

Report Highlight:

- Five human cases of WNV have been reported in NJ (Essex, Hudson, Hunterdon, Somerset and Ocean).
- A total of 519 mosquito pools have tested positive for WNV. This is higher than the number of pools reported during the same period in 2017.
- One equine case of EEE was reported in Monmouth County. There have been no human EEE cases reported in 2018.
- A total of 9 mosquito pools have tested positive for EEE.

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 | 50 | 154 |
| Dengue | 6 | 25 | Babesiosis | 131 | 193 |
| Eastern equine encephalitis | - | - | Ehrlichiosis | 52 | 102 |
| Malaria | 40 | 125 | Lyme disease | 1961 | 5107 |
| West Nile | 5 | 8 | Powassan | - | 4 |
| Zika | 6 | 37 | Spotted fever group rickettsioses | 76 | 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 33: August 12-18, 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):

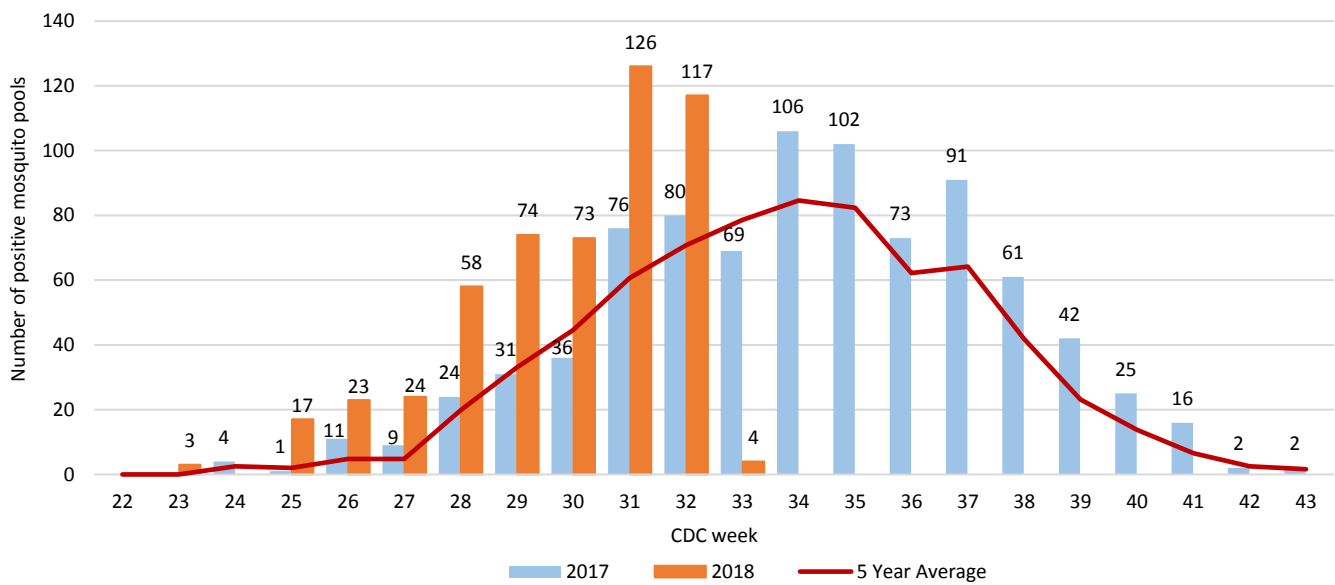
- A total of 519 mosquito pools have tested positive for WNV. This is 52 percent higher than the cumulative number of positive pools at week 33 in 2017.
- 88% (n=456) of the positive pools were *Culex sp.*
- Approximately half of the WNV positive pools this season were reported weeks 31 to 32. This is 56 percent higher than the cumulative number of positive pools reported at the same time last year and 86 percent higher than the 5-year average of WNV positive pools reported during the same period.
- Compared with the last 5 years, Gloucester, Hunterdon, Mercer, Monmouth, Morris, Somerset and Warren counties are reporting a moderate increase in WNV positive pools identified this season.

WNV Positive Mosquito Pools

| County | Week 33 | | Cumulative Total (week 33) | |
|--------------|----------|-----------|----------------------------|------------|
| | 2018* | 2017 | 2018* | 2017 |
| Bergen | | 13 | 84 | 57 |
| Morris | | | 54 | 17 |
| Gloucester | | 9 | 44 | 25 |
| Hunterdon | | 6 | 42 | 27 |
| Hudson | | 6 | 37 | 43 |
| Somerset | | 5 | 34 | 14 |
| Mercer | | 4 | 32 | 8 |
| Middlesex | | 5 | 28 | 28 |
| Monmouth | | 1 | 26 | 4 |
| Warren | | 3 | 26 | 12 |
| Camden | 1 | 9 | 22 | 19 |
| Union | | 4 | 20 | 45 |
| Burlington | 3 | 2 | 19 | 15 |
| Ocean | | | 11 | 6 |
| Atlantic | | | 9 | 1 |
| Cape May | | 2 | 8 | 9 |
| Essex | | | 7 | 3 |
| Passaic | | | 5 | 2 |
| Sussex | | | 5 | 4 |
| Cumberland | | | 4 | |
| Salem | | | 3 | 2 |
| Total | 4 | 80 | 519 | 341 |

* 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 22, 2018

West Nile Virus Positive Mosquito Pools, NJ



Eastern equine encephalitis virus (EEE)

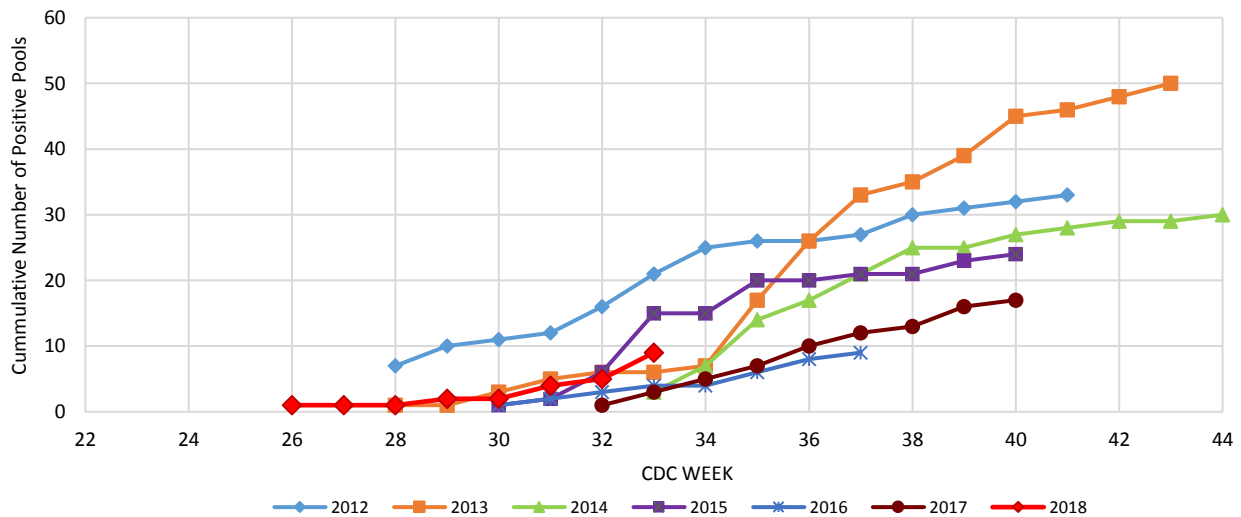
- To date, 1171 mosquito pools from 15 counties have been tested for EEE.
- In week 33, four mosquito pools from Burlington, Camden and Salem counties tested positive for EEE. A total of nine mosquito pools have tested positive for EEE this season.
- The first EEE positive pool was reported in week 26. 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 33 | | Cumulative Total (week 33) | |
|--------------|----------|----------|----------------------------|----------|
| | 2018 | 2017 | 2018 | 2017 |
| Camden | 1 | | 4 | |
| Burlington | 2 | | 3 | 1 |
| Salem | 1 | | 2 | |
| Atlantic | | | | |
| Cape May | | 1 | | 1 |
| Cumberland | | 1 | | 1 |
| Gloucester | | | | |
| Monmouth | | | | |
| Total | 4 | 2 | 9 | 3 |

Week 33: August 13-19, 2017; August 12-18, 2018

EEE Positive Mosquito Pools in NJ, 2012-2018



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 | | | | | 18 | | 18 | | 18 | |
| Bergen | | | | | 1 | | 1 | | 1 | |
| Burlington | 34 | | 10 | | | | | | | |
| Cape May | 521 | | | | | | | | 245 | |
| Middlesex | | | | | 2 | | 2 | | 2 | |
| Ocean | | | 4 | | 29 | | 29 | | 29 | |
| Salem | | | 3 | | | | | | | |
| Sussex | | | 3 | | 1 | | 1 | | 1 | |
| Total | 555 | - | 20 | - | 51 | - | 51 | - | 296 | - |

^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.

- One equine case of EEE was reported from Monmouth County in week 33 (onset August 17th, euthanized August 18th). The 5-year-old mare was vaccinated in 2017.
- Routine avian testing has been discontinued but is available upon request at PHEL.

WNV/EEE Positive Test Results

| | Week 33 | | Cum. Total (Year) | |
|--------------|---------|------|-------------------|------|
| | 2018 | 2017 | 2018 | 2017 |
| Equine (EEE) | 1 | | 1 | |
| Equine (WNV) | | | | |
| Avian | | | | |
| Other | | | | |
| Total | 1 | - | 1 | - |

Week 33: August 13-19, 2017; August 12-18, 2018

Surveillance Maps*

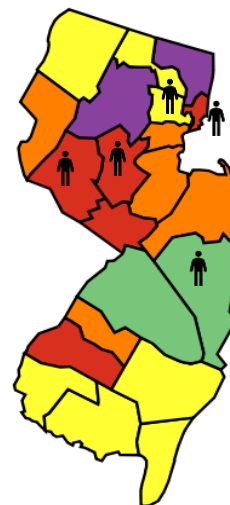
Week 33 WNV Activity (2018)

Cumulative WNV Activity 2018

WNV Positive Pools

- > 50
- 31 - 50
- 21 - 30
- 10 - 20
- < 10

- WNV human case
- WNV equine case



*Testing results may be incomplete. Data reflects mosquito test results received from PHEL, CMBSL3 and US Army Public Health as of August 22, 2018

2017 EEE Activity

Cumulative EEE Activity 2018

- Positive mosquito pool
- Equine case
- Human case

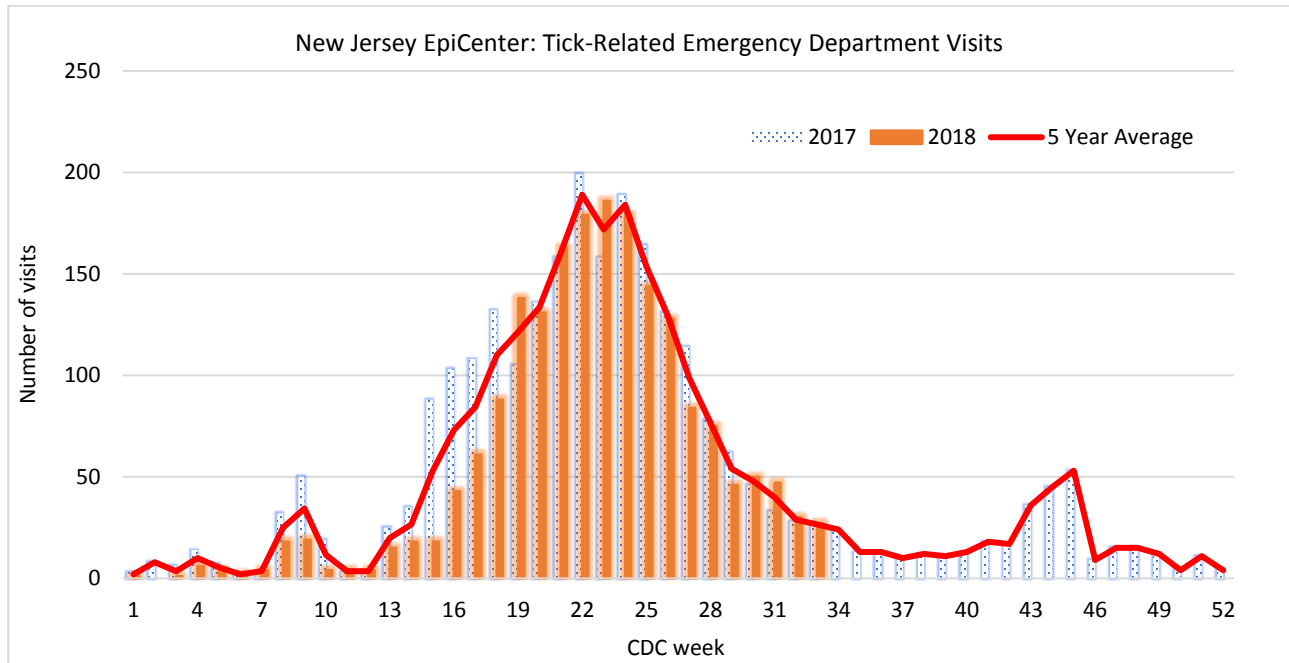


**Testing results may be incomplete. Data reflects mosquito test results received from PHEL, CMBSL3 and US Army Public Health as of August 22, 2018*

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 August 21, 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/>