

Report Highlight:

- Twenty-five human cases of WNV have been reported from 15 New Jersey counties, including one fatality in Bergen County.
- A total of 1,019 mosquito pools and one horse have tested positive for WNV.
- One equine case of EEE was reported from Gloucester County in week 37. A total of 12 mosquito pools and five horses have tested positive for EEE. There have been no human EEE cases reported in 2018.

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	6	12	Anaplasmosis	69	154
Dengue	9	25	Babesiosis	168	193
Eastern equine encephalitis	-	-	Ehrlichiosis	66	102
Malaria	60	125	Lyme disease	2406	5107
West Nile	25	8	Powassan	-	4
Zika	7	37	Spotted fever group rickettsioses	94	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.

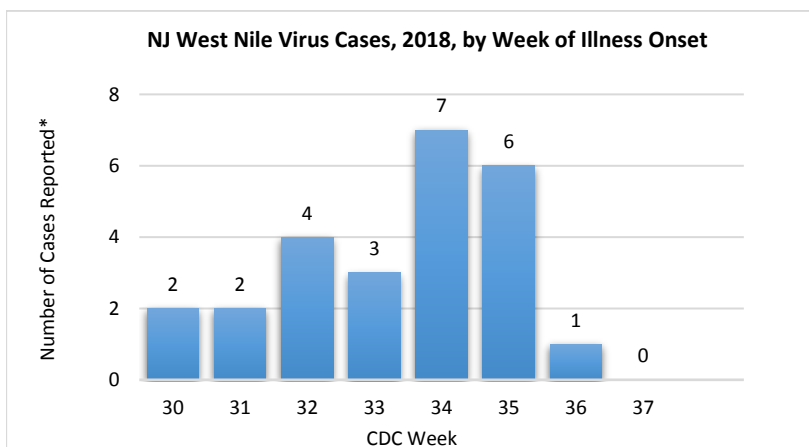
^b Cumulative through week 37: September 9-15, 2018.

2018 West Nile Virus Cases

- As of week 37, 25 confirmed/probable West Nile virus cases have been reported from 15 NJ counties. An additional 8 reports are under investigation. In 2017, there was a total of 8 reported West Nile virus cases.
- One fatality in a 62-year-old male resident was reported from Bergen County.
- Two WNV cases were identified through routine blood screening (Hunterdon and Morris County).
- The mean age of cases is 64 years (ranging from 24 to 85 years); 15 of the 25 cases are male.
- 20 cases were hospitalized for an average of 11 days. 6 of the 20 cases required additional medical care after hospitalization.
- 19 cases were classified with neuroinvasive disease.

West Nile Virus Cases*

County	No. of Cases
Bergen	6
Camden	2
Hudson	2
Hunterdon	2
Middlesex	2
Somerset	2
Burlington	1
Cape May	1
Essex	1
Monmouth	1
Morris	1
Ocean	1
Passaic	1
Warren	1
Union	1
Total	25



* Represents 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.

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):

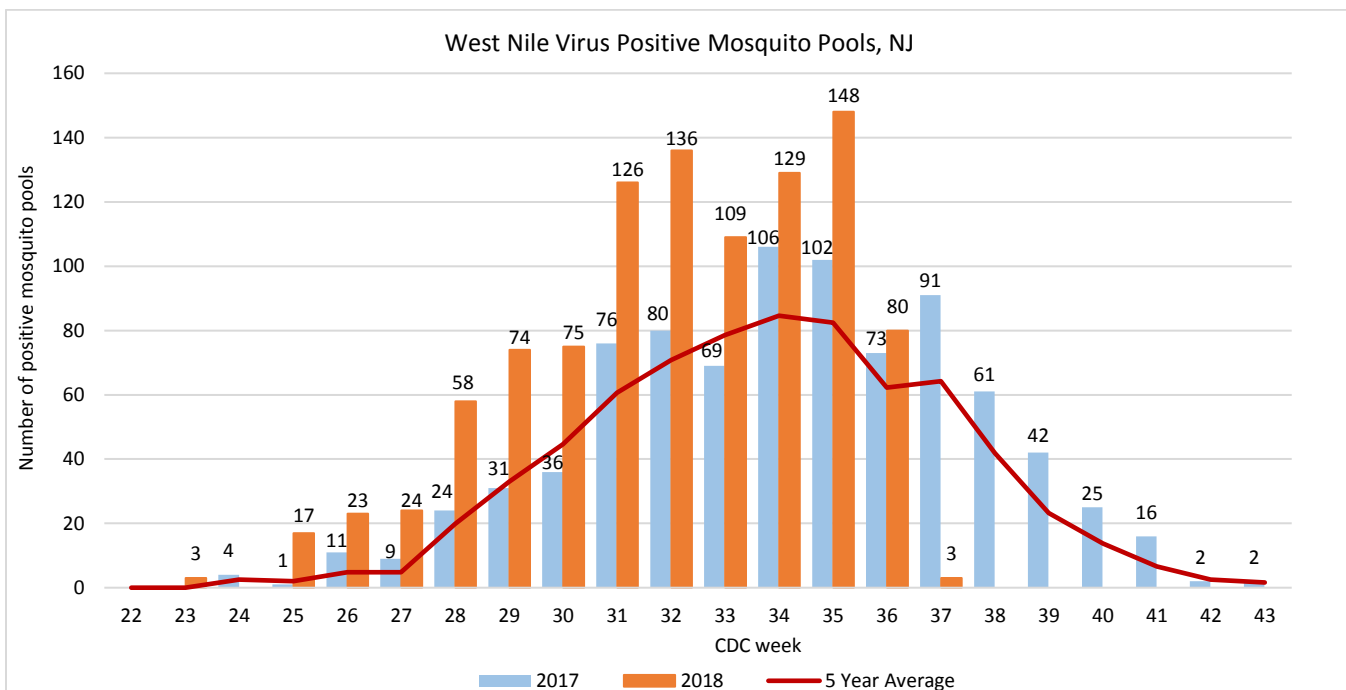
- A total of 1,019 mosquito pools have tested positive for WNV. This exceeds the total number of positive pools reported in 2017 ($n=861$) and is the first time since 2012 the number of positive pools reported in a season has exceeded 1000+ pools.
- 88% ($n=899$) of the positive pools were *Culex sp.* A total of 18 species have tested positive for WNV this season compared with 10 species in 2017.
- 148 WNV positive pools was reported in week 35. 24% of the total pools collected in week 35 were positive for WNV. This is the highest ratio of positive pools to total pools collected in a week this season.
- 73% ($n=741$) of the WNV positive pools this season were reported weeks 31 to 36. This is 46% higher than the cumulative number of positive pools ($n=506$) reported at the same time last year and higher than the 5-year average of WNV positive pools reported during the same period.
- Overall, 15 counties are reporting increased WNV activity this season compared with 2017.

WNV Positive Mosquito Pools

County	Week 37		Cumulative Total (week 37)	
	2018*	2017	2018*	2017
Morris		5	127	28
Bergen		10	118	101
Hunterdon		11	108	67
Gloucester		12	72	72
Somerset		4	70	33
Union		15	61	89
Warren		4	61	26
Hudson		4	59	65
Monmouth			55	15
Middlesex	2	4	53	49
Mercer		5	42	23
Burlington		3	31	23
Sussex	1	7	30	29
Camden			29	34
Atlantic		2	23	3
Ocean		1	22	13
Cape May		1	14	21
Passaic		1	13	4
Essex			12	6
Cumberland		1	10	3
Salem	1	1	9	9
Total	4	91	1019	713

Week 37: September 10-16, 2017; September 9-15, 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 September 19, 2018



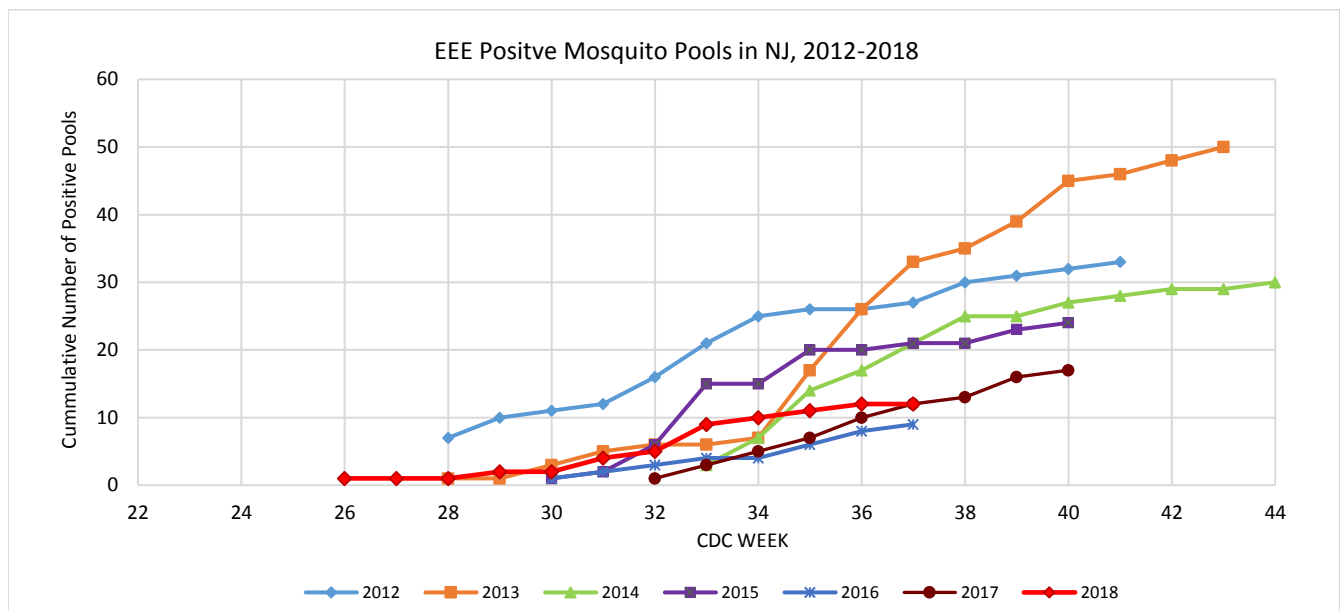
Eastern equine encephalitis virus (EEE)

- To date, 1,743 mosquito pools from 16 counties have been tested for EEE.
- A total of 12 mosquito pools from 5 counties have tested positive for EEE this season.
- The first EEE positive pool was reported in week 26. This is the earliest EEE positive pool identified in the state in the past 7 years (see chart below).
- All EEE positive pools were *Culiseta melanura* species.

EEE Positive Mosquito Pools

County	Week 37		Cumulative Total (week 37)	
	2018	2017	2018	2017
Camden			4	
Burlington			4	3
Salem			2	3
Monmouth			1	
Atlantic		2	1	2
Cape May				3
Cumberland				1
Gloucester				
Total	-	2	12	12

Week 37: September 10-16, 2017; September 9-15, 2018



Other viruses:

Mosquito pools from 9 counties (Atlantic, Bergen, Burlington, Cape May, Gloucester, 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					38		38		38	
Bergen					1		1		1	
Burlington	36		12							
Cape May	744								448	
Gloucester					7		7		7	
Middlesex					2		2		2	
Ocean			4		44		44		44	
Salem			3							
Sussex			3		1		1		1	
Total	780	-	22	-	93	-	93	-	541	-

^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.

- A fifth case of equine EEE was reported from Gloucester County in week 37 in an unvaccinated 12-year-old gelding (onset Sept 12th, euthanized Sept 13th).

The previous 4 equine EEE cases reported this season were from Camden, Monmouth and Ocean (2 cases).

- One equine case of WNV was reported from Burlington County in week 36 (onset September 4th). The vaccination status of the 10-year-old mare is unknown.
- WNV has been detected in 13 dead bird carcasses from 7 counties submitted to NJDEP/NJDA for testing. The species of birds tested were the American crow, Broad-winged hawk, Cooper's Hawk, Fish crow and Red-tailed Hawk.

WNV/EEE Positive Test Results

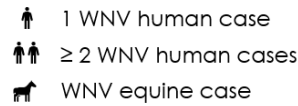
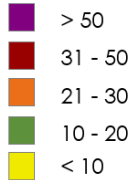
	Week 37		Cum. Total (Year)	
	2018	2017	2018	2017
Equine (EEE)	1		5	1
Equine (WNV)			1	
Avian (WNV)			13	
Other				

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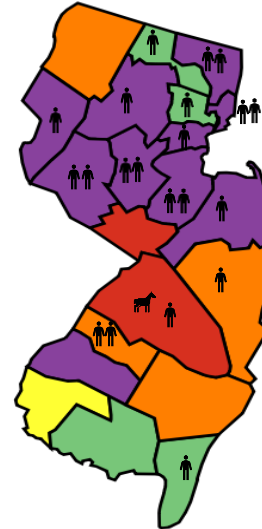
Surveillance Maps*

Week 37 WNV Activity (2018)*

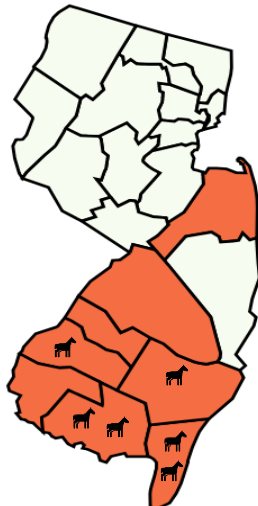
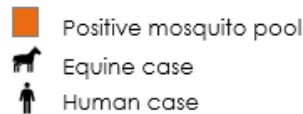
WNV Positive Pools



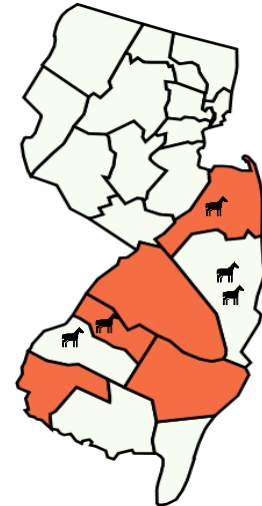
Cumulative WNV Activity 2018



2017 EEE Activity



Cumulative EEE Activity 2018

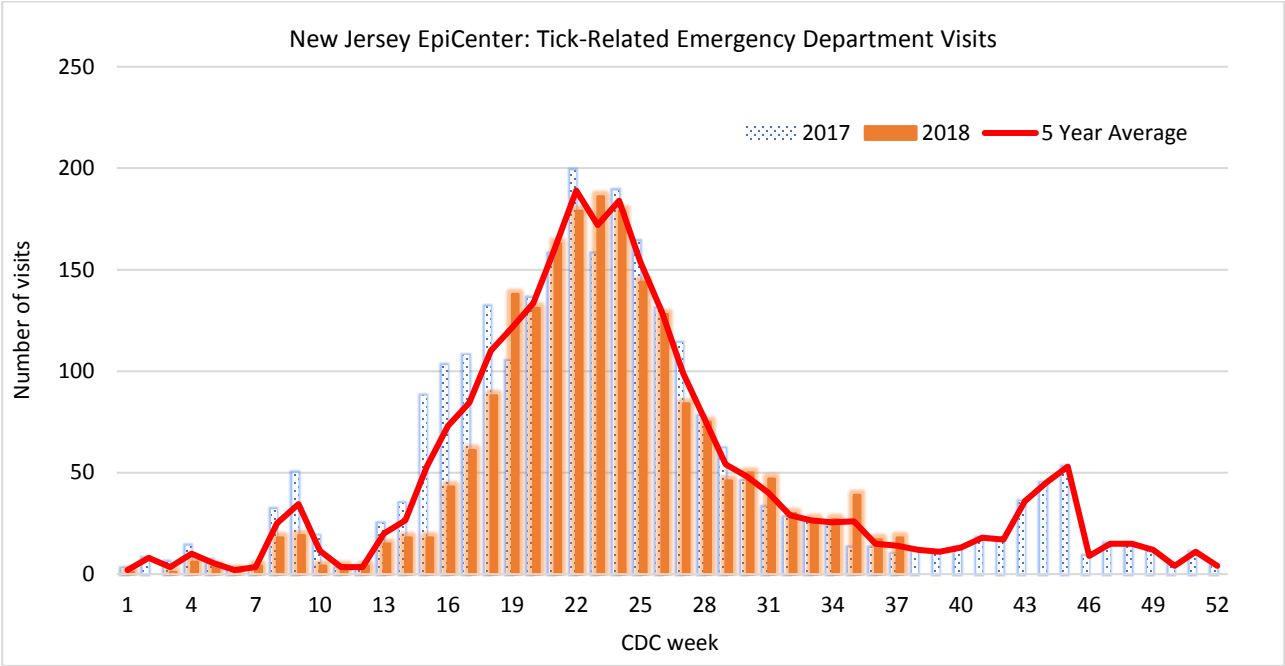


*Test results may be incomplete. Data reflects mosquito test results received from PHEL, CMBSL3 and US Army Public Health as of September 19, 2018

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 September 19, 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/>