VECTOR SURVEILLANCE IN NEW JERSEY

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

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Data download 3:15 pm 31 August

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NOTE: County/species tables for arboviruses are now in a supplemental file here

Arbovirus Summary

- **In 2020, there are three positive EEE pools in *Culiseta melanura*.**
- **There are 136 positive WNV pools, in *Culex* Mix (133), in *Culex pipiens* (2) 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 are no horse arboviruses cases reported.**
- **There are 2 human WNV cases; in Essex County (1) and Monmouth County (1).**
- **Note: Data downloads 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**	0.41	0.00	4	1		
Green Bank (Burlington Co.)/25	**Coastal**	3.41	0.04	11 (12)	5 (6)		
Corbin City (Atlantic Co.)/25	**Coastal**	1.87	0.68	142 (159)	12 (13)	1	7.042
Dennisville (Cape May Co.)/50	**Coastal**	5.15	0.04	10	3		
Winslow (Camden Co.)/50	**Inland**	1.46	0.62	52‡	3		
Centerton (Salem Co.)/43	**Inland**	3.17	0.14	23	4		
Turkey Swamp (Monmouth Co.)/50	**Inland**	1.47	0.06	17 (20)	10 (11)		
Glassboro (Gloucester Co.)/50	**Inland**	0.37	0.06	25	7		

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

Remarks: Currently three 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 and in Atlantic County on 13 August. *Cs. melanura* populations continue to run low.

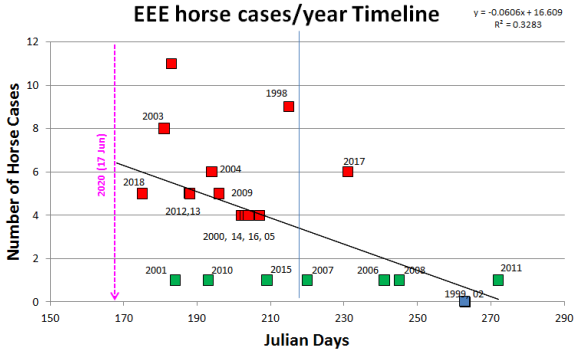
Statewide, 3,472 *Cs. melanura* from 317 pools have been tested, with an overall *Cs. melanura* MFIR of 0.799. 120,520 specimens in 4511 pools from 40 other species have also been tested, with no positive pools detected. Overall MFIR for all species statewide is 0.024.

Traditional Resting Box Sites: 284 *Cs. melanura* from 45 pools has been tested, with one positive pool at Corbin City, collected 17 June. Three pools with 21 mosquitoes are pending. Overall MFIR at the traditional resting box site is 3.521.

	Additional *Cs. melanura* trapped by counties *traps with positives indicated in **BOLD UNDERLINED.**				
County	**Trap types***	**Pools**	**Mosquitoes**	**Positives**	**MFIR**
Atlantic	CO2, RB	32	704	1	1.420
Bergen	RB	7	63		
Burlington	ULVT	42	1083	1	0.923
Camden	GRA	1	1		
Cape May	RB	17	20		
Cumberland	CO2, RB	7	29		
Gloucester	RB	48	755		
Middlesex	CO2, LT, RB	13	80		
Monmouth	CO2, Other	3	10		
Morris	CO2, RB	34	342		
Ocean	CO2	9	20		
Salem	CO2, Other, RB	29	99		
Sussex	CO2, RB	75	266		
TOTAL		**317**	**3472**	**2**	**0.576**

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.



Horses and Humans: Currently, no large animals have 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.

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

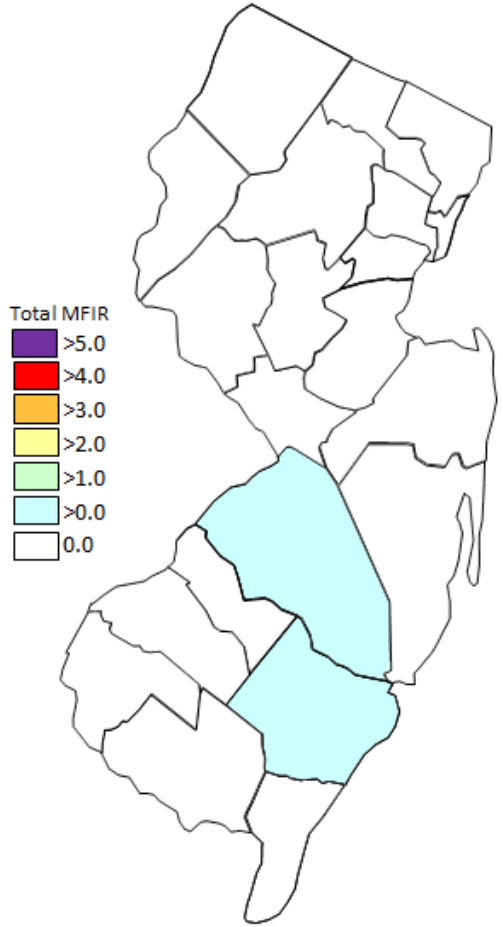
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

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 *Cs. melanura*	Pools	Mosquitoes	Positives	MFIR
Aedes abserratus	11	29		
Aedes aegypti	1	7		
Aedes albopictus	564	4856		
Aedes atlanticus	8	45		
Aedes canadensis canadensis	55	875		
Aedes cantator	36	828		
Aedes cinereus	1	16		
Aedes excrucians	2	2		
Aedes grossbecki	1	4		
Aedes japonicus	228	1002		
Aedes mitchellae	1	4		
Aedes provocans	1	1		
Aedes sollicitans	29	727		
Aedes sticticus	7	176		
Aedes stimulans	14	32		
Aedes taeniorhynchus	29	1074		
Aedes thibaulti	1	5		
Aedes triseriatus	115	400		
Aedes trivittatus	3	30		
Aedes vexans	68	442		
Anopheles barberi	1	3		
Anopheles bradleyi	19	210		
Anopheles crucians	17	187		
Anopheles punctipennis	102	1063		
Anopheles quadrimaculatus	85	1449		
Anopheles walkeri	2	7		
Coquillettidia perturbans	172	4375		
Culex erraticus	104	1020		
Culex Mix	2326	92902		
Culex pipiens	291	6047		
Culex restuans	36	526		
Culex salinarius	101	1576		
Culiseta inornata	12	50		
Culiseta morsitans	13	48		
Orthopodomyia signifera	6	7		
Psorophora ciliata	1	1		
Psorophora columbiae	17	328		
Psorophora cyanescens	1	5		
Psorophora ferox	28	158		
Psorophora howardii	1	1		
Uranotaenia sapphirina	1	2		
State Total	**4511**	**120520**		

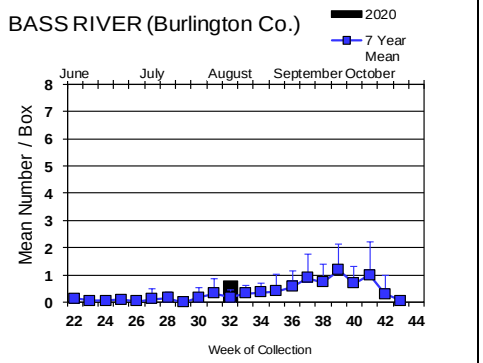
Additional Species: 40 additional species were tested for EEE. No positive pools have been detected to date.

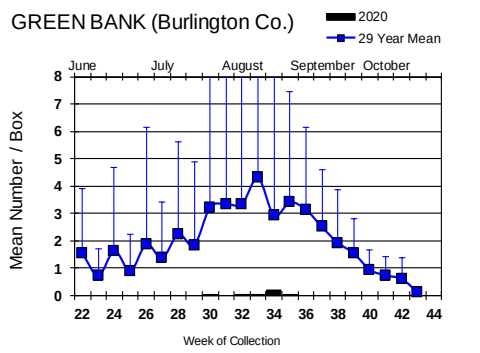
Overall MFIR rates, human and animal cases per county:

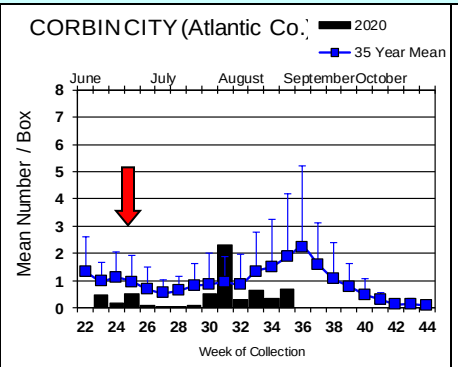


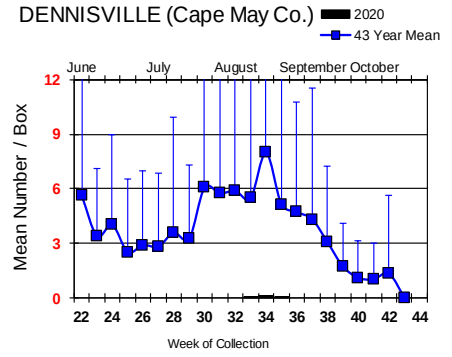
Culiseta melanura Populations

Coastal

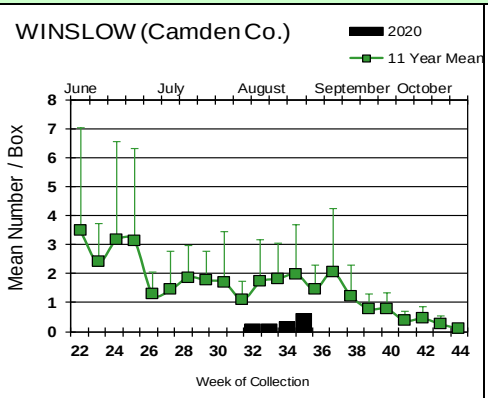


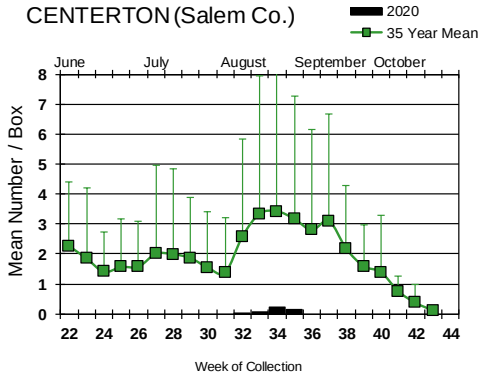


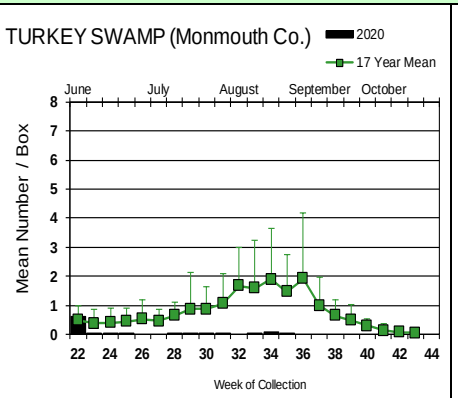


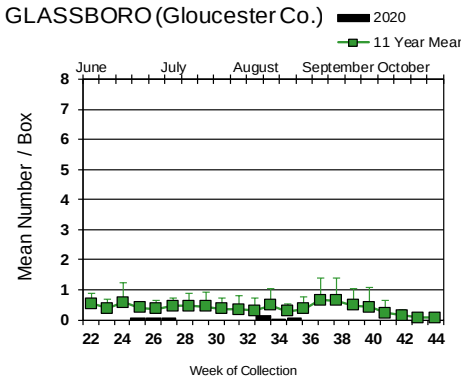


Inland









Culiseta melanura populations are 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.

= 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) 10(MI) 3(NY) 7(SC) 2(VA) 1(WI)**
- **mosquito pools: 2(CT) 1(FL) 65(MA) 3(NJ) 1(RI)**
- **sentinel: 25+1duck, 2sparrows(FL)**
- **human: 3(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
Alaska					
Arizona		89	31		4
Arkansas					1
California	124/142	1114/1420	40/41	4/6	27/35
Colorado		16/24			2/4
Connecticut		74/84			
Delaware					
Florida	17	12	68/73	1/6	9/17
Georgia					
Hawaii					
Idaho	0	12		0	0
Illinois	5/6	918/1191			0
Indiana	0	19/22		0	0
Iowa					1
Kansas					2
Kentucky					
Louisiana	2	121/257		1	4
Maine					0
Maryland(+DC)					1
Mass.		66/70			1/3
Michigan	2	13/14			0
Minnesota					0
Mississippi		71/81			2
Missouri		0		0	1

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Montana					0
Nebraska		1		0	0
Nevada					0
New Hampshire					0
New Jersey		83/136		0	1/2
New Mexico					3
New York					0
North Carolina					
North Dakota					0
Ohio		337/426		0	0
Oklahoma					0
Oregon	1	2	0	0	0
Pennsylvania		175/288			1
Rhode Island					0
South Carolina					
South Dakota		3/4			3/5
Tennessee					
Texas		710/855	1		6/9
Utah					0
Vermont					0
Virginia					0
Washington	0	7		0	0
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.

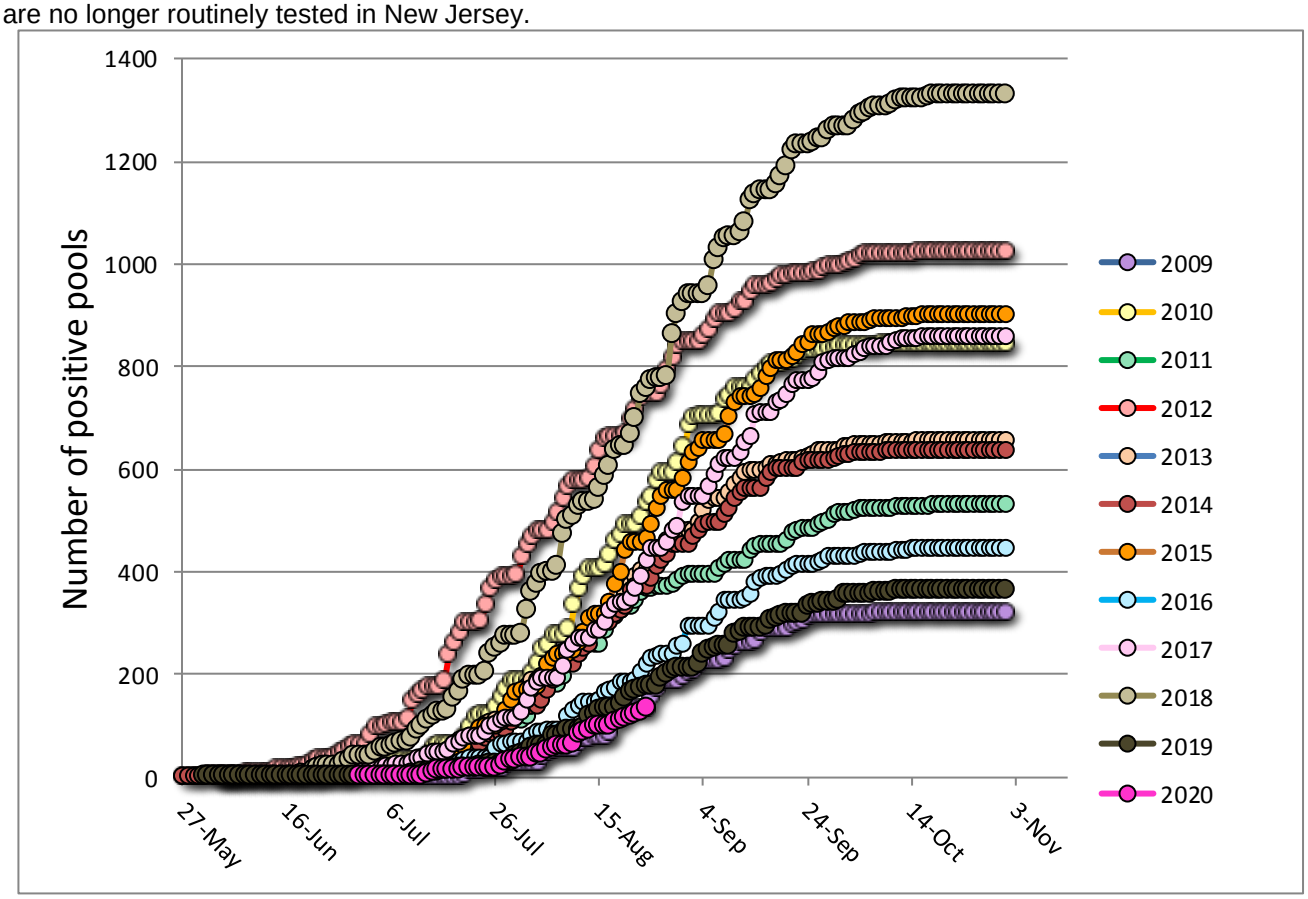
Mosquito Species Submitted and Tested for West Nile Virus through 31 August 2020

Species	Pools	Mosquitoes	Positives	MFIR
Aedes abserratus	11	29		
Aedes aegypti	1	7		
Aedes albopictus	571	5038	1	0.198
Aedes atlanticus	8	45		
Aedes canadensis canadensis	55	875		
Aedes cantator	36	828		
Aedes cinereus	1	16		
Aedes excrucians	2	2		
Aedes grossbecki	1	4		
Aedes japonicus	233	1062		
Aedes mitchellae	1	4		
Aedes provocans	1	1		
Aedes sollicitans	29	727		
Aedes sticticus	7	176		
Aedes stimulans	14	32		
Aedes taeniorhynchus	29	1074		
Aedes thibaulti	1	5		
Aedes triseriatus	192	709		
Aedes trivittatus	3	30		
Aedes vexans	68	442		
Anopheles barberi	1	3		
Anopheles bradleyi	19	210		
Anopheles crucians	17	187		
Anopheles punctipennis	102	1063		
Anopheles quadrimaculatus	85	1449		
Anopheles walkeri	2	7		
Coquillettidia perturbans	172	4375		
Culex erraticus	104	1020		
Culex spp.	2326	92902	133	1.432
Culex pipiens	291	6047	2	0.331
Culex restuans	36	526		
Culex salinarius	101	1576		
Culiseta inornata	12	50		
Culiseta melanura	362	3756		
Culiseta morsitans	13	48		
Orthopodomyia signifera	6	7		
Psorophora ciliata	1	1		
Psorophora columbiae	17	328		
Psorophora cyanescens	1	5		
Psorophora ferox	28	158		
Psorophora howardii	1	1		
Uranotaenia sapphirina	1	2		
Grand Total	**4962**	**124827**	**136**	**1.090**

Remarks: To date 4,964 pools of 124,827 mosquitoes from 41 species have been tested. 136 positive WNV pools have been detected by RTPCR this year, 133 pools in *Culex* Mix, 2 in *Culex pipiens* and one pool in *Aedes albopictus* (collected in Union County 28 July). 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).

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.