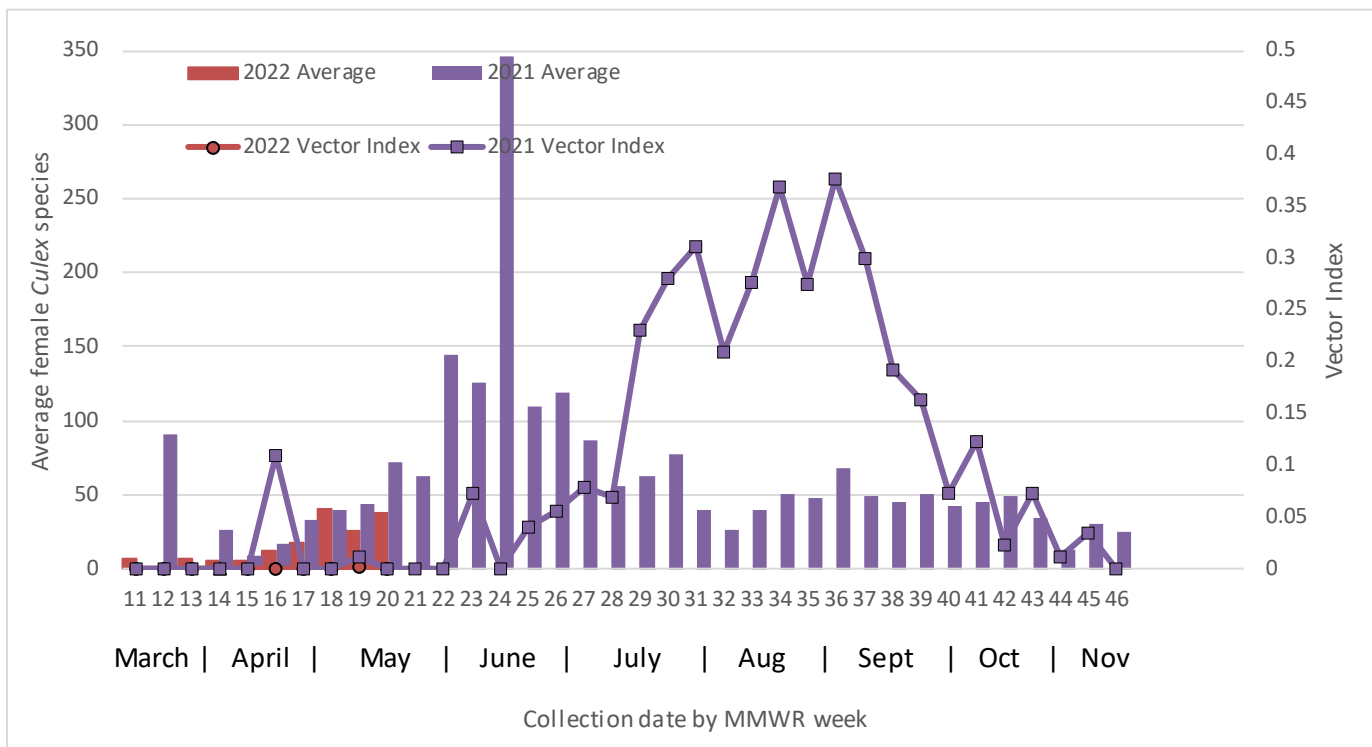
² Based on onset of illness date for cases reported to Tarrant County Public Health; WNF=West Nile Fever; WNND = West Nile Neuroinvasive Disease

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

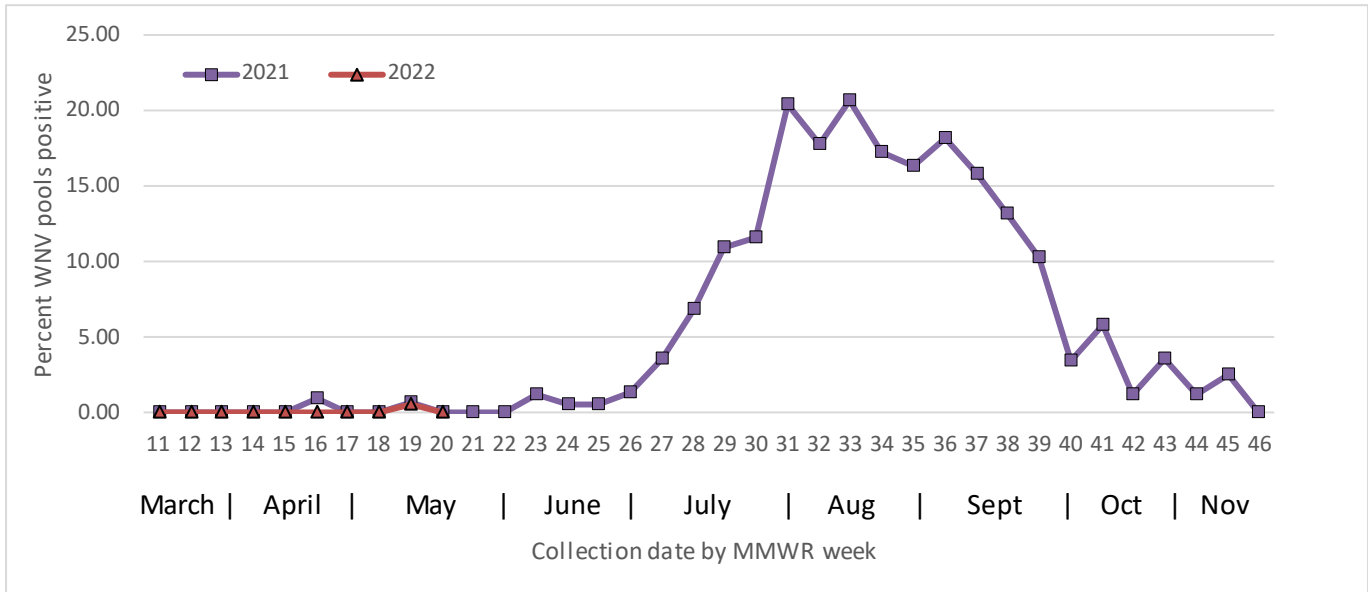


Data Source: Tarrant County Public Health



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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 May 24, 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	0	0 WNF; 0 WNND	0	0	0	0	0	0	0	0
Dallas	0	0 WNF; 1 WNND	0	0	0	1	0	0	0	0
Denton	0	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	0	0	1		0	1	0	0	0	0
All Texas Counties	2	0	1		0	4	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](#)