

VECTOR SURVEILLANCE IN NEW JERSEY

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

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6 September to 12 September, 2020, CDC Week 37

Data download 1:00 pm 14 September



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

Arbovirus Summary

- In 2020, there are **four** positive EEE pools in *Culiseta melanura*.
- There are 182 positive WNV pools, in *Culex Mix* (178), in *Culex pipiens* (3) and *Aedes albopictus* (1).
- There are 6 positive JVC pools in *Aedes cantator* (2), *Aedes taeniorhynchus* (1), *Anopheles quadrimaculatus* (1) and *Coquillettidia perturbans* (2).
- There is one EEE horse case reported. There are no WNV horse cases.
- There are 3 human WNV cases; in Essex County (1) and Monmouth County (2).
- 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	0.89	1.00	4 (9)	1 (2)		
Green Bank (Burlington Co.)/25	Coastal	2.51	0.36	12 (21)	6 (7)		
Corbin City (Atlantic Co.)/25	Coastal	1.61	0.24	183 [‡]	134	1	5.464
Dennisville (Cape May Co.)/50	Coastal	4.32	0.06	13	4		
Winslow (Camden Co.)/50	Inland	1.23	0.78	142	6	1	7.042
Centerton (Salem Co.)/50	Inland	3.10	0.28	60	6		
Turkey Swamp (Monmouth Co.)/50	Inland	1.00	0.24	24 (36)	12 (13)		
Glassboro (Gloucester Co.)/50	Inland	0.63	0.08	36	9		

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

Remarks: Currently four positive EEE pools have been detected, collected in a pool of *Culiseta melanura* at the Corbin City traditional resting box site on 17 June, in Burlington County 10 August, in Atlantic County on 13 August, and the latest at the Winslow site on 8 September. A horse case in Atlantic County was also detected.

Statewide, 5,019 *Cs. melanura* from 457 pools have been tested, with an overall *Cs. melanura* MFIR of 0.797. 143,708 specimens in 5569 pools from 40 other species have also been tested, with no positive pools detected. Overall MFIR for all species statewide is 0.027.

Traditional Resting Box Sites: 474 *Cs. melanura* from 58 pools has been tested, with two positive pools, one at Corbin City, collected 17 June and the second at Winslow, collected 8 September. Three pools with 36 mosquitoes are pending. Overall MFIR at the traditional resting box site is 4.219.

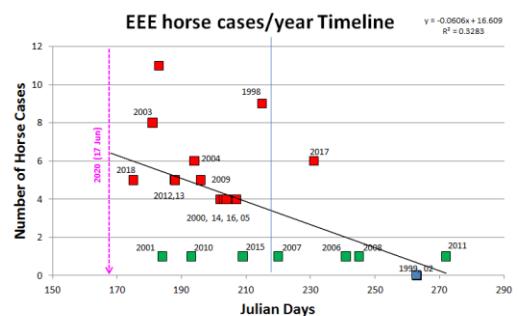
County	Trap types*	Additional <i>Cs. melanura</i> trapped by counties			
		Pools	Mosquitoes	Positives	MFIR
Atlantic	BGS, CO2, RB	41 7 50 1 41 8 64 14 3 36 12 35 87	829 63 1266 1 85 30 1328 83 10 345 27 121 357	1 1 1 1 1 1 1 1 1 1 1 2	1.206 0.790 0.790 0.790 0.790 0.790 0.790 0.790 0.790 0.790 0.790 0.440
Bergen	CO2, RB				
Burlington	ULVT				
Camden	GRA				
Cape May	GRA, RB				
Cumberland	CO2, RB				
Gloucester	RB				
Middlesex	CO2, GRA, LT, RB				
Monmouth	CO2, Other				
Morris	CO2, RB				
Ocean	CO2, GRA, RB				
Salem	CO2, GRA, Other, RB				
Sussex	CO2, GRA, RB				
TOTAL		399	4545	2	0.440

had date on onset late into the season.

Horses and Humans: Currently one horse has been reported with EEE. 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.

Additional County-set *Cs. melanura*: Counties maintain trap sites for *Cs. melanura* in other areas, using a variety of traps. In the previous year, 2019, 36 pools of *Cs. melanura* have been found positive. Currently, two positive pools of *Cs. melanura* have been detected in Burlington County, sampled 10 August and Atlantic County, sampled 13 August.

Graph below indicate start times to detection of EEE in *Culiseta melanura* from 1998 to 2020. This year is the earliest collected during that time period, suggesting multiple horse cases could occur this year. *Note* - first horse case



Case	Animal	Age	Sex	County	Date of			Comment
					Onset	Euthanized?	Vaccinated?	
1	horse	4	female	Atlantic	7 Sep	yes	No history	

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

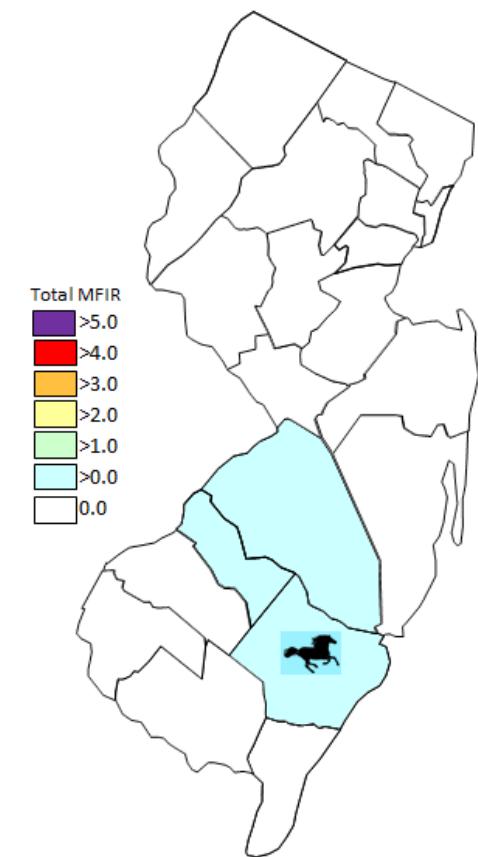
There are no human cases of EEE currently reported. For more information, see DOH Vectorborne Surveillance reports:

<https://www.nj.gov/health/cd/statistics/arboviral-stats/>

Species other than <i>Cs. melanura</i>	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	11	29		
<i>Aedes albopictus</i>	773	6780		
<i>Aedes atlanticus</i>	24	201		
<i>Aedes canadensis canadensis</i>	59	894		
<i>Aedes cantator</i>	36	828		
<i>Aedes cinereus</i>	1	16		
<i>Aedes excrucians</i>	2	2		
<i>Aedes grossbecki</i>	1	4		
<i>Aedes infirmatus</i>	2	2		
<i>Aedes japonicus</i>	255	1098		
<i>Aedes mitchellae</i>	1	4		
<i>Aedes provocans</i>	1	1		
<i>Aedes sollicitans</i>	34	782		
<i>Aedes sticticus</i>	7	176		
<i>Aedes stimulans</i>	14	32		
<i>Aedes taeniorhynchus</i>	36	1446		
<i>Aedes thibaulti</i>	1	5		
<i>Aedes triseriatus</i>	155	493		
<i>Aedes trivittatus</i>	6	140		
<i>Aedes vexans</i>	77	657		
<i>Anopheles barberi</i>	2	4		
<i>Anopheles bradleyi</i>	33	589		
<i>Anopheles crucians</i>	23	343		
<i>Anopheles punctipennis</i>	117	1545		
<i>Anopheles quadrimaculatus</i>	99	1666		
<i>Anopheles walkeri</i>	2	7		
<i>Coquillettidia perturbans</i>	200	4705		
<i>Culex erraticus</i>	157	1911		
<i>Culex Mix</i>	2729	107548		
<i>Culex pipiens</i>	397	8218		
<i>Culex restuans</i>	73	660		
<i>Culex salinarius</i>	137	1718		
<i>Culiseta inornata</i>	13	58		
<i>Culiseta morsitans</i>	13	48		
<i>Orthopodomyia signifera</i>	6	7		
<i>Psorophora ciliata</i>	3	5		
<i>Psorophora columbiae</i>	25	563		
<i>Psorophora cyanescens</i>	1	5		
<i>Psorophora ferox</i>	41	515		
<i>Psorophora howardii</i>	1	1		
<i>Uranotaenia sapphirina</i>	1	2		
State Total	5569	143708		

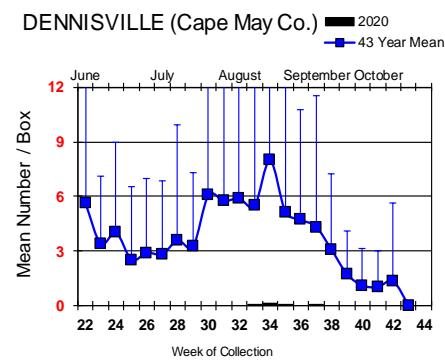
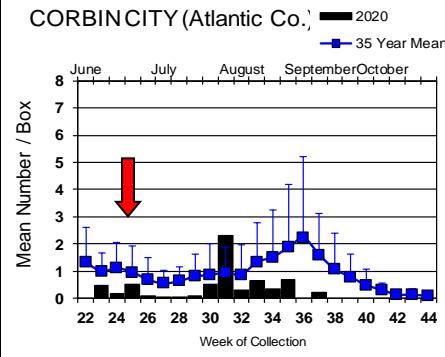
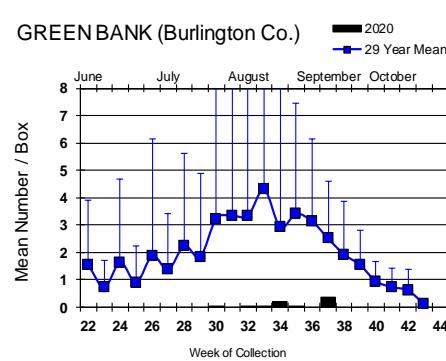
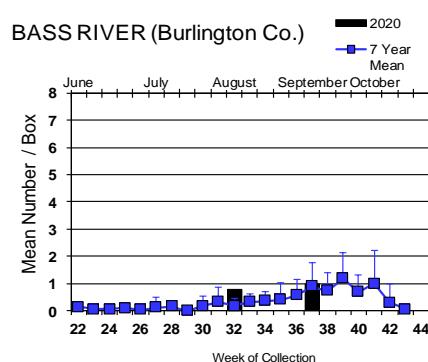
Additional Species: 40 additional species were tested for EEE. No positive pools have been detected to date. *note* *Aedes aegypti* removed from previous week.

Overall MFIR rates, human and animal cases per county:

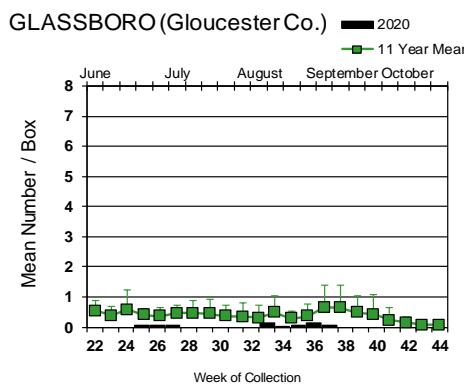
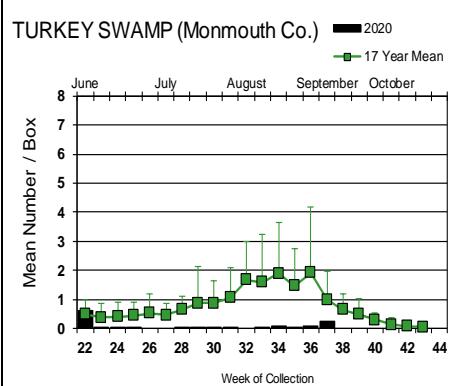
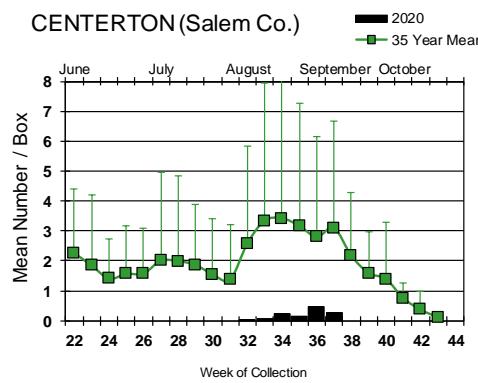
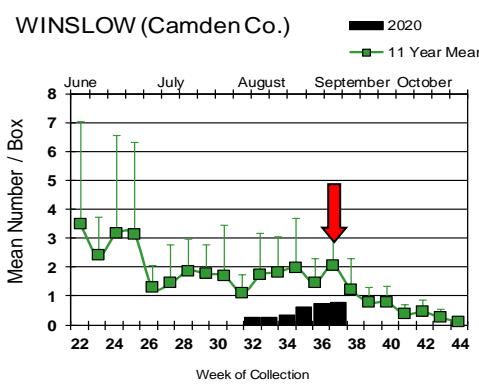


Culiseta melanura Populations

Coastal



Inland



Culiseta melanura populations are now reported at all sites but populations continue to be well below historical averages. First positive EEE pool has been detected at Corbin City, on 17 June.

1/159*1000
= Positive pool(s) detected (red = melanura, purple = other species).

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

- equine: 16(FL) 1(GA) 3(IN) 22(MI) 7(NC) 1(MN) 1(NJ) 7(NY) 13(SC) 4(VA) 10(WI)
- mosquito pools: 2(CT) 1(FL) 65(MA) 4(NJ) 1(RI)
- sentinel: 27+1duck, 2sparrows(FL)
- human: 4(MA)

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					1/2
Alaska					
Arizona		89/93	31		4
Arkansas					1
California	171/211	1717/1982	56/60	8/10	45/46
Colorado		24			4
Connecticut		106/124			1
Delaware					
Florida	17	13	107	7	18
Georgia					
Hawaii					
Idaho	0	12/18		0	1
Illinois	6	1686/1983			1
Indiana	0	27/31		0	0
Iowa					1
Kansas					2
Kentucky					
Louisiana	3/5	278/308		1/2	4/8
Maine					0
Maryland(+DC)		2			1
Mass.		70/87			3/7
Michigan	2	14/16			2/9
Minnesota					0
Mississippi		85/89			3
Missouri		0		0	1

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Montana					0
Nebraska		1/6		0	0
Nevada					0
New Hampshire		1			0
New Jersey		170/182		0	2/3
New Mexico					3
New York					0
North Carolina					
North Dakota					0
Ohio		441/528		0	0
Oklahoma					0
Oregon	1	3	0	0	0
Pennsylvania		288			1
Rhode Island					0
South Carolina					
South Dakota		5/6			5
Tennessee					
Texas		997/1071	1		10/27
Utah		21/29			
Vermont					0
Virginia					0
Washington	0	10/11		0	2
West Virginia					
Wisconsin					
Wyoming		1			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.

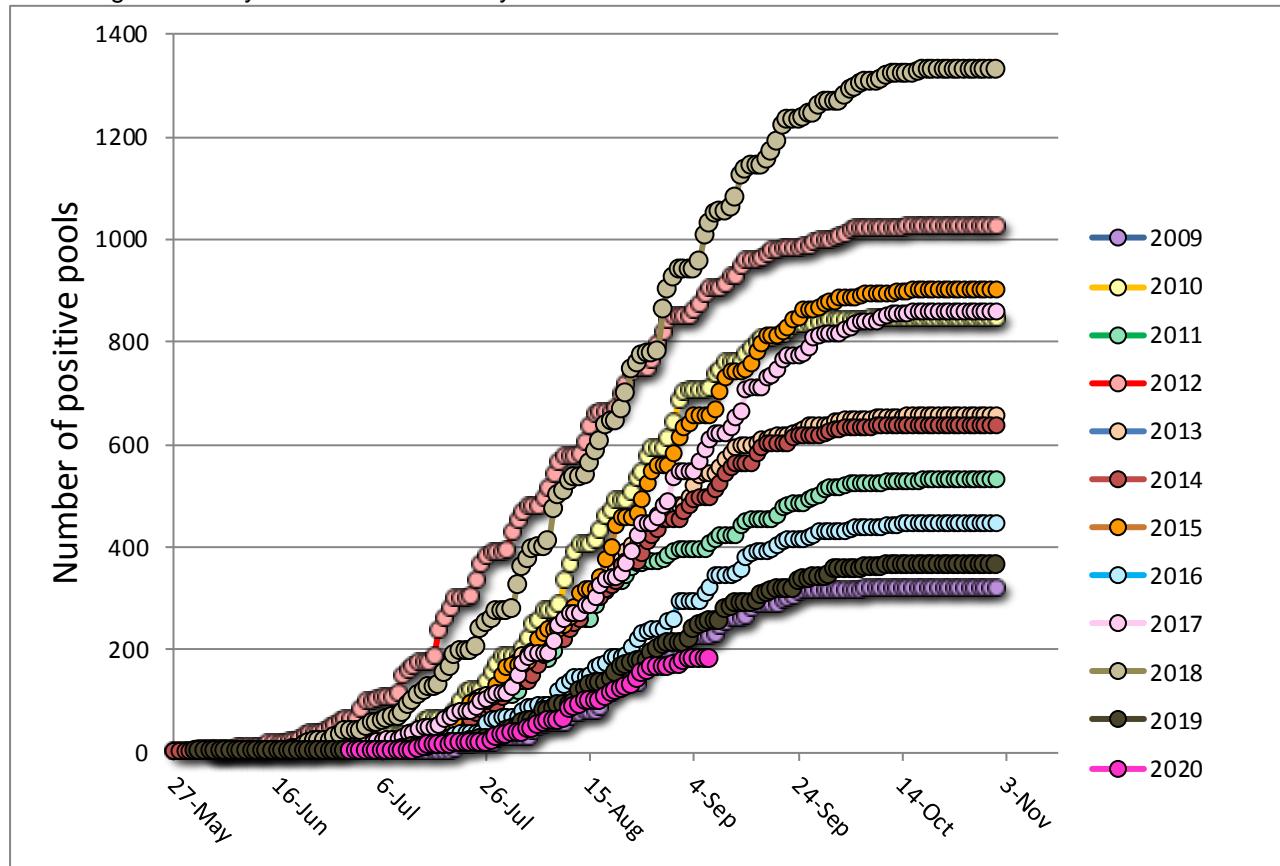
**Mosquito Species Submitted and Tested
for West Nile Virus through 14 September 2020**

Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	11	29		
<i>Aedes albopictus</i>	780	6962	1	0.144
<i>Aedes atlanticus</i>	24	201		
<i>Aedes canadensis canadensis</i>	59	894		
<i>Aedes cantator</i>	36	828		
<i>Aedes cinereus</i>	1	16		
<i>Aedes excrucians</i>	2	2		
<i>Aedes grossbecki</i>	1	4		
<i>Aedes infirmatus</i>	2	2		
<i>Aedes japonicus</i>	260	1158		
<i>Aedes mitchellae</i>	1	4		
<i>Aedes provocans</i>	1	1		
<i>Aedes sollicitans</i>	34	782		
<i>Aedes sticticus</i>	7	176		
<i>Aedes stimulans</i>	14	32		
<i>Aedes taeniorhynchus</i>	36	1446		
<i>Aedes thibaulti</i>	1	5		
<i>Aedes triseriatus</i>	237	831		
<i>Aedes trivittatus</i>	6	140		
<i>Aedes vexans</i>	77	657		
<i>Anopheles barberi</i>	2	4		
<i>Anopheles bradleyi</i>	33	589		
<i>Anopheles crucians</i>	23	343		
<i>Anopheles punctipennis</i>	117	1545		
<i>Anopheles quadrimaculatus</i>	99	1666		
<i>Anopheles walkeri</i>	2	7		
<i>Coquillettidia perturbans</i>	200	4705		
<i>Culex erraticus</i>	157	1911		
<i>Culex spp.</i>	2729	107548	178	1.655
<i>Culex pipiens</i>	397	8218	3	0.365
<i>Culex restuans</i>	73	660		
<i>Culex salinarius</i>	137	1718		
<i>Culiseta inornata</i>	13	58		
<i>Culiseta melanura</i>	457	5019		
<i>Culiseta morsitans</i>	13	48		
<i>Orthopodomyia signifera</i>	6	7		
<i>Psorophora ciliata</i>	3	5		
<i>Psorophora columbiae</i>	25	563		
<i>Psorophora cyanescens</i>	1	5		
<i>Psorophora ferox</i>	41	515		
<i>Psorophora howardii</i>	1	1		
<i>Uranotaenia sapphirina</i>	1	2		
Grand Total	6120	149307	182	1.219

Remarks: To date 6,120 pools of 149,307 mosquitoes from 41 species have been tested. 182 positive WNV pools have been detected by RTPCR this year, 178 pools in *Culex Mix*, 3 in *Culex pipiens* and one pool in *Aedes albopictus* (collected in Union County 28 July). The positive pools are less diverse than in previous years, particularly for those years when activity is higher. The pools were in Atlantic, Bergen, Burlington, Camden, Gloucester, Hudson, Hunterdon, Mercer, Middlesex, Monmouth, Morris, Passaic, Somerset, Union, and Warren counties (earliest collected 30 June). Note: *Aedes aegypti* retracted from previous report.

Humans, Horses and Wild Birds: No horses or wild birds have been reported infected with WNV in 2020. Two human case of WNV has been reported: first case in Essex County and most recently in Monmouth County. Last year, eight human cases were reported. No horses were detected with WNV in 2019. See DOH reports on arbovirus activity for further information: <https://www.nj.gov/health/cd/statistics/arboviral-stats/index.shtml>

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 is represented in PINK.

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