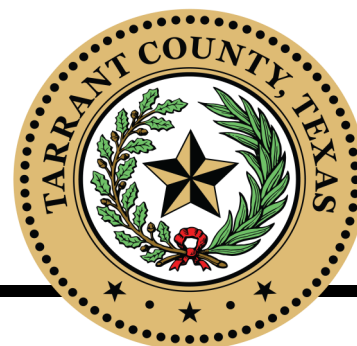


Tarrant County Public Health

Weekly Arbovirus Surveillance Report: MMWR Week Jul 23-Jul 29, 2023



Week 30 Summary

- 166 mosquito pools* have been tested in NTRL from week 30
 - Year-to-date NTRL has tested a total of 2680 mosquito pools
- 17 mosquito pools tested positive for WNV this week:
Arlington (4) Bedford (1) Burleson* (1) Colleyville (2) Euless (3) Fort Worth* (5) Southlake (1)
- There have been 0 imported human cases of SLE or Zika in 2023. There have been 0 cases of Dengue Fever.
 - There has been 3 human case of West Nile disease.
- Average number of mosquitoes/trap include:
 - *Culex* spp: 29.3
 - *Aedes aegypti*: 3.9
 - *Aedes albopictus*: 1.3

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 152 positives in 2023

Arlington (37) Bedford (4) Burleson *(6) Colleyville (9) Euless (12) Fort Worth* (33)
Grapevine (10) Haltom City (3) Hurst (5) Keller (2) Mansfield* (1) North Richland Hills (5)
River Oaks (4) Southlake (4) Unincorporated** (15) Watauga (2)

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

Table 1. MLE⁽¹⁾ and VI⁽²⁾ for County Quadrants, Weeks 29 and 30

	County Quadrant	# Gravid traps	Ave F <i>Culex</i> spp	Positive pools	MLE (Lower-Upper Limit)	VI
Week 29	Northeast	75	42.3	12.0	10.98 (0.00-18.66)	0.222
	Northwest	32	23.1	3.0	3.92 (1.07-10.40)	0.120
	Southeast	41	85.9	6.0	7.75 (3.15-16.57)	0.448
	Southwest	28	20.3	2.0	3.61 (0.65-11.94)	0.083
Week 30	Northeast	66	29.7	10.0	8.43 (4.32-15.17)	0.233
	Northwest	28	27.1	1.0	1.46 (0.09-7.06)	0.044
	Southeast	37	33.8	3.0	3.29 (0.88-8.93)	0.111
	Southwest	27	27.6	2.0	3.42 (0.63-11.13)	0.093

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 27-30

Week	Jul 2-Jul 8	Jul 9-Jul 15	Jul 16-Jul 22	Jul 23-Jul 29	YTD
MMWR Week	27	28	29	30	
Total number of gravid traps set in Tarrant Region	136	163	176	158	2496
Average number of <i>Culex</i> spp per gravid trap	40.8	42.1	26.2	29.3	148.8
Number of mosquito pools tested ¹ (NTRL; non-NTRL)	146;0	169;13	173;16	166;13	2680;217
Number of positive mosquito pools (NTRL; non-NTRL) ¹	16;0	29;0	23;0	17;0	152;0
Confirmed WNV human cases (WNF; WNND) ²	0;1	0;0	0;2	0;0	0;3
WNV infection rate per 1,000 <i>Culex</i> spp ³	4.41	8.51	7.33	4.82	
Weekly vector index ⁴	0.166	0.317	0.310	0.143	
Total BG Sentinel traps set in Tarrant Region	15	26	22	28	380
Average number of female <i>Aedes aegypti</i> per BG trap	2.3	5.8	4.4	3.9	3.2
Average number of female <i>Aedes albopictus</i> per BG trap	8.7	4.7	4.9	1.3	3.3

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, 2022-2023

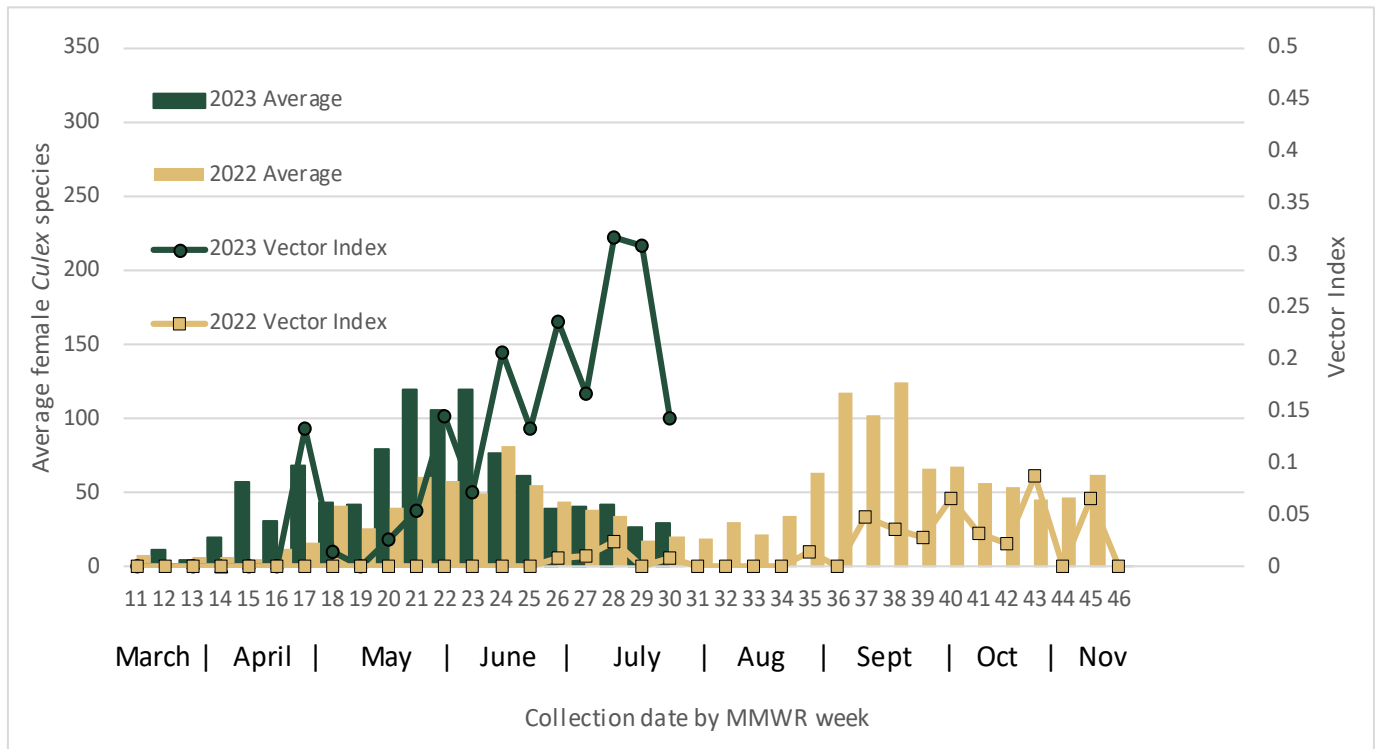
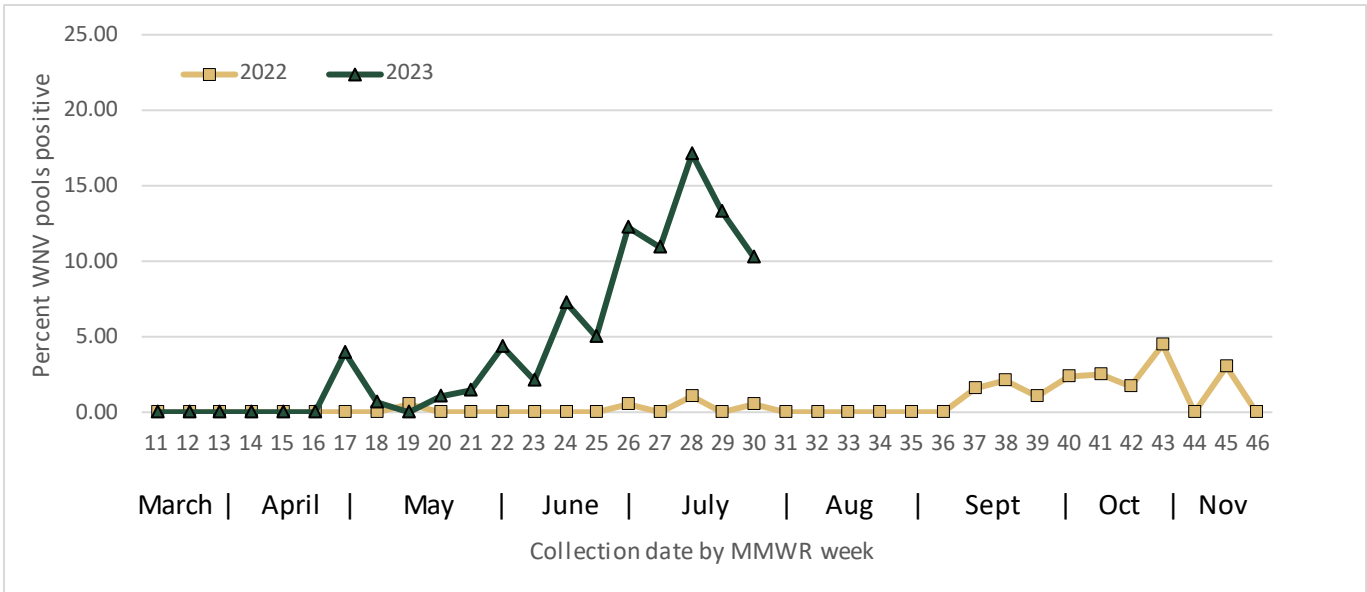


Figure 2. Percentage of Mosquito Pools Positive for WNV by Collection Date, Tarrant County, 2022-2023



Data Source: Tarrant County Public Health

Table 3. North Texas Arbovirus Activity as Reported by Texas DSHS on August 1, 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	5	0 WNF;	0 WNND		0	0	0	0	0	0	0	0
Dallas	138	1 WNF;	2 WNND		0	0	0	1	0	0	0	0
Denton	7	0 WNF;	1 WNND		0	0	0	0	0	0	0	0
Johnson	6	0 WNF;	0 WNND		0	0	0	0	0	0	0	0
Non-Tarrant North Texas	156	1	3		0	0	0	1	0	0	0	0
All Texas Counties	415	1	0	7	0	0	0	1	2	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:

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