

# Tarrant County Public Health

## Weekly Arbovirus Surveillance Report: MMWR Week Jun 11-Jun 17, 2023



### Week 24 Summary

- 178 mosquito pools\* have been tested in NTRL from week 24
  - Year-to-date NTRL has tested a total of 1695 mosquito pools
- 13 mosquito pools tested positive for WNV this week:
  - Arlington (4) Colleyville (2) Euless (1) Grapevine (1) Unincorporated (5)
- There have been 0 imported human cases of SLE or Zika in 2023. 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: 60.8
  - *Aedes aegypti*: 8.2
  - *Aedes albopictus*: 3.8

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 38 positives in 2023

Arlington (11) Burleson \*(1) Colleyville (5) Euless (2) Fort Worth\* (2) Grapevine (3) Hurst (2) Mansfield\* (1) Unincorporated\*\* (9) Watauga (2)

\* May include data from outside Tarrant County \*\* Includes 2 positives from winter surveillance

**Table 1. MLE<sup>(1)</sup> and VI<sup>(2)</sup> for County Quadrants, Weeks 23 and 24**

	County Quadrant	# Gravid traps	Ave F <i>Culex</i> spp	Positive pools	MLE (Lower-Upper Limit)	VI
Week 23	Northeast	74	107.9	4.0	1.63 (0.53-12.34)	0.122
	Northwest	32	119.9	0.0	0.00 (0.00-1.64)	0.000
	Southeast	42	168.3	0.0	0.00 (0.00-7.58)	0.000
	Southwest	26	82.1	0.0	0.00 (0.00-1.64)	0.000
Week 24	Northeast	74	76.9	6.0	3.35 (1.38-34.05)	0.132
	Northwest	27	71.5	2.0	1.96 (0.36-2.76)	0.167
	Southeast	43	104.2	4.0	3.34 (1.09-4.03)	0.256
	Southwest	24	40.5	1.0	1.13 (0.07-2.76)	0.080

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

## Cumulative Data for the Tarrant County Region, Weeks 21-24

Week	May 21- May 27	May 28- Jun 3	Jun 4- Jun 10	Jun 11- Jun 17	YTD
MMWR Week	21	22	23	24	
Total number of gravid traps set in Tarrant Region	169	157	174	168	1531
Average number of <i>Culex</i> spp per gravid trap	119.1	105.5	119.1	60.8	152.0
Number of mosquito pools tested <sup>1</sup> (NTRL; non-NTRL)	203;21	183;19	191;12	178;20	1695;141
Number of positive mosquito pools (NTRL; non-NTRL) <sup>1</sup>	3;0	8;0	4;0	13;0	38;0
Confirmed WNV human cases (WNF; WNND) <sup>2</sup>	0;0	0;0	0;0	0;0	0;0
WNV infection rate per 1,000 <i>Culex</i> spp <sup>3</sup>	1.64	5.57	0.67	2.69	
Weekly vector index <sup>4</sup>	0.195	0.588	0.079	0.163	
Total BG Sentinel traps set in Tarrant Region	24	22	20	28	242
Average number of female <i>Aedes aegypti</i> per BG trap	2.1	3.2	7.2	8.2	2.1
Average number of female <i>Aedes albopictus</i> per BG trap	4.7	7.5	9.5	3.8	2.6

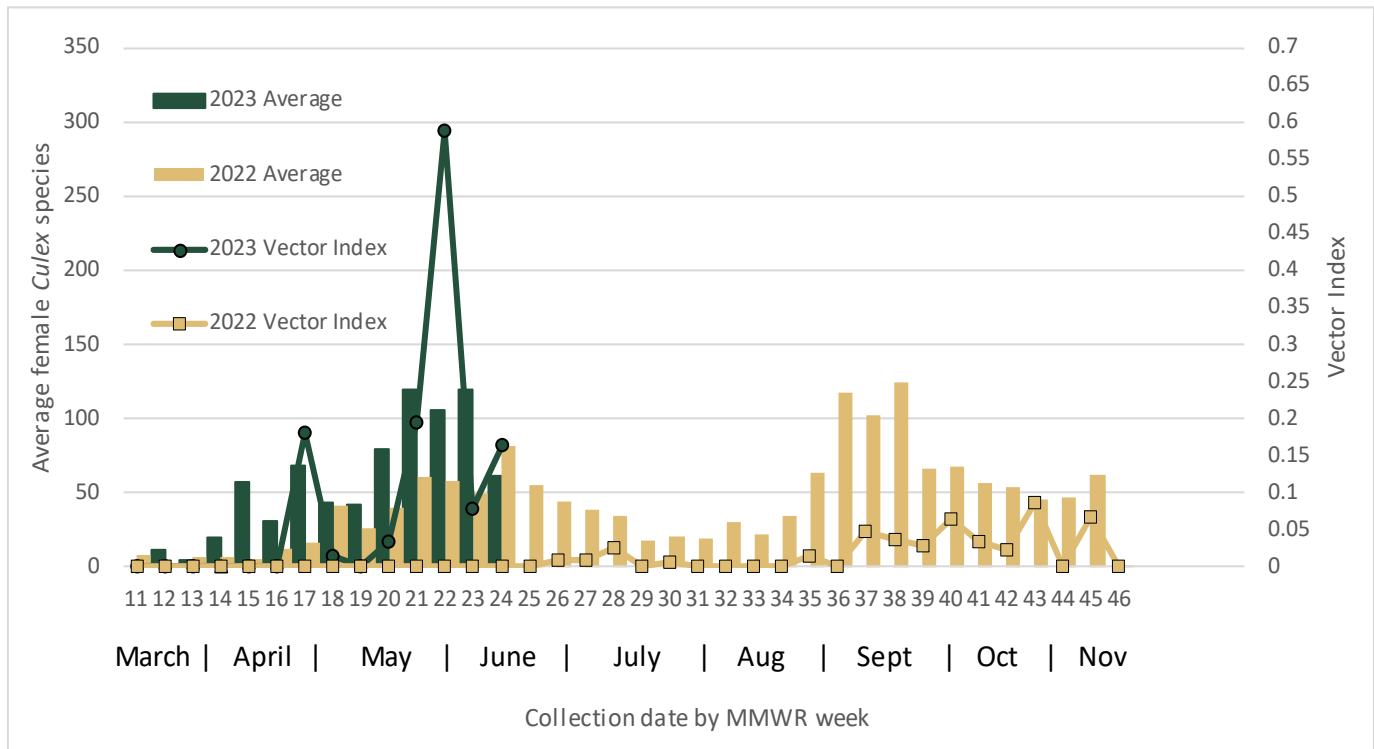
<sup>1</sup> Based on mosquito collection date; NTRL = North Texas Regional Laboratory

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

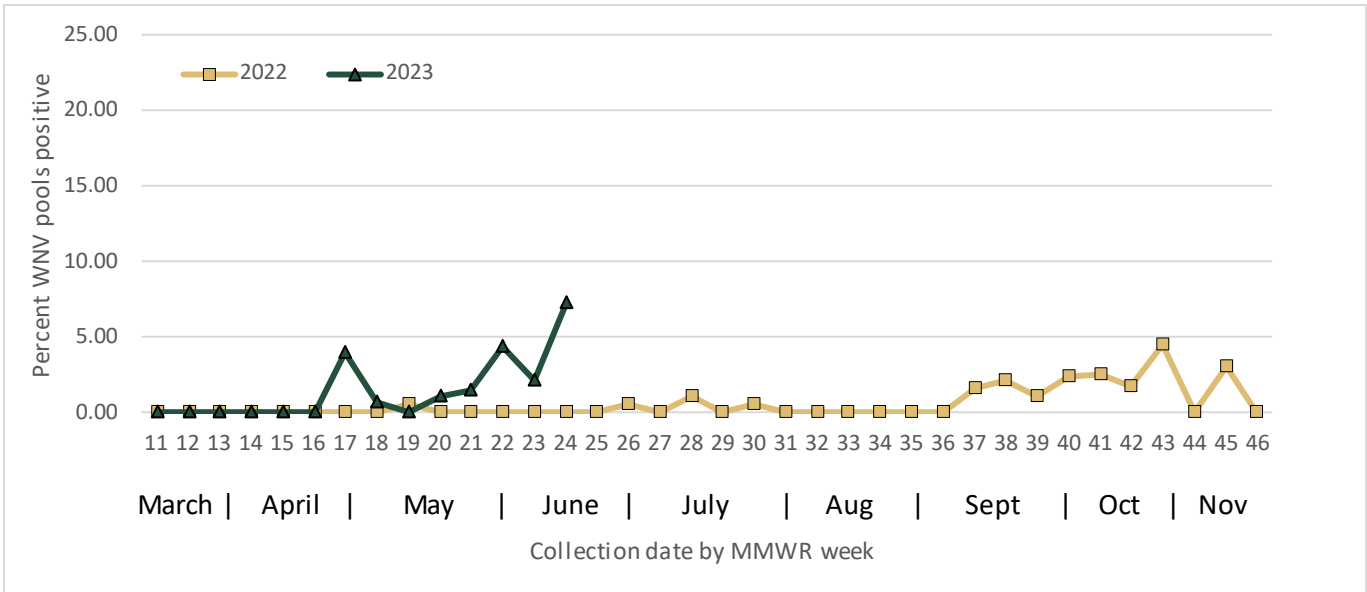
<sup>3</sup> Calculated using a Maximum Likelihood Estimation (MLE). Biggerstaff, Brad J. PooledInfRate, Version 4.0: a Microsoft® Office Excel® Add-In to compute prevalence estimates from pooled samples. Centers for Disease Control and Prevention, Fort Collins, CO, U.S.A., 2009 *Culex* spp includes pools of both *Cx restuans* and *Cx quinquefasciatus*. These MLEs are calculated separately, per species and added together as per instructions by CDC.

<sup>4</sup> 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, 2022-2023**



**Figure 2. Percentage of Mosquito Pools Positive for WNV by Collection Date, Tarrant County, 2022-2023**



Data Source: Tarrant County Public Health

**Table 3. North Texas Arbovirus Activity as Reported by Texas DSHS on June 20, 2023**

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	0
Dallas	13	0 WNF;	0 WNND	0	0	0	1	0	0	0	0	0
Denton	0	0 WNF;	0 WNND	0	0	0	0	0	0	0	0	0
Johnson	1	0 WNF;	0 WNND	0	0	0	0	0	0	0	0	0
<b>Non-Tarrant North Texas</b>	<b>14</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>All Texas Counties</b>	<b>47</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

\*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:**

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| <p>Department of State Health Services:</p> <ul style="list-style-type: none"> <li><a href="#">Arbovirus Activity Reports</a></li> <li><a href="#">Texas Zika</a></li> </ul> <p>Tarrant County educational videos and documents:</p> <ul style="list-style-type: none"> <li><a href="#">Eliminating Mosquito Breeding Sites</a></li> <li><a href="#">Barrier Treatments for Mosquitoes</a></li> <li><a href="#">Mosquitoes Love Water</a></li> <li><a href="#">Mosquito Prevention Tool Kit</a></li> </ul> | <p>Tarrant County web pages:</p> <ul style="list-style-type: none"> <li><a href="#">Be Mosquito Free</a></li> <li><a href="#">Zika</a></li> <li><a href="#">Vector Control</a></li> <li><a href="#">WNV Interactive Mapping Tool</a></li> </ul> <p>Environmental Protection Agency:</p> <ul style="list-style-type: none"> <li><a href="#">Insect Repellent Information</a></li> </ul> <p>Center for Disease Control and Prevention:</p> <ul style="list-style-type: none"> <li><a href="#">Zika Travel Information</a></li> </ul> |
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