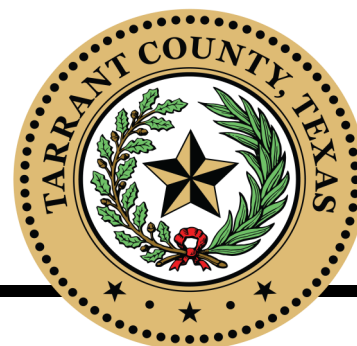


Tarrant County Public Health

Weekly Arbovirus Surveillance Report: MMWR Week Aug 20-Aug 26, 2023



Week 34 Summary

- 159 mosquito pools* have been tested in NTRL from week 34
 - Year-to-date NTRL has tested a total of 3337 mosquito pools
- 2 mosquito pools tested positive for WNV this week:
 - Fort Worth* (1) Keller (1)
- There have been 0 imported human cases of SLE or Zika in 2023. There has been 3 cases of Dengue Fever.
 - There have been 9 human cases of West Nile disease.
- Average number of mosquitoes/trap include:
 - *Culex* spp: 18.2
 - *Aedes aegypti*: 4.8
 - *Aedes albopictus*: 0.6

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 185 positives in 2023

Arlington (48) Bedford (6) Burleson *(6) Colleyville (9) Euless (15) Fort Worth* (39)
Grapevine (13) Haltom City (3) Hurst (6) Keller (4) Mansfield* (3) North Richland Hills (5)
Pantego (1) River Oaks (4) Southlake (6) 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 33 and 34

	County Quadrant	# Gravid traps	Ave F <i>Culex</i> spp	Positive pools	MLE (Lower-Upper Limit)	VI
Week 33	Northeast	65	22.1	1.0	0.93 (0.05-4.54)	0.021
	Northwest	34	17.1	0.0	0.00 (0.00-6.41)	0.000
	Southeast	40	20.6	3.0	4.21 (1.13-11.35)	0.086
	Southwest	27	15.0	0.0	0.00 (0.00-9.61)	0.000
Week 34	Northeast	66	15.9	2.0	2.23 (0.40-7.31)	0.035
	Northwest	27	14.7	0.0	0.00 (0.00-9.58)	0.000
	Southeast	35	26.2	0.0	0.00 (0.00-4.82)	0.000
	Southwest	24	11.5	0.0	0.00 (0.00-12.29)	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

Cumulative Data for the Tarrant County Region, Weeks 31-34

Week	Jul 30- Aug 5	Aug 6- Aug 12	Aug 13- Aug 19	Aug 20- Aug 26	YTD
MMWR Week	31	32	33	34	
Total number of gravid traps set in Tarrant Region	178	158	166	152	3150
Average number of <i>Culex</i> spp per gravid trap	21.6	14.9	17.8	18.2	143.9
Number of mosquito pools tested ¹ (NTRL; non-NTRL)	177;6	155;7	166;12	159;3	3337;254
Number of positive mosquito pools (NTRL; non-NTRL) ¹	20;0	7;0	4;0	2;0	185;0
Confirmed WNV human cases (WNF; WNND) ²	0;1	0;2	0;0	0;0	1;9
WNV infection rate per 1,000 <i>Culex</i> spp ³	7.39	3.35	1.50	0.89	
Weekly vector index ⁴	0.249	0.050	0.028	0.015	
Total BG Sentinel traps set in Tarrant Region	20	25	27	23	475
Average number of female <i>Aedes aegypti</i> per BG trap	1.0	2.3	2.5	4.8	3.1
Average number of female <i>Aedes albopictus</i> per BG trap	2.7	1.1	1.1	0.6	3.1

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

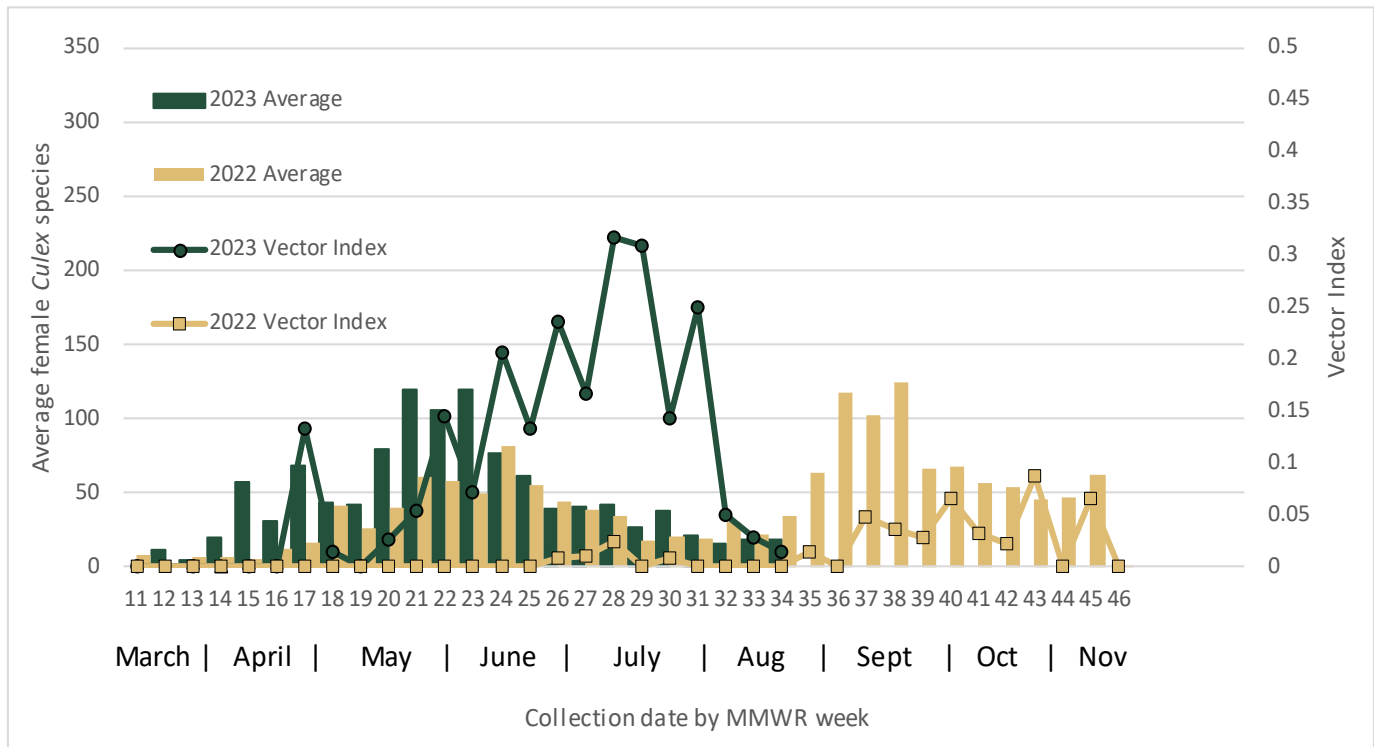
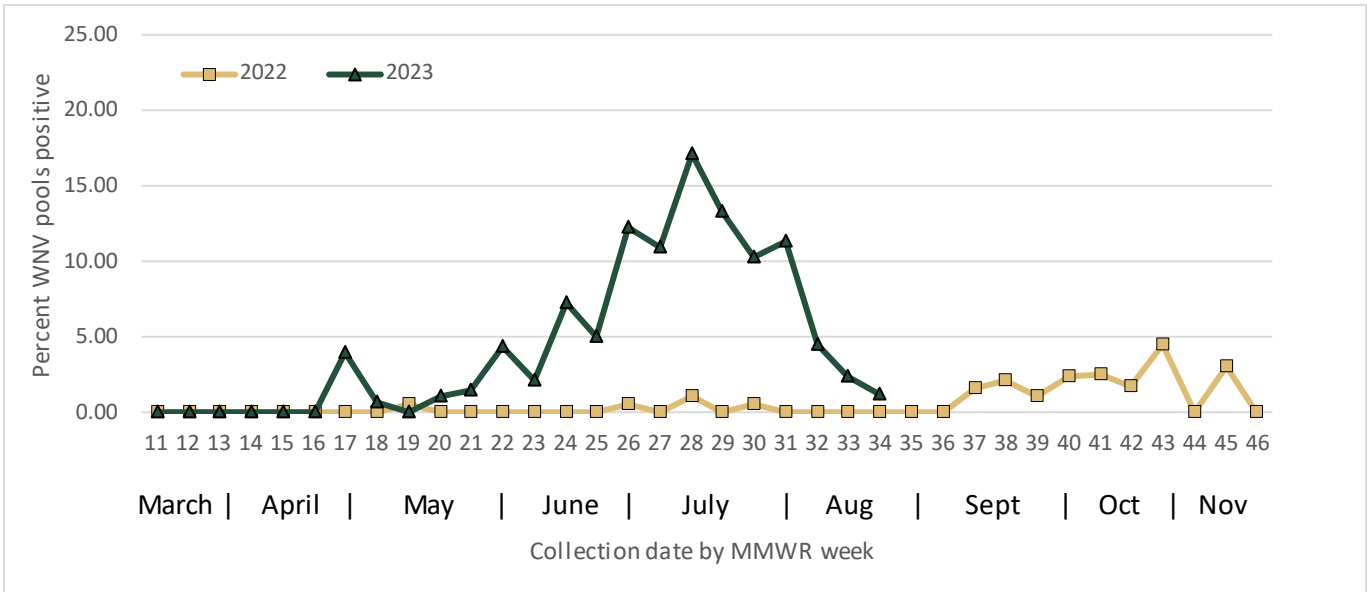


Figure 2. Percentage of Mosquito Pools Positive for WNV by Collection Date, Tarrant County, 2022-2023



Data Source: Tarrant County Public Health

Table 3. North Texas Arbovirus Activity as Reported by Texas DSHS on August 29, 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	7	1 WNF;	0 WNND	0	0	0	0	0	0	0	0
Dallas	183	2 WNF;	6 WNND	0	0	0	2	0	0	0	0
Denton	14	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	210	3	7	0	0	0	2	0	0	0	0
All Texas Counties	636	6	20	0	2	0	6	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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