

Report Highlight:

- Nineteen human cases of WNV have been reported from 14 New Jersey counties.
- The first equine case of WNV was reported in Burlington County in week 36. A total of 897 mosquito pools have tested positive for WNV.
- Two equine cases of EEE were reported from Ocean County in week 36. A total of 12 mosquito pools 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	63	154
Dengue	6	25	Babesiosis	160	193
Eastern equine encephalitis	-	-	Ehrlichiosis	64	102
Malaria	55	125	Lyme disease	2333	5107
West Nile	19	8	Powassan	-	4
Zika	7	37	Spotted fever group rickettsioses	92	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.

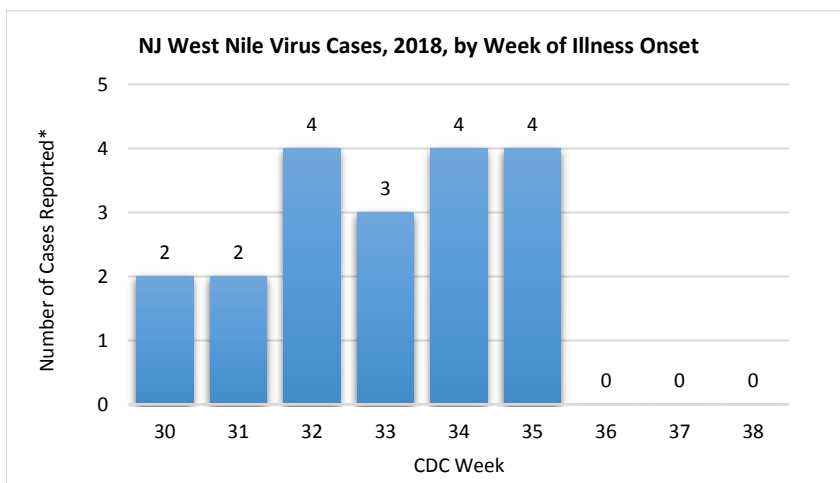
^b Cumulative through week 36: September 2-8, 2018.

2018 West Nile Virus Cases

- As of week 36, 19 confirmed/probable West Nile virus cases have been reported from 14 NJ counties. An additional 7 reports are under investigation. In 2017, there was a total of 8 reported West Nile virus cases.
- Two cases were identified through routine blood screening (Hunterdon and Morris County).
- The mean age of cases is 65 years (ranging from 24 to 80 years); 10 of the 19 cases are male.
- 16 cases were hospitalized for an average of 7 days. 4 of the 16 cases required additional medical care after hospitalization.
- 15 cases were classified with neuroinvasive disease.

West Nile Virus Cases*

County	No. of Cases
Bergen	4
Hunterdon	2
Middlesex	2
Burlington	1
Camden	1
Cape May	1
Essex	1
Hudson	1
Morris	1
Ocean	1
Passaic	1
Somerset	1
Warren	1
Union	1
Total	19



* 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):

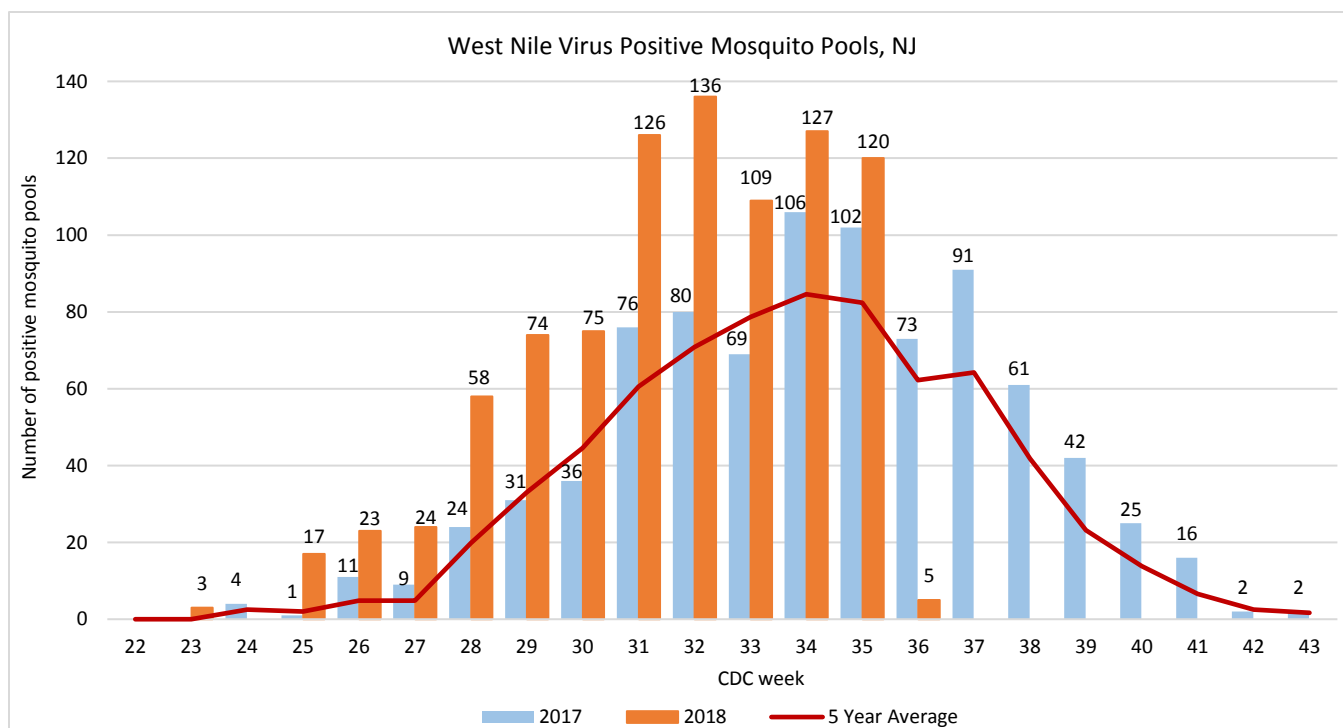
- A total of 897 mosquito pools have tested positive for WNV. This exceeds the total number of positive pools reported in 2017 ($n=861$).
- 87% ($n=781$) of the positive pools were *Culex sp.* A total of 18 species have tested positive for WNV this season compared with 10 species in 2017.
- As of week 36, Morris county has the highest number of WNV positive pools reported this season. This is the first time in over 10 years the County is reporting 100+ WNV positive pools.
- 69% ($n=618$) of the WNV positive pools this season were reported weeks 31 to 35. This is 43% higher than the cumulative number of positive pools ($n=433$) 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 36		Cumulative Total (week 36)	
	2018*	2017	2018*	2017
Morris		3	110	23
Bergen		10	103	91
Hunterdon		10	90	56
Gloucester		13	72	60
Somerset		2	58	29
Union			58	74
Monmouth		4	51	15
Hudson		5	49	61
Middlesex		9	48	45
Warren		1	45	22
Mercer		1	39	18
Burlington	5	3	30	20
Camden		4	29	34
Ocean		1	23	12
Atlantic			22	1
Sussex		2	16	22
Cape May		4	14	20
Passaic			13	3
Essex			12	6
Cumberland			9	2
Salem		1	6	8
Total	5	73	897	622

Week 36: September 3-9, 2017; September 2-8, 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 12, 2018



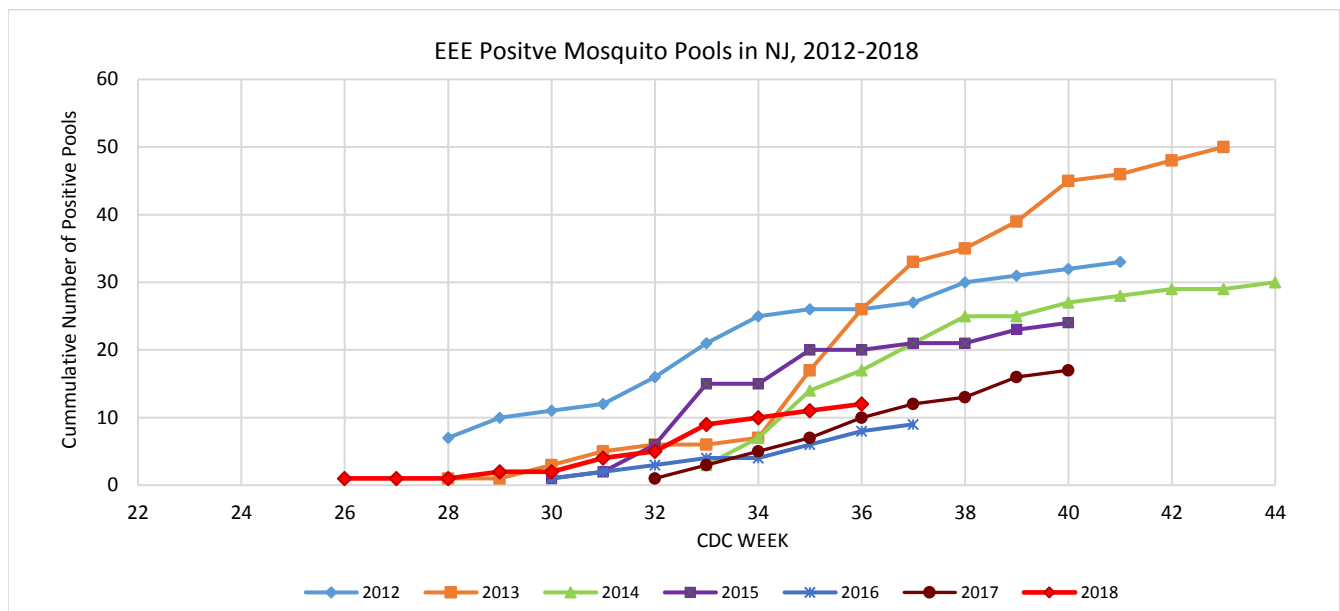
Eastern equine encephalitis virus (EEE)

- To date, 1,611 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 36		Cumulative Total (week 36)	
	2018	2017	2018	2017
Camden			4	
Burlington	1	1	4	3
Salem		2	2	3
Monmouth			1	
Atlantic			1	
Cape May				3
Cumberland				1
Gloucester				
Total	-	3	12	10

Week 36: September 3-9, 2017; September 2-8, 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					34		34		34	
Bergen					1		1		1	
Burlington	36		12							
Cape May	697								396	
Gloucester					7		7		7	
Middlesex					2		2		2	
Ocean			4		44		44		44	
Salem			3							
Sussex			3		1		1		1	
Total	733	-	22	-	89	-	89	-	485	-

^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.

- Two equine cases of EEE were reported from Ocean County in week 36. The first case was in a 7-year-old gelding with unknown vaccination status (onset Sept 4th, euthanized Sept 5th). The second case was in an unvaccinated gelding of unknown age (onset Sept 3th, euthanized Sept 4th).

- The first 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

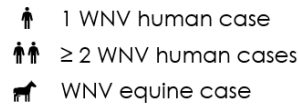
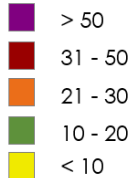
	Week 36		Cum. Total (Year)	
	2018	2017	2018	2017
Equine (EEE)	2		4	1
Equine (WNV)	1		1	
Avian (WNV)			13	
Other				

Week 36: September 3-9, 2017; September 2-8, 2018

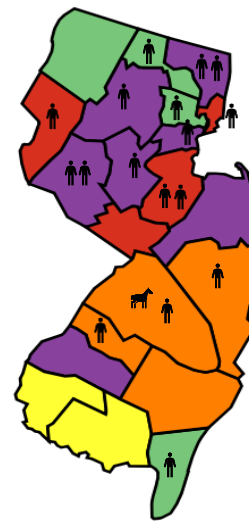
Surveillance Maps*

Week 36 WNV Activity (2018)*

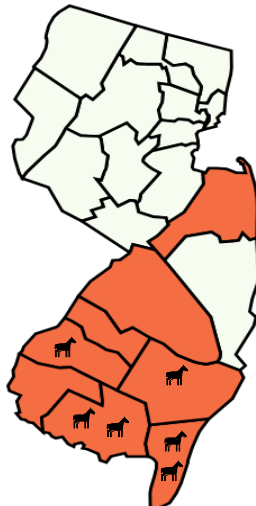
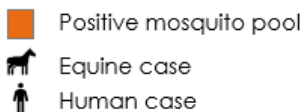
WNV Positive Pools



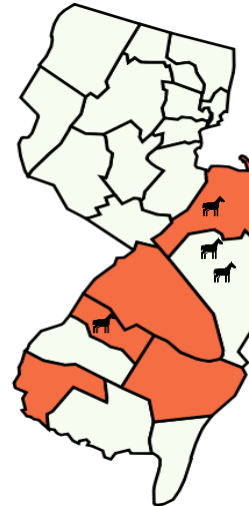
Cumulative WNV Activity 2018



2017 EEE Activity



Cumulative EEE Activity 2018

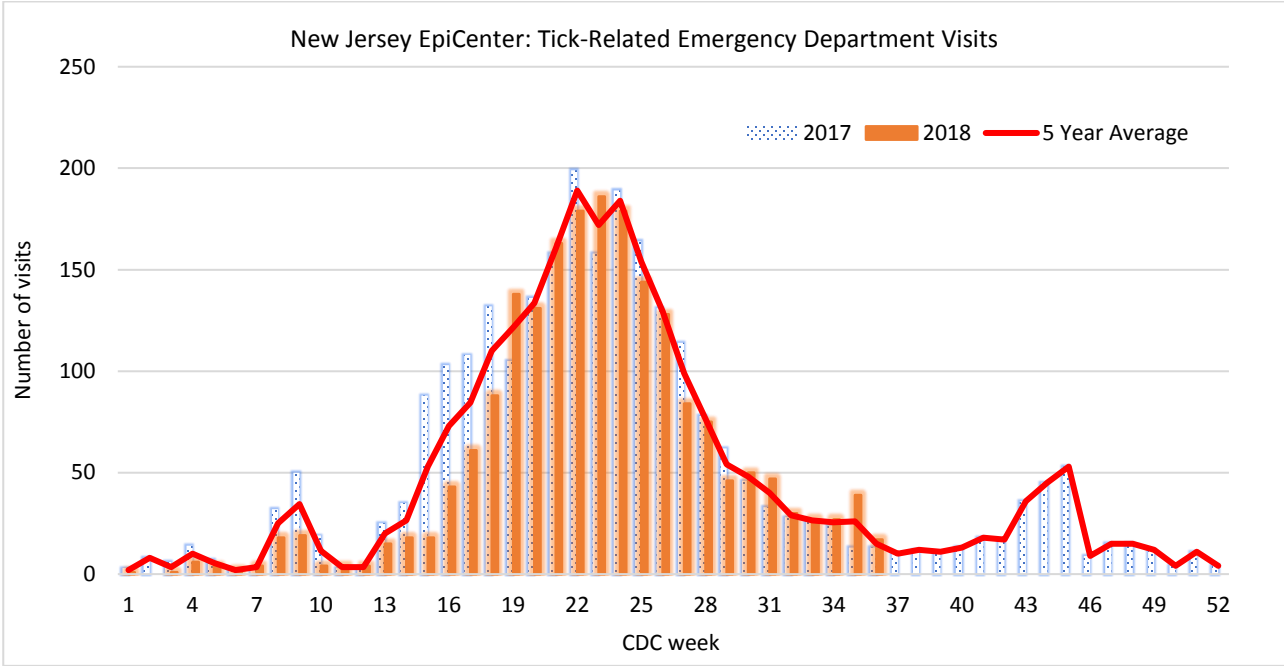


*Test results may be incomplete. Data reflects mosquito test results received from PHEL, CMBSL3 and US Army Public Health as of September 12, 2018

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 11, 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/>