Tarrant County Public Health

Arbovirus Final Surveillance Report
MMWR Week Jun 12-Jun 18, 2022

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Week 24 Summary

- 184 mosquito pools* have been tested in NTRL from week 24
  - Year-to-date NTRL has tested a total of 1683 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: 82.7
  - *Aedes aegypti:* 9.7
  - *Aedes albopictus* 5.9

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 2 positive in 2022.

Bedford (1) Grand Prairie* (1)

* May include data from outside Tarrant County

Table 1. MLE[1] and VI[2] for County Quadrants, Week 23 and 24

	County Quadrant	# gravid traps	Ave F *Culex* spp	Positive pools	MLE (Lower-Upper Limit)	VI
Week 23	Northeast	76	59.1	0.0	0.00 (0.00-0.75)	0.000
	Northwest	34	40.6	0.0	0.00 (0.00-2.21)	0.000
	Southeast	38	82.2	0.0	0.00 (0.00-1.47)	0.000
	Southwest	29	65.0	0.0	0.00 (0.00-2.21)	0.000
Week 24	Northeast	71	71.0	0.0	0.00 (0.00-0.69)	0.000
	Northwest	31	49.6	0.0	0.00 (0.00-2.02)	0.000
	Southeast	40	99.5	0.0	0.00 (0.00-1.41)	0.000
	Southwest	30	87.5	0.0	0.00 (0.00-2.02)	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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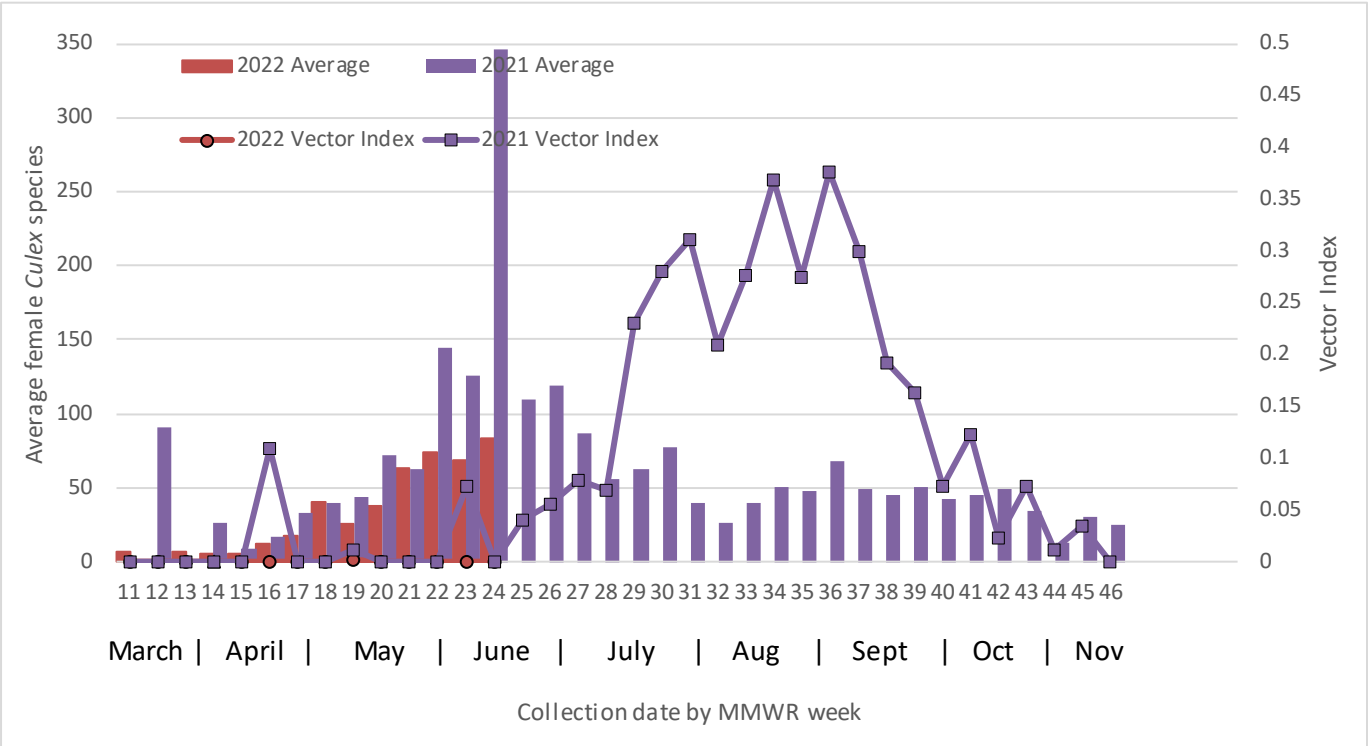
Cumulative Data for the Tarrant County Region, Weeks 21-24

Week	May 22-May 28	May 29-Jun 4	Jun 5-Jun 11	Jun 12-Jun 18	YTD
MMWR Week	21	22	23	24	
Total number of gravid traps set in Tarrant Region	166	159	177	172	1474
Average number of *Culex* spp per gravid trap	63.5	73.5	68.8	82.7	32.1
Number of mosquito pools tested[1] (NTRL; non-NTRL)	177;13	158;14	186;11	184;8	1683;89
Number of positive mosquito pools (NTRL; non-NTRL)[1]	0;0	0;1	0;0	0;0	1;1
Confirmed WNV human cases (WNF; WNND)[2]	0;0	0;0	0;0	0;0	0;0
WNV infection rate per 1,000 *Culex spp*[3]	0.00	0.00	0.00	0.00	
Weekly vector index[4]	0.000	0.000	0.000	0.000	
Total BG Sentinel traps set in Tarrant Region	27	29	29	32	295
Average number of female *Aedes aegytpi* per BG trap	3.6	4.3	8.3	9.7	2.7
Average number of female *Aedes albopictus* per BG trap	6.0	3.5	4.4	5.9	2.4

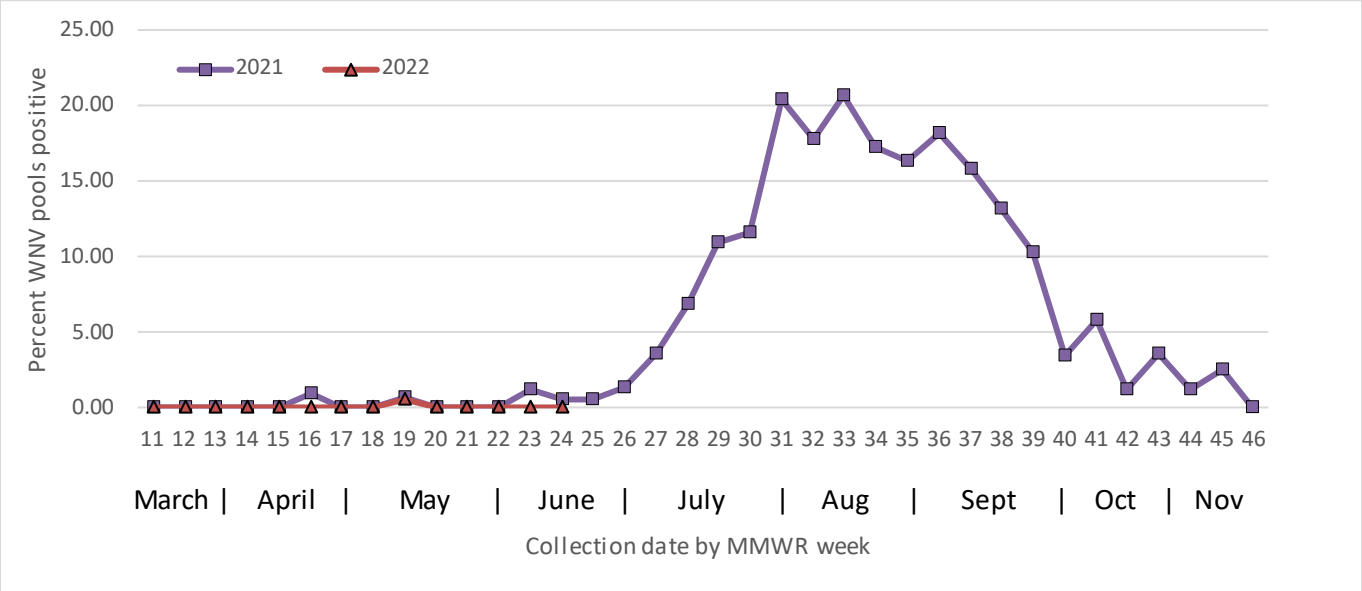
1 Based on mosquito collection date; NTRL = North Texas Regional Laboratory
2 Based on onset of illness date for cases reported to Tarrant County Public Health; WNF=West Nile Fever; WNND = West Nile Neuroinvasive Disease
3 Calculated using a Maximum Likelihood Estimation (MLE). Biggerstaff, Brad J. PooledInfRate, 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

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 June 21, 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	1	0	WNF;	1	WNND		0	0	0	0	0	0	0	0
Dallas	1	0	WNF;	0	WNND		0	0	0	2	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	2	0		1			0	0	0	2	0	0	0	0
All Texas Counties	11	0		1			0	0	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 nueroinvasive 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