Vector-borne Surveillance Report

CDC WEEK 31: July 29-August 4, 2018

Report Highlight:

- ***One human case of WNV was confirmed in Hunterdon County. There are two other reports under investigation.***
- ***A total of 284 mosquito pools have tested positive for WNV. This is higher than the number of pools reported during the same period in 2017.***
- ***Two mosquito pools from Camden tested positive for EEE in week 31.***
- ***The number of tick related ED visits continue to decline following seasonal trends observed in past 5 years.***

Human Testing

New Jersey Administrative Code (N.J.A.C.) Title 8 Chapter 57 mandates public health reporting of specified vector-borne diseases to prevent further disease spread.

Human Cases [a]

Mosquito-borne diseases			Tickborne Diseases		
	2018 [b]	2017		**2018** [b]	2017
Chikungunya	**5**	12	Anaplasmosis	**48**	154
Dengue	**4**	25	Babesiosis	**111**	193
Eastern equine encephalitis	**-**	-	Ehrlichiosis	**47**	102
Malaria	**35**	125	Lyme disease	**1771**	5107
West Nile	**1**	8	Powassan	**-**	4
Zika	**6**	37	Spotted fever group rickettsioses	**67**	137

[a] Data for 2018 reflect confirmed and probable cases that have been approved by NJDOH. This does not include cases under investigation. All 2018 numbers are preliminary and are subject to change.

[b] Cumulative through week 31: July 29-August 4, 2018.

Mosquito Testing*

The New Jersey Department of Health Public Health and Environmental Laboratories (PHEL) and the Cape May County Department of Mosquito Control Bio-safety Level 3 Laboratory (CMBSL3) perform arboviral testing on mosquito pools collected by county mosquito control agencies throughout New Jersey.

West Nile virus (WNV):

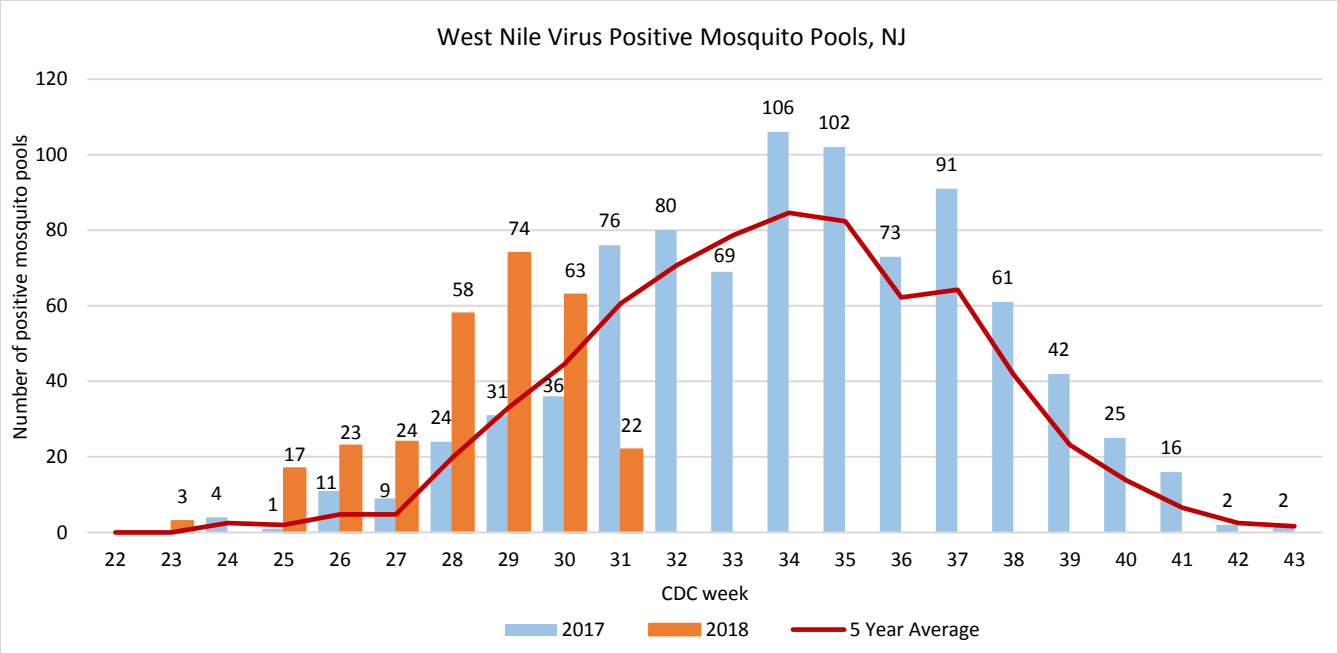
- 284 mosquito pools in 20 counties have tested positive for WNV. This is 48 percent higher than the cumulative number of positive pools at week 31 in 2017.
- 86% (*n=246*) of the positive pools were *Culex sp.*
- 20% of WNV positive pools reported were confirmed in Bergen county.
- A record number of 195 WNV positive pools was reported between weeks 28 and 30. This is twice the cumulative number of positive pools reported at the same time last year and higher than the 5-year average of WNV positive pools during the same period (*n*=97).
- Passaic County has not reported any WNV positive pools.

WNV Positive Mosquito Pools

	Week 31		Cumulative Total (week 31)	
County	**2018***	2017	**2018***	2017
Bergen	7	11	57	30
Somerset	7	4	25	8
Middlesex			23	18
Gloucester		10	22	12
Hudson		11	19	27
Hunterdon		3	19	16
Morris		6	19	12
Camden	2	2	16	7
Mercer		2	16	4
Warren		2	14	8
Monmouth		1	12	2
Burlington	1	4	11	8
Ocean	1	2	7	4
Atlantic		1	5	1
Cape May	1		5	5
Cumberland			4	0
Essex		2	4	3
Union	3	13	3	20
Sussex			2	3
Salem		1	1	2
Passaic		1		2
Total	**22**	76	**284**	192

Week 31: Jul 30-Aug 5, 2017; Jul 29-Aug 4, 2018

** Test results may be incomplete; Counties submit pools for testing on specific weekdays. Mosquito testing data reflects test results received from PHEL, CMBSL3 and US Army Public Health as of August 8, 2018*



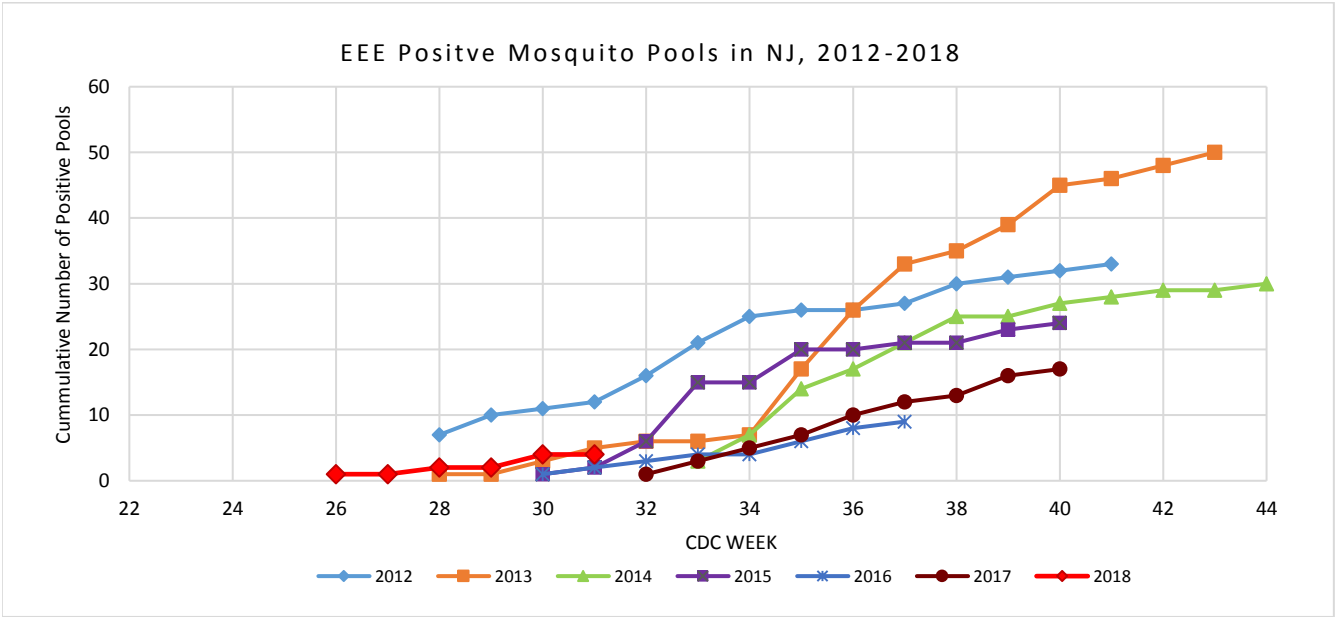
Eastern equine encephalitis virus (EEE)

- To date, 1010 mosquito pools from 15 counties have been tested for EEE.
- Two EEE positive mosquito pools from Camden County tested positive in week 31.
- A total of 4 mosquito pools have tested positive for EEE this season. This is the earliest EEE positive pools identified in the state in the past 7 years (see chart below).
- All EEE positive pools were *Culiseta melanura* species.

EEE Positive Mosquito Pools

	Week 31		Cumulative Total (week 31)	
County	**2018**	2017	**2018**	2017
Camden	2		3	
Salem			1	
Atlantic				
Burlington				
Cape May				
Cumberland				
Gloucester				
Monmouth				
Total	2	-	4	-

Week 31: Jul 30-Aug 5, 2017; Jul 29-Aug 4, 2018



Other viruses:

Mosquito pools from 8 counties (Atlantic, Burlington, Cape May, Middlesex, Ocean, Salem and Sussex) have been tested for other arboviruses. No positive mosquito pools were identified.

Cumulative 2018 Mosquito Pool Testing (Other Viruses [a])

County	SLE		LAC		CHIKV		DENV		ZIKV	
	Pools	Positives	Pools	Positives	Pools	Positives	Pools	Positives	Pools	Positives
Atlantic					13		13		13	
Bergen					1		1		1	
Burlington	30		9							
Cape May	477								211	
Middlesex					2		2		2	
Ocean			4		24		24		24	
Salem			1							
Sussex			3		1		1		1	
Total	507	-	17	-	41	-	41	-	252	-

[a] St. Louis encephalitis virus (SLE), La Crosse encephalitis virus (LAC), Chikungunya virus (CHIKV), Dengue virus (DENV), Zika Virus (ZIKV)

Numbers in white columns represent number of pools tested to date in 2018

Numbers in green shaded columns represent positive pools in 2018

Equine/Avian /Other Animal Testing

Equine testing for WNV and EEE is conducted at the New Jersey Department of Agriculture's Animal Health and Diagnostic Laboratory.

- No animals have tested positive for WNV or EEE in 2018.
- Routine avian testing has been discontinued but is available upon request at PHEL.

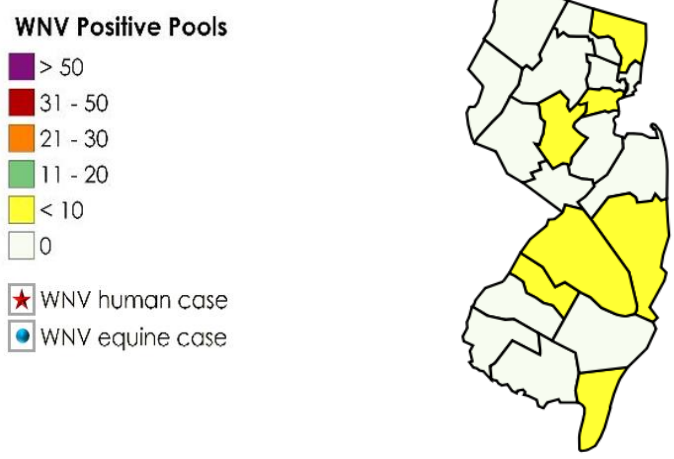
WNV/EEE Positive Test Results

	Week 31		Cum. Total (Year)	
	2018	2017	**2018**	2017
Equine (EEE)				
Equine (WNV)				
Avian				
Other				
Total	-	-	-	-

Week 31: Jul 30-Aug 5, 2017; Jul 29-Aug 4, 2018

Surveillance Maps*

Week 31 WNV Activity (2018)



Cumulative WNV Activity 2018

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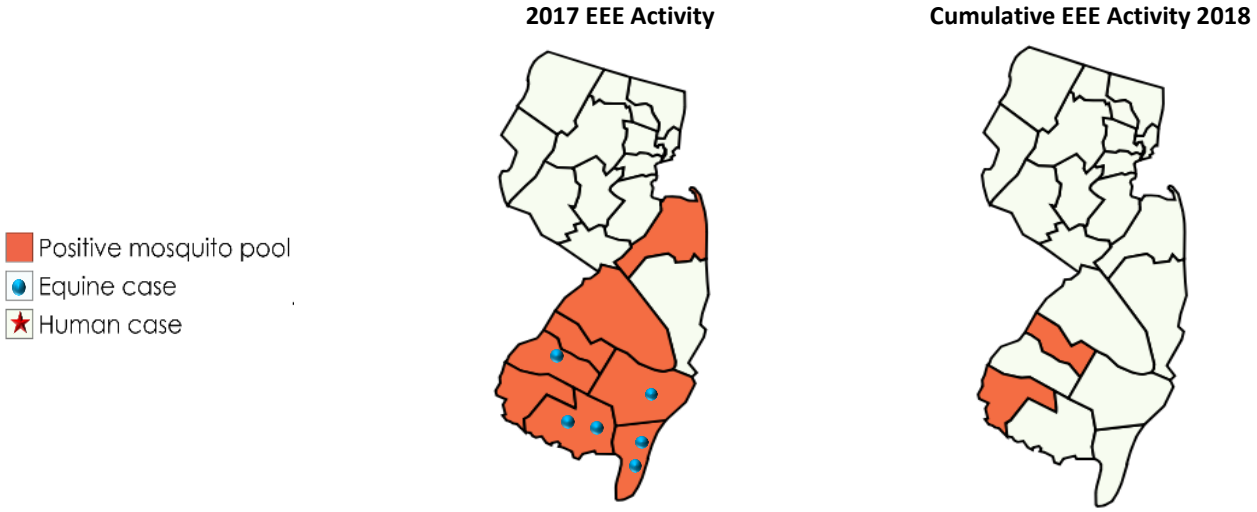

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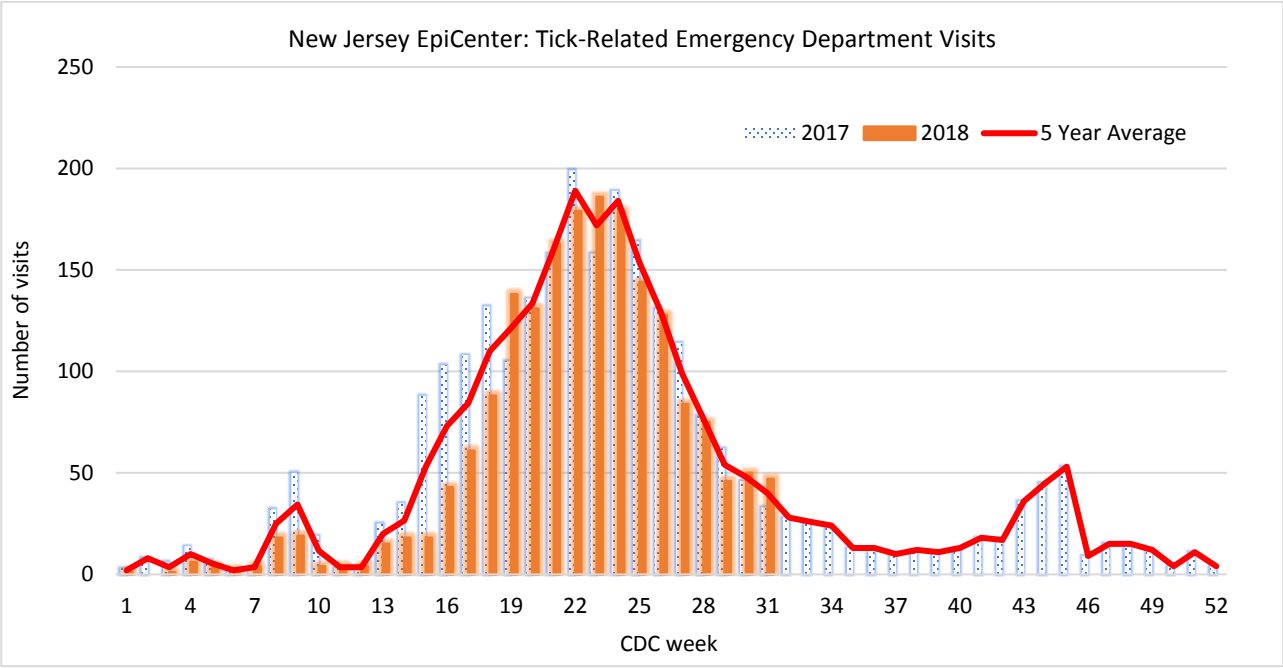
Syndromic Surveillance for Tick-related Emergency Department Visits

EpiCenter is a syndromic surveillance system developed and maintained by Health Monitoring Systems, Inc, for monitoring by health departments in the United States. New Jersey's EpiCenter receives real time Emergency Department (ED) data from 78 acute care and satellite health (99 percent reporting) facilities statewide. The system collects "chief complaint" information and limited patient registration data from existing ED computer systems.

The chart below represents NJ residents seen at emergency departments state wide with a tick-bite complaint or signs/symptoms associated with a reported tick-bite.



Data reflects ED visits downloaded from EpiCenter as of August 7, 2018

For More Information

- NJDOH Communicable Disease Service: http://nj.gov/health/cd/topics/vectorborne.shtml
- NJDEP Office of Mosquito Control Coordination: http://www.nj.gov/dep/mosquito/
- NJDA Division of Animal Health: http://www.nj.gov/agriculture/divisions/ah/
- Rutgers Center for Vector Biology: http://vectorbio.rutgers.edu/