

VECTOR SURVEILLANCE IN NEW JERSEY

EEE, WNV, SLE, LAC, DENV, CHIK, ZIKV, and JCV

Prepared by Lisa M. Reed and Dina Fonseca

Center for Vector Biology, Rutgers University

14 June to 20 June, 2020, CDC Week 25

Data download 1:00 pm 22 June



This New Jersey Agricultural Experiment Station report is supported by Rutgers University, Hatch funds, funding from the NJ State Mosquito Control Commission and with the participation of the Department of Health, Department of Agriculture and of the 21 county mosquito control agencies of New Jersey. Data is held in JerseySurv, a subset of the CalSurv system.

NOTE: County/species tables for arboviruses are now in a supplemental file [here](#)

Arbovirus Summary

- **In 2020, there are no positive pools for arboviruses detected.**
 - LAST YEAR: 73 EEE positive pools, 13 animal cases: 11 horse cases, 1 alpaca case, 1 deer; 4 human cases (Atlantic, Middlesex, Somerset, Union Counties)
 - 365 WNV positive pools (+4 RAMP positives), 0 horses, 8 human cases (Atlantic(2), Bergen(2), Burlington(2), Gloucester, Hunterdon County)
 - 1 LAC positive pool
 - 5 JCV positive pools
 - 0 SLE, DENG, CHIK, ZIKA positive pools
- **Note:** Data download times are noted and do not necessarily reflect all pools submitted and analyzed to that point in time. This report may vary from other reports from the same dataset as they are all snapshots in time.

Culiseta melanura and Eastern Equine Encephalitis

SITE/Boxes	Inland or Coastal	Historic Population Mean	Current Weekly Mean	Total Tested* (Collected)	Total Pools Tested* (Submitted)	EEE Isolation Pools	MFIR
Bass River (Burlington Co.)/5	Coastal	0.10	0.00	0			
Green Bank (Burlington Co.)/25	Coastal	0.90	0.00	0			
Corbin City (Atlantic Co.)/25	Coastal	0.97	0.20	17 (30)	2 (3)		
Dennisville (Cape May Co.)/50	Coastal	2.53	NC				
Winslow (Camden Co.)/50	Inland	3.14	NC				
Centerton (Salem Co.)/50	Inland	1.56	NC				
Turkey Swamp (Monmouth Co.)/50	Inland	0.44	0.02	6 (7)	2 (3)		
Glassboro (Gloucester Co.)/50	Inland	0.44	NC				

*Current week (in parentheses) results pending. ‡ corrected from previous week NC=No Collection NR=Not Recorded

Remarks: No positive EEE pools detected. Currently, there are no detections of EEE in the state. Not all sites are up and running.

Statewide, 154 *Cs. melanura* from 45 pools have been tested, with an overall *Cs. melanura* MFIR of 0.0. 13,339 specimens in 532 pools from 23 other species have also been tested, with no positive pools detected. Overall MFIR for all species statewide is 0.0.

Traditional Resting Box Sites: 21 *Cs. melanura* from 4 pools has been tested, with no positive pools and 2 pools with 14 mosquitoes pending. MFIR at the traditional resting box site is 0.0.

Additional <i>Cs. melanura</i> trapped by counties *traps with positives indicated in BOLD UNDERLINED .					
County	Trap types*	Pools	Mosquitoes	Positives	MFIR
Atlantic	CO2, RB	3	11		
Bergen	RB	1	1		
Cumberland	RB	2	11		
Middlesex	LT	3	15		
Monmouth	CO2, Other	2	7		
Morris	CO2	2	14		
Ocean	CO2	2	3		
Salem	CO2, Other, RB	10	27		
Sussex	CO2, RB	16	44		
TOTAL		41	133		

Additional County-set *Cs. melanura*: Counties maintain trap sites for *Cs. melanura* in other areas, using a variety of traps.. In 2019, 36 pools of *Cs. melanura* have been found positive. Currently, there are no positive detections.

Horses and Humans: Currently, no large animals have been reported with EEE. Over the past ten years, first onset dates for horses have been in August or October except for 2012, where an onset date was 22 July. Last year eleven horses (plus 1 deer and 1 alpaca) were reported with EEE. All equids had either an incomplete or no vaccination history. **Horse owners are urged to make sure their horses are up to date on their vaccinations. Horse cases are known to occur through October and sometimes into November (see link below).** Other sensitive species are non-native birds, such as Ostriches/Emus and Gallinaceous birds such as pheasants of Eurasian origins.

Case	Animal	Age	Sex	County	Date of Onset	Euthanized?	Vaccinated?	Comment
------	--------	-----	-----	--------	---------------	-------------	-------------	---------

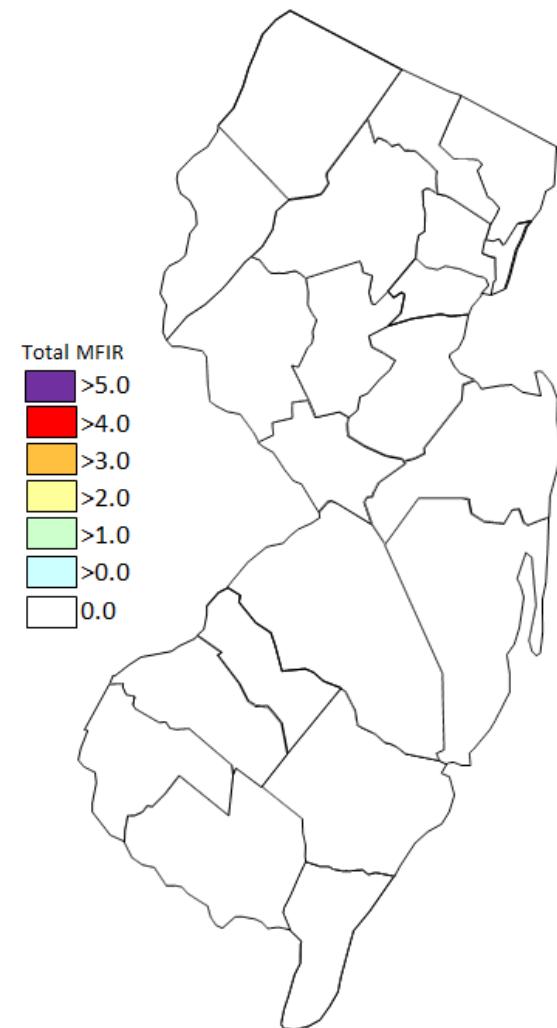
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

There are no human cases of EEE currently reported. For more information, see DOH Vectorborne Surveillance reports:
<https://www.nj.gov/health/cd/statistics/arboviral-stats/>

Species other than <i>Cs. melanura</i>	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	7	24		
<i>Aedes albopictus</i>	15	20		
<i>Aedes canadensis canadensis</i>	26	472		
<i>Aedes cantator</i>	25	705		
<i>Aedes cinereus</i>	1	16		
<i>Aedes japonicus</i>	32	100		
<i>Aedes provocans</i>	1	1		
<i>Aedes sollicitans</i>	4	5		
<i>Aedes sticticus</i>	5	174		
<i>Aedes stimulans</i>	2	4		
<i>Aedes triseriatus</i>	5	11		
<i>Aedes trivittatus</i>	2	29		
<i>Aedes vexans</i>	6	15		
<i>Anopheles crucians</i>	5	54		
<i>Anopheles punctipennis</i>	18	91		
<i>Anopheles quadrimaculatus</i>	8	39		
<i>Anopheles walkeri</i>	1	2		
<i>Coquillettidia perturbans</i>	21	457		
<i>Culex erraticus</i>	6	11		
<i>Culex Mix</i>	305	10361		
<i>Culex restuans</i>	15	416		
<i>Culex salinarius</i>	14	303		
<i>Culiseta inornata</i>	6	27		
<i>Orthopodomyia signifera</i>	2	2		
State Total	532	13339		

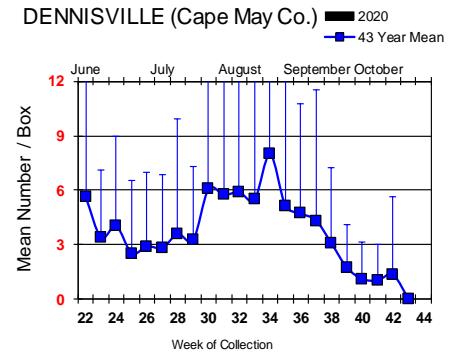
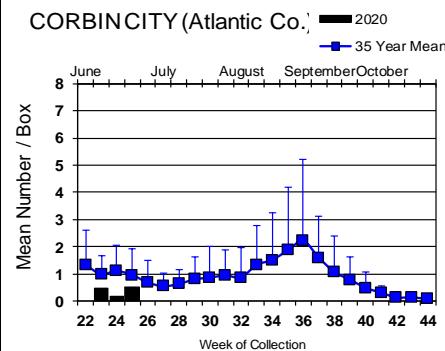
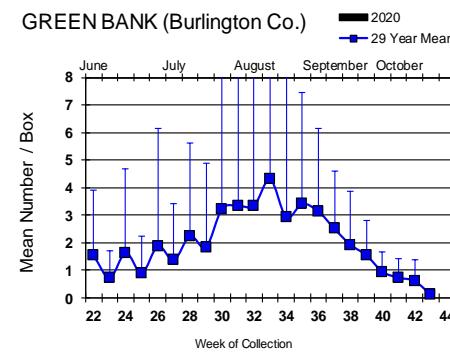
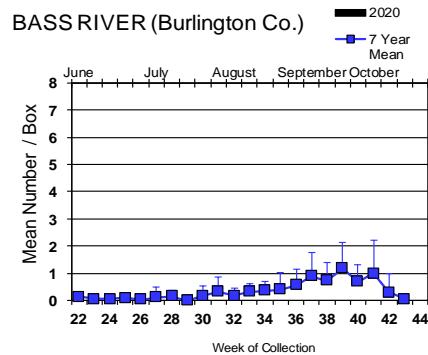
Additional Species: 23 additional species were tested for EEE. No positive pools have been detected to date.

Overall MFIR rates, human and animal cases per county:

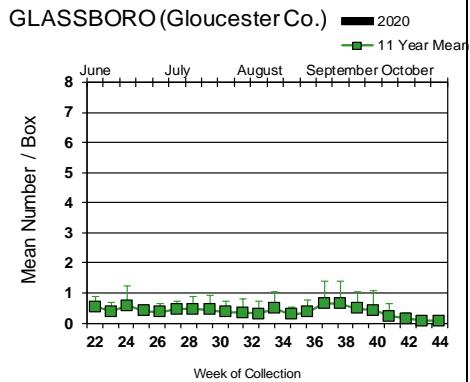
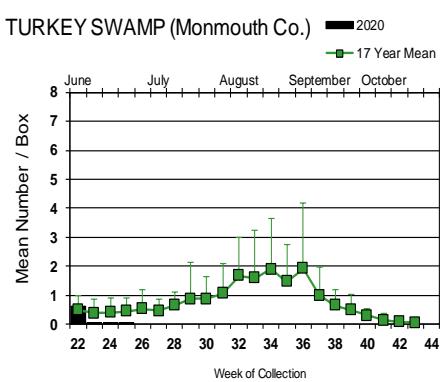
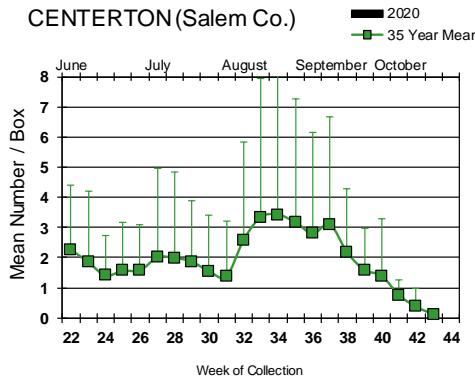
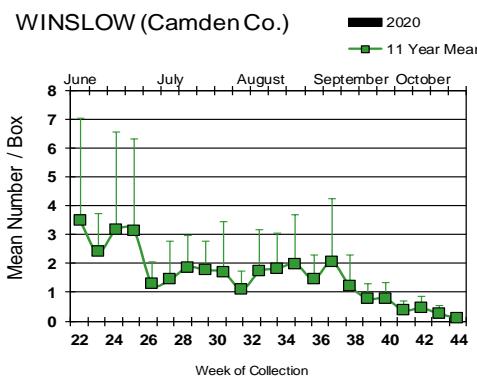


Culiseta melanura Populations

Coastal



Inland



Culiseta melanura populations are reported at sites where monitoring have begun at certain sites (Corbin City, Bass River, Green Bank, and Turkey Swamp). Currently, no unusual activity has been seen at the traditional resting box sites.

  = Positive pool(s) detected (red = melanura, purple = other species).

EEE in US (2020 cumulative cases): (Black or Red = previous + new reported cases occurring)

- equine: 5(FL)
- mosquito pools: 1(FL)
- sentinel: 12+1duck(FL)
- human:

West Nile Virus Positive Organisms in US, 2020

West Nile in US (2020 cumulative cases): Single black values indicate no change from previous week. Black values / red values equals previous week/**New totals**. Note: Data reported by all states should be considered provisional and subject to change. Sources for this table can be found [here](#).

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Alabama					0
Alaska					
Arizona		1			2
Arkansas					1
California	8/10	48/65	0	0	0
Colorado					0
Connecticut					
Delaware					
Florida	1		34	1	0
Georgia					
Hawaii					
Idaho	0	0		0	0
Illinois		5/6			0
Indiana					0
Iowa					0
Kansas					
Kentucky					
Louisiana					0
Maine					0
Maryland(+DC)					1
Mass.					0
Michigan	1				0
Minnesota					0
Mississippi					0
Missouri		0		0	0

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Montana					0
Nebraska		0		0	0
Nevada					0
New Hampshire					0
New Jersey		0		0	0
New Mexico					2
New York					0
North Carolina					
North Dakota					0
Ohio					0
Oklahoma					0
Oregon	0	0	0	0	0
Pennsylvania					0
Rhode Island					0
South Carolina					
South Dakota					0
Tennessee					
Texas		4/10			0
Utah					0
Vermont					0
Virginia					0
Washington	0	0		0	0
West Virginia					
Wisconsin					0
Wyoming					0

* Can include other species (e.g., dogs, cows) reported positive.

Protocol: New Jersey Department of Health (NJDH Public Health Environmental and Agricultural Laboratories, PHEAL) and the Cape May County Department of Mosquito Control tests mosquito pools using RT-PCR Taqman techniques.

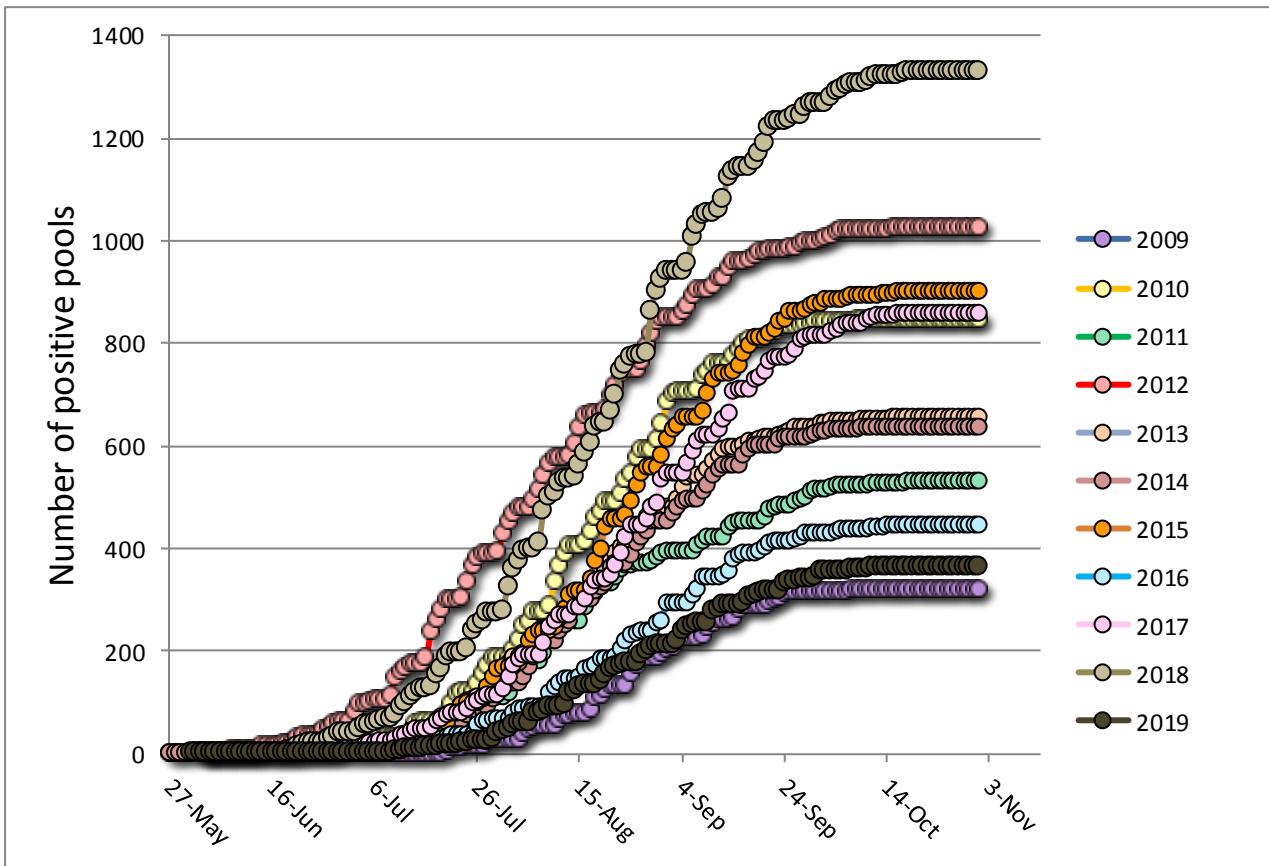
Mosquito Species Submitted and Tested for West Nile Virus through 22 June 2020

Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	7	24		
<i>Aedes albopictus</i>	15	20		
<i>Aedes canadensis canadensis</i>	26	472		
<i>Aedes cantator</i>	25	705		
<i>Aedes cinereus</i>	1	16		
<i>Aedes japonicus</i>	32	100		
<i>Aedes provocans</i>	1	1		
<i>Aedes sollicitans</i>	4	5		
<i>Aedes sticticus</i>	5	174		
<i>Aedes stimulans</i>	2	4		
<i>Aedes triseriatus</i>	10	16		
<i>Aedes trivittatus</i>	2	29		
<i>Aedes vexans</i>	6	15		
<i>Anopheles crucians</i>	5	54		
<i>Anopheles punctipennis</i>	19	93		
<i>Anopheles quadrimaculatus</i>	8	39		
<i>Anopheles walkeri</i>	1	2		
<i>Coquillettidia perturbans</i>	21	457		
<i>Culex erraticus</i>	6	11		
<i>Culex spp.</i>	305	10361		
<i>Culex restuans</i>	15	416		
<i>Culex salinarius</i>	15	304		
<i>Culiseta inornata</i>	6	27		
<i>Culiseta melanura</i>	45	154		
<i>Orthopodomyia signifera</i>	2	2		
Grand Total	584	13501		

Remarks: To date 266 pools of 13,501 mosquitoes from 24 species have been tested. No positive WNV pools have been detected by RTPCR this year. Last year positive detections began with a pool of *Aedes triseriatus*, collected on 31 May, 2019 in Passaic County. That pool was also co-infected with LAC. Last year was a year of relatively low activity for WNV.

Humans, Horses and Wild Birds: No humans, horses or wild birds have been reported infected with WNV in 2020. Last year, eight human cases were reported. No horses were detected with WNV in 2019.

Birds are no longer routinely tested in New Jersey.



Above is a graph showing cumulative number of positive pools for the previous 11 years, inclusive of the most active (2018) and least active (2009) years. 2020 will be represented in RED when the first positive pool is detected.

Go [here](#) for the table supplement of arbovirus by county by mosquito species.