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

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Data download 5:30 pm 5 August

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

Arbovirus Summary

- **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.**

- **No pools tested for EEE virus have been detected positive in any species submitted to date. No horse or human cases have been reported.**
- **162 pools have tested positive for WN virus, the first in *Aedes cantator*, collected in Burlington County on 2 June. Also positive were pools of *Culex* Mix, *Culex pipiens*, *Aedes albopictus*, *Ae. canadensis canadensis*, *Aedes cantator*, *Ae. triseriatus*, and *Ae. vexans*. No horse or human cases have been reported.**
- **No pools tested for SLE, LAC, DENG, CHIK, or ZIKA virus have been detected positive in any species submitted to date.**
- **2 pools have tested positive for JC virus, both in *Aedes cantator*, collected in Bergen County at the same location, first collected on 3 June.**

- **In 2021, there were 35 positive EEE pools in *Culiseta melanura*, *Culex erraticus*, *Ae. taeniorhynchus*, *and Ae. triseriatus*. There were 3 horse case reported. There were no human cases reported.**
- **There were 997 positive WNV pools, in *Culex* Mix, *Culex pipiens*, *Culex restuans*, *Culex*, *erraticus*, *Culiseta melanura*, *Aedes albopictus*, *Aedes japonicus*, *Ae. taeniorhynchus*, *Ae. triseriatus*, *Ae. trivitattus*, *Ae. vexans*, *Anopheles bradleyi*, *An. punctipennis*, *An. quadrimaculatus*, *Coquillettidia perturbans*, *Psorophora ciliate*, and *Ps. ferox*. There were 36 human cases with 5 fatalities, plus 13 positive birds. There were no horse cases.**
- **There were 8 positive JVC pools in *Aedes albopictus*, *Ae. vexans*, *Anopheles punctipennis* and *Culex* Mix. There were 2 human cases reported.**

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**	0.28	0.00	0	0		
Green Bank (Burlington Co.)/25	**Coastal**	3.13	0.00	9	4		
Corbin City (Atlantic Co.)/25	**Coastal**	0.99	0.52	135	13		
Dennisville (Cape May Co.)/50	**Coastal**	5.62	0.00	26	6		
Winslow (Camden Co.)/50	**Inland**	1.04	0.00	211	10		
Centerton (Salem Co.)/50	**Inland**	1.35	0.02	35 (36)	9 (10)		
Turkey Swamp (Monmouth Co.)/50	**Inland**	1.01	0.16	118	17		
Glassboro (Gloucester Co.)/50	**Inland**	0.29	0.02	28 (29)	9 (10)		

*Current week (in parentheses) results pending. ‡ Corrected from previous week. PW = Previous week na =not available ND=No Data NR=Not Recorded

Remarks: Currently, there are no positive EEE pools detected in the samples submitted.

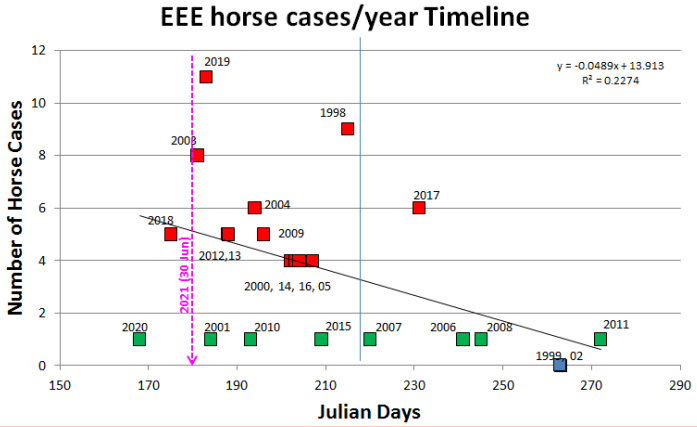
Statewide: 1652 *Cs. melanura* from 207 pools have been submitted for testing, with no positive pools detected and an overall *Cs. melanura* MFIR of 0.000. 94,795 specimens in 3376 pools from 33 other species have also been tested with no positive pools detected. Overall MFIR for *all* species statewide is 0.000.

Traditional Resting Box Sites: 562 *Cs. melanura* from 68 pools have been collected at the traditional resting box sites with no positive pools detected and 2 pools of 2 specimens pending. Overall *Cs. melanura* MFIR at the traditional resting box site is 0.00.

	Additional *Cs. melanura* trapped by counties *traps with positives indicated in **BOLD UNDERLINED.**				
County	**Trap types***	**Pools**	**Mosquitoes**	**Positives**	**MFIR**
Atlantic	CO2, RB	28	348		
Bergen	RB	2	42		
Burlington	UVLT	5	48		
Cape May	GRA, RB	12	20		
Cumberland	CO2, GRA, RB	23	81		
Gloucester	RB	12	127		
Middlesex	NJLT	3	15		
Monmouth	CO2	3	4		
Morris	ASP, CO2, GRA, RB	23	152		
Ocean	CO2	2	4		
Salem	CO2, RB	9	109		
Sussex	CO2, RB	17	140		
TOTAL		**139**	**1090**		

Additional County-set *Cs. melanura*: Counties maintain trap sites for *Cs. melanura* in other areas, using a variety of traps. In 2021, first positive pools of *Cs. Melanura* were detected at a non-traditional resting box site in Gloucester County, collected 30 Jun. Currently, there are no positive EEE pools detected.

Graph to the right indicate start times to detection of EEE in *Culiseta melanura* and associated number of horse cases from 1998 to 2021. Early detections are associated with multiple horse cases.



Horses and Humans: In 2021, 3 horses were reported with EEE. Currently, no horse or humans have been reported. For more information, see DOH Vectorborne Surveillance reports: https://www.nj.gov/health/cd/statistics/arboviral-stats/

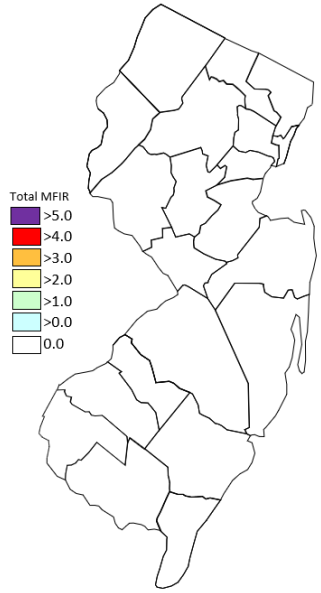
Case	Animal	Age	Sex	County	Date of Onset	Euthanized?	Vaccinated?	Comment

Horses and Vaccinations: ***Horse owners are urged to make sure their horses are up to date on their vaccinations (see link below). EEE horse cases are known to occur through October and sometimes into November.*** Other sensitive species are non-native birds, such as Ostriches/Emus and Gallinaceous birds such as pheasants of Eurasian origins. 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

Species other than *Cs. melanura*	Pools	Mosquitoes	Positives	MFIR
Aedes abserratus	17	393		
Aedes albopictus	223	2317		
Aedes atlanticus	3	7		
Aedes atropalpus	1	1		
Aedes aurifer	16	154		
Aedes canadensis canadensis	74	1199		
Aedes cantator	49	1658		
Aedes cinereus	4	48		
Aedes grossbecki	9	51		
Aedes japonicus	294	2004		
Aedes provocans	2	3		
Aedes sollicitans	25	503		
Aedes sticticus	7	166		
Aedes stimulans	13	71		
Aedes taeniorhynchus	20	567		
Aedes triseriatus	48	132		
Aedes trivittatus	5	64		
Aedes vexans	109	2593		
Anopheles spp.	3	97		
Anopheles barberi	2	2		
Anopheles bradleyi	16	188		
Anopheles crucians	6	11		
Anopheles punctipennis	150	1704		
Anopheles quadrimaculatus	44	597		
Coquillettidia perturbans	132	3215		
Culex erraticus	29	294		
Culex Mix	1744	68719		
Culex pipiens	152	5525		
Culex restuans	126	1844		
Culex salinarius	17	341		
Culiseta inornata	6	14		
Orthopodomyia signifera	2	2		
Psorophora ciliata	3	9		
Psorophora columbiae	6	37		
Psorophora ferox	19	265		
State Total	**3376**	**94795**		

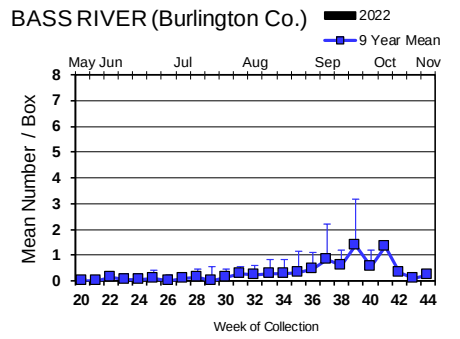
Additional Species: 33 additional species were tested for EEE. No positive pools were detected. In 2021, the first positive non-*melanura* pool was detected in of *Culex erraticus* in Atlantic County on 5 Aug.

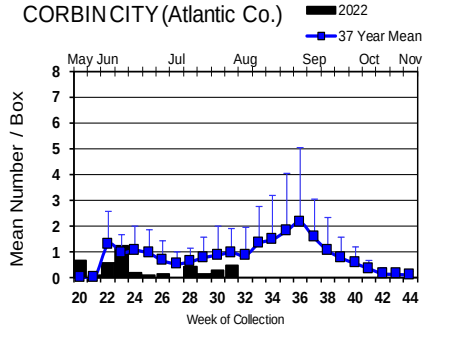
Overall MFIR rates, human and animal cases per county:

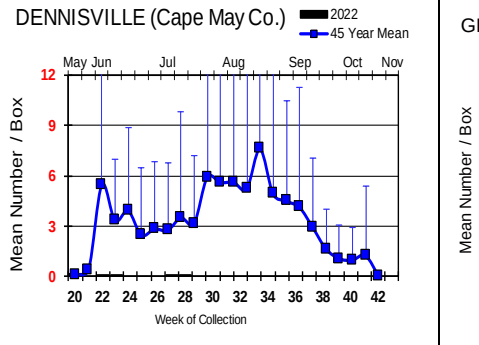


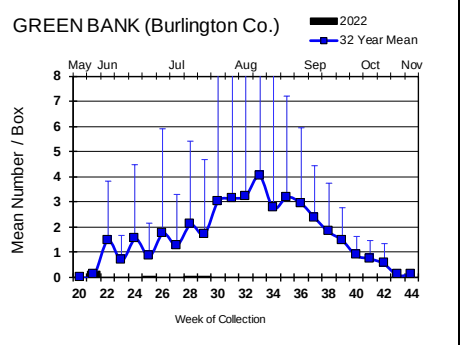
Culiseta melanura Populations

Coastal

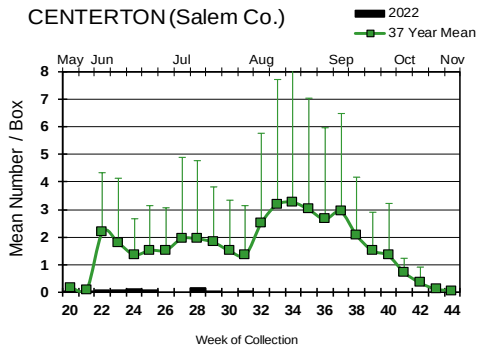


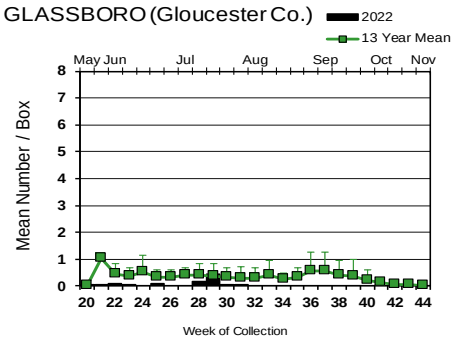


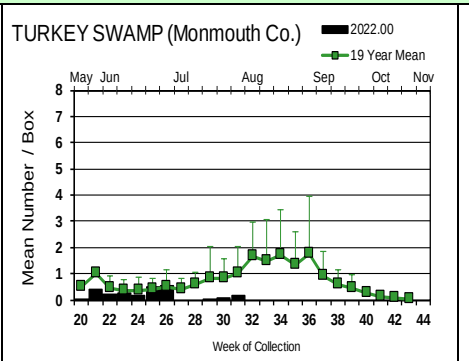


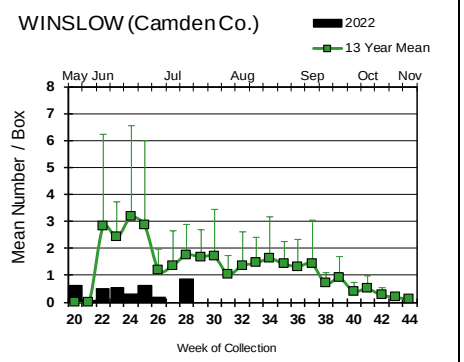


Inland









As with other species throughout the state, *Cs. melanura* populations continue to remain below historic levels at the traditional resting box sites. Very few specimens were collected this week, the most again being at Corbin City, but still below the historical average. Drought conditions continue. Currently, no positive EEE pools have been detected at any sites withing the state, but a Green Bank sample of *Ae. cantator* was positive for WNV near the beginning of the season.

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

EEE in US (2022 cumulative cases): (Black or Red = previous + new reported cases occurring)

- **equine: 8(FL)**
- **mosquito pools:**
- **sentinel: 40(FL)**
- **human:**

West Nile Virus Positive Organisms in US, 2022

West Nile in US (2022 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		2	0		5
Arkansas					
California	49/60	702/965	2/17	2/2	7/7
Colorado		31/54			3
Connecticut		7/29			
Delaware					
Florida		1	10/16		
Georgia					1/1
Hawaii					
Idaho	0	2		0	0
Illinois	1/1	217/408		0	0
Indiana	0	3/6		0	1/1
Iowa					
Kansas					
Kentucky					
Louisiana					
Maine					
Maryland(+DC)					
Mass.		22		0	0
Michigan					
Minnesota					
Mississippi		15/46			3/3
Missouri		0		0	1

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Montana					
Nebraska					
Nevada					
New Hampshire					
New Jersey	0	81/162		0	0
New Mexico					
New York					
North Carolina					
North Dakota	0	0		0	4/5
Ohio		65/136		0	0
Oklahoma					
Oregon	0	2/7	0	0	0
Pennsylvania	1/1	258/258			4/4
Rhode Island					
South Carolina					
South Dakota		5/7			
Tennessee					
Texas	0	87/116	0	0	2/3
Utah					
Vermont		0		0	0
Virginia					
Washington					
West Virginia					
Wisconsin					
Wyoming		3/3		0	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.

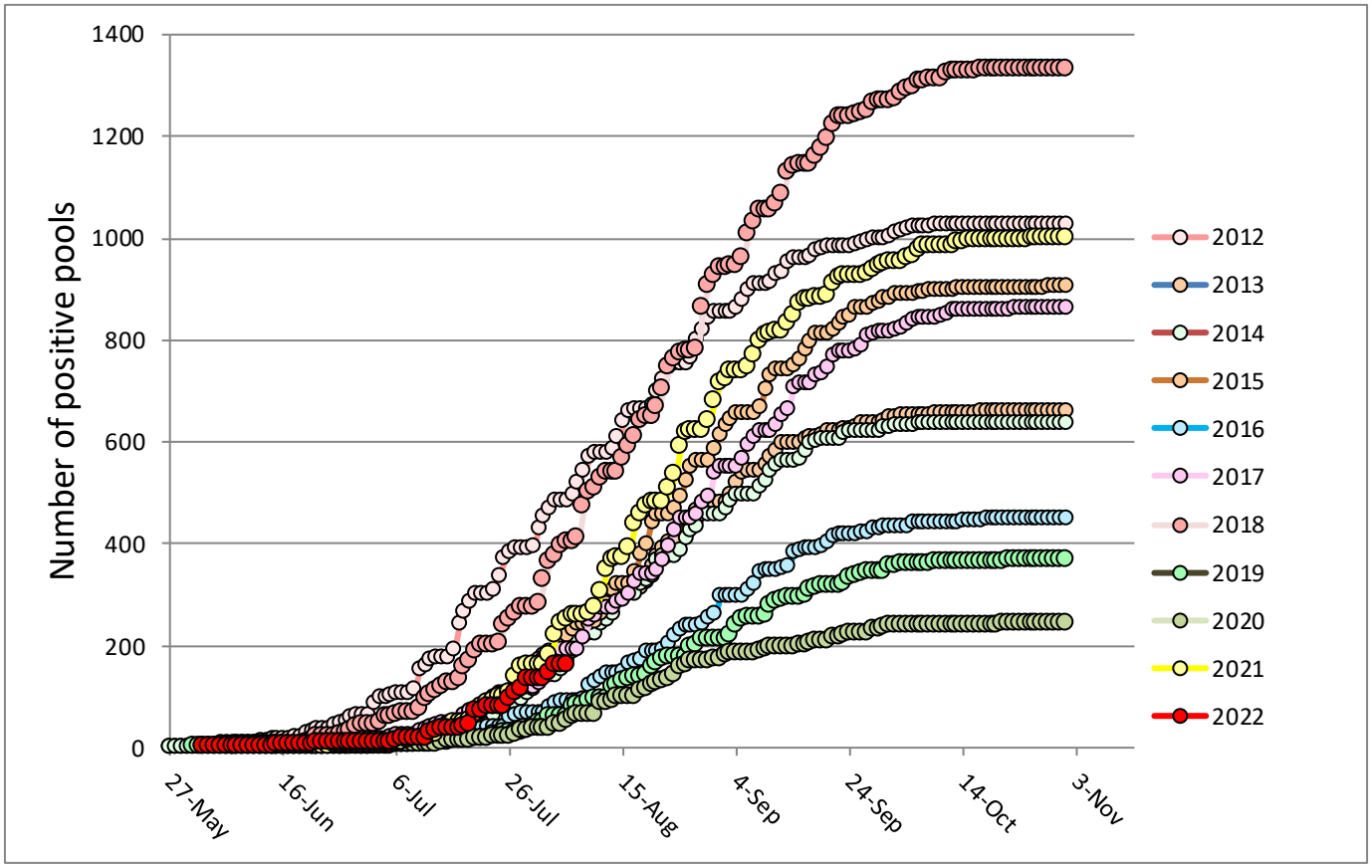
Mosquito Species Submitted and Tested for West Nile Virus through 5 August 2022

Species	Pools	Mosquitoes	Positives	MFIR
Aedes abserratus	17	393		
Aedes albopictus	223	2317	2	0.863
Aedes atlanticus	3	7		
Aedes atropalpus	1	1		
Aedes aurifer	16	154		
Aedes canadensis canadensis	74	1199	1	0.834
Aedes cantator	49	1658	1	0.603
Aedes cinereus	4	48		
Aedes grossbecki	9	51		
Aedes japonicus	301	2107		
Aedes provocans	2	3		
Aedes sollicitans	26	535		
Aedes sticticus	7	166		
Aedes stimulans	13	71		
Aedes taeniorhynchus	20	567		
Aedes triseriatus	105	345	1	2.899
Aedes trivittatus	5	64		
Aedes vexans	109	2593	1	0.386
Anopheles spp.	3	97		
Anopheles barberi	2	2		
Anopheles bradleyi	16	188		
Anopheles crucians	6	11		
Anopheles punctipennis	150	1704		
Anopheles quadrimaculatus	44	597		
Coquillettidia perturbans	132	3215		
Culex erraticus	29	294		
Culex spp.	1751	68958	153	2.219
Culex pipiens	152	5525	3	0.543
Culex restuans	126	1844		
Culex salinarius	17	341		
Culiseta inornata	6	14		
Culiseta melanura	207	1652		
Orthopodomyia signifera	2	2		
Psorophora ciliata	3	9		
Psorophora columbiae	6	37		
Psorophora ferox	19	265		
Grand Total	**3655**	**97034**	**162**	**1.670**

Remarks: To date 3655 pools of 97,034 mosquitoes from 34 species have been tested, with 162 positive pools of WNV detected. First positive pool was detected in *Aedes cantator,* collected 2 June in Burlington County at a traditional resting box site. Positive species include *Culex* Mix, *Culex pipiens, Aedes albopictus, Ae. canadensis canadensis, Ae. cantator, Ae. triseriatus*, and *Ae. vexans*. Cumulative MFIR for all mosquitoes in New Jersey is 1.670, up from last week's value of 0.927.

Humans, Horses and Wild Birds: No date, no humans or livestock have been reported with WNV. Last year, no horses have been reported infected but 36 human cases were detected. See DOH reports on arbovirus activity for further information: https://www.nj.gov/health/cd/statistics/arboviral-stats/index.shtml

Although birds are no longer routinely tested in New Jersey, last year 13 corvids and birds of prey were reported positive for WNV.



Above is a graph showing cumulative number of positive pools for the previous 10 years, inclusive of the most active (2018) year. 2022 is represented in RED (first positive collected 2 June).

Go here for the table supplement of arbovirus by county by mosquito species.