Tarrant County Public Health
West Nile Virus Update

TCPH Arbovirus Activity Report
MMWR Week 43 (October 19 – October 25, 2014)
Report Date: October 29, 2014

- A total of 4,424 mosquito pools have been submitted to North Texas Regional Laboratory (NTRL) at Tarrant County Public Health (TCPH) in 2014; All pools have tested negative for SLEV.
- A total of 318 pools have tested positive for WNV in 2014 (310 from Tarrant County and 8 from Johnson County); Of those 318 positive pools, 312 tested positive at NTRL & 6 tested positive at non-NTRL labs; Cities with positive mosquito pools include:
  - Arlington (14)
  - Bedford (44)
  - Benbrook (1)
  - Burleson† (8)
  - Colleyville (25)
  - DFW Airport (4)
  - Edgecliff (2)
  - Euless (36)
  - Fort Worth (35)
  - Grand Prairie (4)
  - Grapevine (21)
  - Haltom City (1)
  - Hurst (24)
  - Keller (12)
  - Kennedale (2)
  - Mansfield (9)
  - N. Richland Hills (23)
  - Pantego (3)
  - Richland Hills (14)
  - Saginaw (1)
  - Southlake (15)
  - Unincorporated (15)
  - Watauga (4)
  - Westworth Village (1)
- To date in 2014 there have been 6 imported human CHIKV disease cases, 12 human cases of WNV disease (5 WNF; 7 WNND), no DENV cases, and no SLEV cases reported in Tarrant County.
- More information can be found at: Take Control, Stop West Nile Virus

†Johnson County
CHIKV-Chikungunya Virus; DENV-Dengue Virus; SLEV-St. Louis Encephalitis Virus; WNV–West Nile Virus; WNF-West Nile Fever; WNND-West Nile Neuroinvasive Disease

Table 1. WNV activity summary, Tarrant County, Weeks 39-43, 2014

Week	Sep 21 - Sep 27	Sep 28 - Oct 4	Oct 5 - Oct 11	Oct 12 - Oct 18	Oct 19 - Oct 25	YTD
MMWR Week	**39**	**40**	**41**	**42**	**43**	
Total traps placed in Tarrant County	172	162	161	138	167	4,498
Average number of female *Culex* species per trap	105.6	102.1	61.2	44.2	60.1	54.4
Number of mosquito pools tested[1]	186	192	164	154	171	4,424
Number of positive mosquito pools (NTRL; Non-NTRL)[2]	36;1	26;1	17;0	6;0	6;0	304;6
Confirmed WNV human cases (WNF; WNND)[3]	0;1	0;0	0;0	0;1	0;0	5;7
Presumptive WNV viremic blood donors	1	0	0	0	0	5
WNV infection rate per 1,000 *Cx. quinquefasciatus*[4]	5.30	4.35	3.20	1.64	1.41	
WNV infection rate per 1,000 *Cx. restuans*[4]	2.55	0.00	0.00	0.00	0.00	
Weekly vector index[5]	0.536	0.439	0.194	0.071	0.082	

[1] Based on lab testing date; [2] Based on mosquito collection date; NTRL = North Texas Regional Laboratory

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

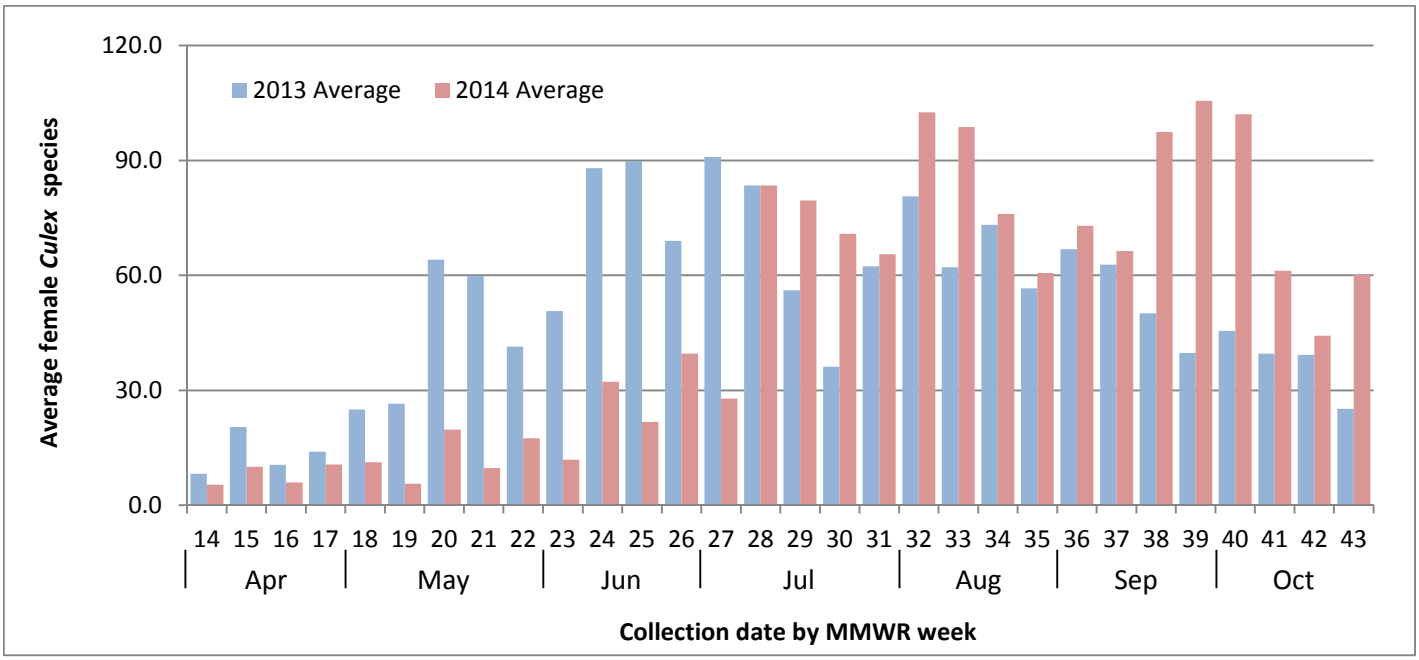
[4] Calculated using a Maximum Likelihood Estimation (MLE). Biggerstaff, Brad J. PooledInfRate, Version 4.0: a Microsoft® Office Excel© Add-In to compute prevalence estimates from pooled samples. Centers for Disease Control and Prevention, Fort Collins, CO, U.S.A., 2009

[5] 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 do not include positive pools from Non-NTRL laboratories; Data subject to change due to on-going case investigations, mosquito collection, and testing

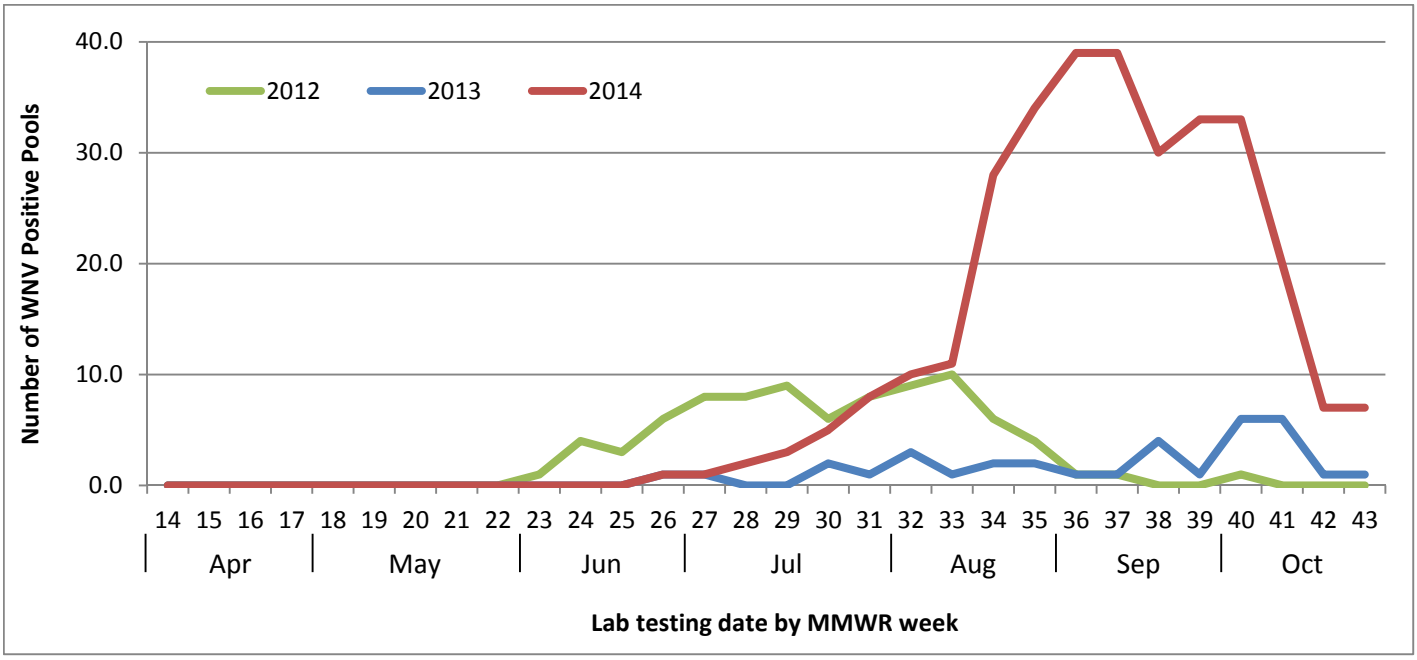
Data source: Tarrant County Public Health

Figure 1. Average number of female *Culex* species per trap, Tarrant County, Weeks 14-43, 2013-2014



Data source: Tarrant County Public Health

Figure 2. Number of WNV positive mosquito pools by lab testing date, North Texas Regional Laboratory, Weeks 14-43, 2012-2014

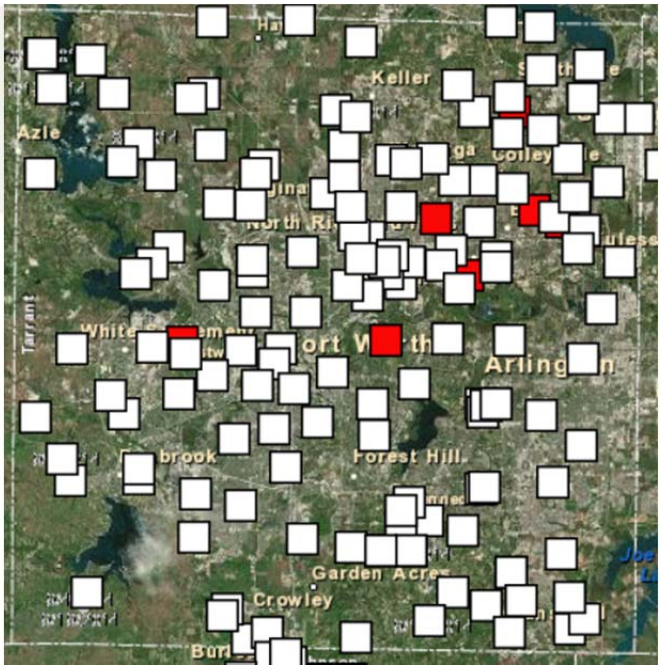


Data source: Tarrant County Public Health

Figure 3. West Nile Virus mosquito trap results, Tarrant County, Week 43, 2014

Positive Mosquito Trap Sample
(TCPH Lab)
(Non-TCPH Lab)
Negative Mosquito Trap Sample
(TCPH Lab)
(Non-TCPH Lab)

Map created using the Tarrant County Public Health WNV Interactive Mapping Tool available at https://mapit.tarrantcounty.com/WNVCoopPublic/#



Note: Map may not reflect all positives for the week due to data limitations at time of publication. An updated map is available online at https://mapit.tarrantcounty.com/WNVCoopPublic/#

Table 2. State-wide arbovirus season activity as reported by Texas DSHS on October 28, 2014

North Texas Counties	WNV		CHIKV*		DENV*		SLEV	
	Positive Mosquito Pools	Human Cases	Positive Mosquito Pools	Human Cases	Positive Mosquito Pools	Human Cases	Positive Mosquito Pools	Human Cases
Collin	2	0 WNF; 0 WNND	0	2	0	1	0	0
Dallas	116	6 WNF; 4 WNND	0	4	0	0	0	0
Denton	25	1 WNF; 3 WNND	0	5	0	1	0	0
Ellis	2	1 WNF; 0 WNND	0	0	0	0	0	0
Hood	0	0 WNF; 0 WNND	0	0	0	0	0	0
Hunt	0	0 WNF; 0 WNND	0	0	0	0	2	0
Johnson	8	0 WNF; 0 WNND	0	0	0	0	0	0
Kaufman	0	0 WNF; 0 WNND	0	0	0	0	0	0
Parker	0	1 WNF; 0 WNND	0	0	0	0	0	0
Rockwall	1	0 WNF; 0 WNND	0	0	0	0	0	0
Somervell	0	0 WNF; 0 WNND	0	0	0	0	0	0
Tarrant	310	5 WNF; 6 WNND	0	6	0	0	0	0
Wise	0	0 WNF; 0 WNND	0	0	0	0	0	0
North Texas Total	464	14 WNF; 13 WNND	0	17	0	2	2	0
All Texas Counties	2,006	90 WNF; 170 WNND	0	46	0	16	7	2

** All reported CHIKV & DENV human cases are imported*

WNV - West Nile Virus; WNF - West Nile Fever; WNND - West Nile Neuroinvasive Disease; CHIKV - Chikungunya Virus; DENV - Dengue Virus; SLEV - Saint Louis Encephalitis Virus;

Data source: Texas Department of State Health Services