VECTOR SURVEILLANCE IN NEW JERSEY

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

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Data download 1:05 pm 15 July

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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.**
- **15 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 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**	0.13	0.00	0	0		
Green Bank (Burlington Co.)/25	**Coastal**	2.10	0.02	8	3		
Corbin City (Atlantic Co.)/25	**Coastal**	0.63	0.44	110	10		
Dennisville (Cape May Co.)/50	**Coastal**	3.51	0.04	22	5		
Winslow (Camden Co.)/50	**Inland**	1.75	0.86	188	9		
Centerton (Salem Co.)/50	**Inland**	1.94	0.18	34	8		
Turkey Swamp (Monmouth Co.)/50	**Inland**	0.58	0.00	106	14		
Glassboro (Gloucester Co.)/50	**Inland**	0.40	0.16	27	8		

*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.

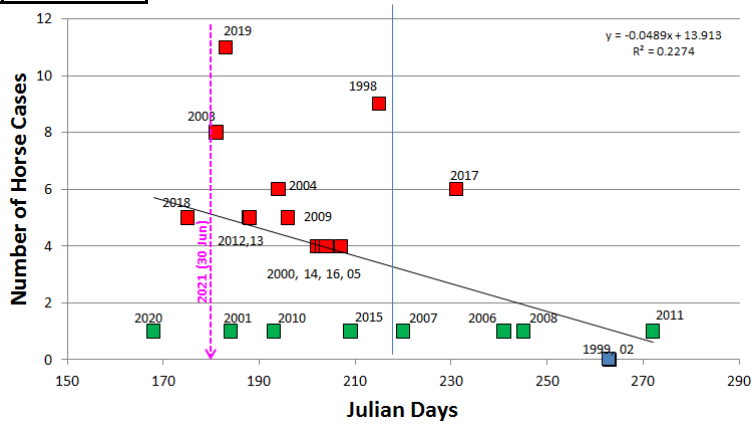
Statewide: 1324 *Cs. melanura* from 162 pools have been submitted for testing, with no positive pools detected and an overall *Cs. melanura* MFIR of 0.000. 60,576 specimens in 2237 pools from 31 other species have also been tested with no positive pools detected. Overall MFIR for *all* species statewide is 0.000.

Traditional Resting Box Sites: 495 *Cs. melanura* from 57 pools have been collected at the traditional resting box sites with no positive pools detected. 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	20	247		
Bergen	RB	2	42		
Burlington	UVLT	2	36		
Cape May	GRA, RB	12	20		
Cumberland	CO2, GRA, RB	20	77		
Gloucester	RB	7	91		
Middlesex	NJLT	3	15		
Monmouth	CO2	3	4		
Morris	ASP, CO2, GRA, RB	16	108		
Ocean	CO2	1	3		
Salem	CO2, RB	7	74		
Sussex	CO2, RB	12	112		
TOTAL		**105**	**829**		

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.

EEE horse cases/year Timeline



Graph above 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/

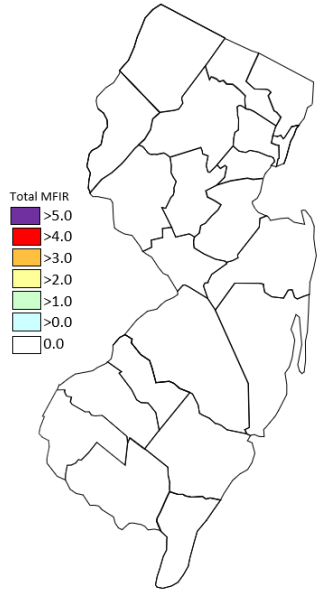
Case	Animal	Age	Sex	County	Date of Onset	Euthanized?	Vaccinated?	Comment

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	108	824		
Aedes atlanticus	3	7		
Aedes aurifer	15	151		
Aedes canadensis canadensis	63	1068		
Aedes cantator	44	1632		
Aedes cinereus	3	24		
Aedes grossbecki	9	51		
Aedes japonicus	198	1134		
Aedes provocans	2	3		
Aedes sollicitans	17	228		
Aedes sticticus	7	166		
Aedes stimulans	13	71		
Aedes taeniorhynchus	12	376		
Aedes triseriatus	24	76		
Aedes trivittatus	1	1		
Aedes vexans	92	2328		
Anopheles bradleyi	9	117		
Anopheles crucians	4	7		
Anopheles punctipennis	112	1330		
Anopheles quadrimaculatus	24	298		
Coquillettidia perturbans	96	2607		
Culex erraticus	8	29		
Culex Mix	1081	41053		
Culex pipiens	121	4283		
Culex restuans	115	1770		
Culex salinarius	14	279		
Culiseta inornata	4	7		
Orthopodomyia signifera	2	2		
Psorophora ciliata	2	7		
Psorophora columbiae	4	33		
Psorophora ferox	13	221		
State Total	**2237**	**60576**		

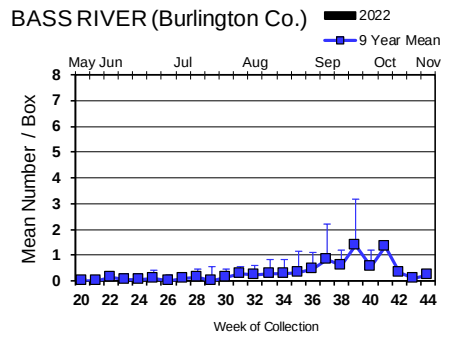
Additional Species: 31 additional species were tested for EEE. No positive pools were detected. In 2021, the first positive non-*melanura* pool was detected in of *Culex erraticus* in Atlantic County on 5 Aug.

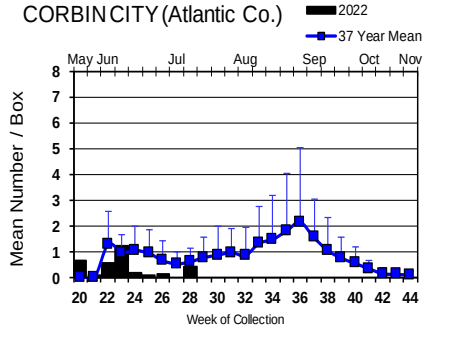
Overall MFIR rates, human and animal cases per county:

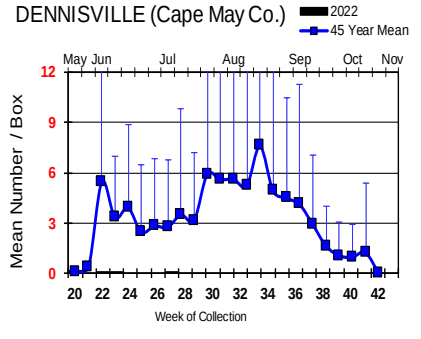


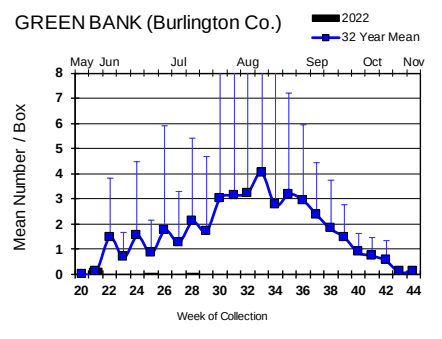
Culiseta melanura Populations

Coastal

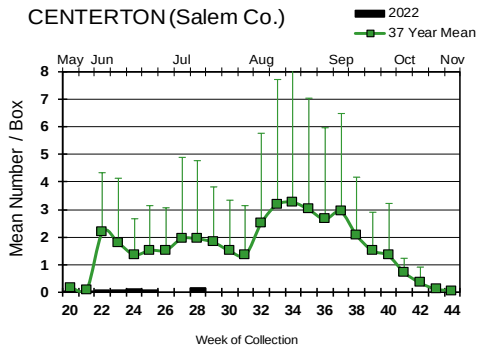


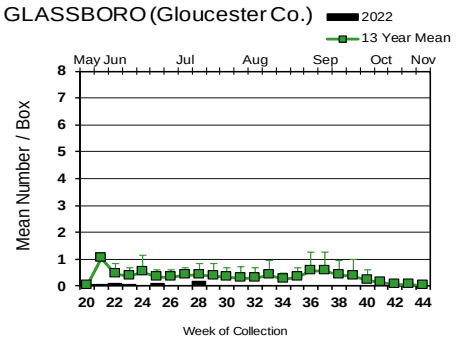


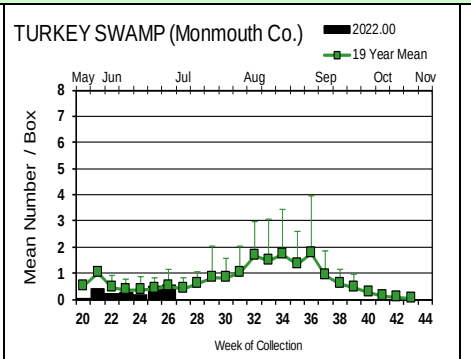


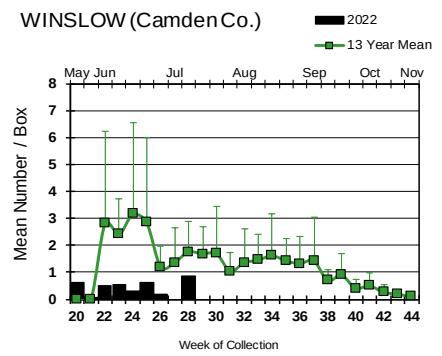


Inland









As with other species throughout the state, *Cs. melanura* populations remain below historic levels at the traditional resting box sites. 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.

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

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

- **equine: 6(FL)**
- **mosquito pools:**
- **sentinel: 34(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					0
Alaska					
Arizona		2	0		5
Arkansas					
California	12/20	87/222	0	0	0
Colorado		7			0
Connecticut		0			
Delaware					
Florida			5/5		
Georgia					1/1
Hawaii					
Idaho	0	0		0	0
Illinois	1	37/65		0	0
Indiana	0	1/2		0	1/1
Iowa					
Kansas					
Kentucky					
Louisiana					
Maine					
Maryland(+DC)					
Mass.		0		0	0
Michigan					
Minnesota					
Mississippi		15/15			3/3
Missouri		0		0	0

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Montana					
Nebraska					
Nevada					
New Hampshire					
New Jersey	0	9/15		0	0
New Mexico					
New York					
North Carolina					
North Dakota	0	0		0	1/1
Ohio		4/8		0	0
Oklahoma					
Oregon	0	0	0	0	0
Pennsylvania		18/68			
Rhode Island					
South Carolina					
South Dakota		1			
Tennessee					
Texas	0	32/43	0	0	1
Utah					
Vermont		0		0	0
Virginia					
Washington					
West Virginia					
Wisconsin					
Wyoming		2		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.

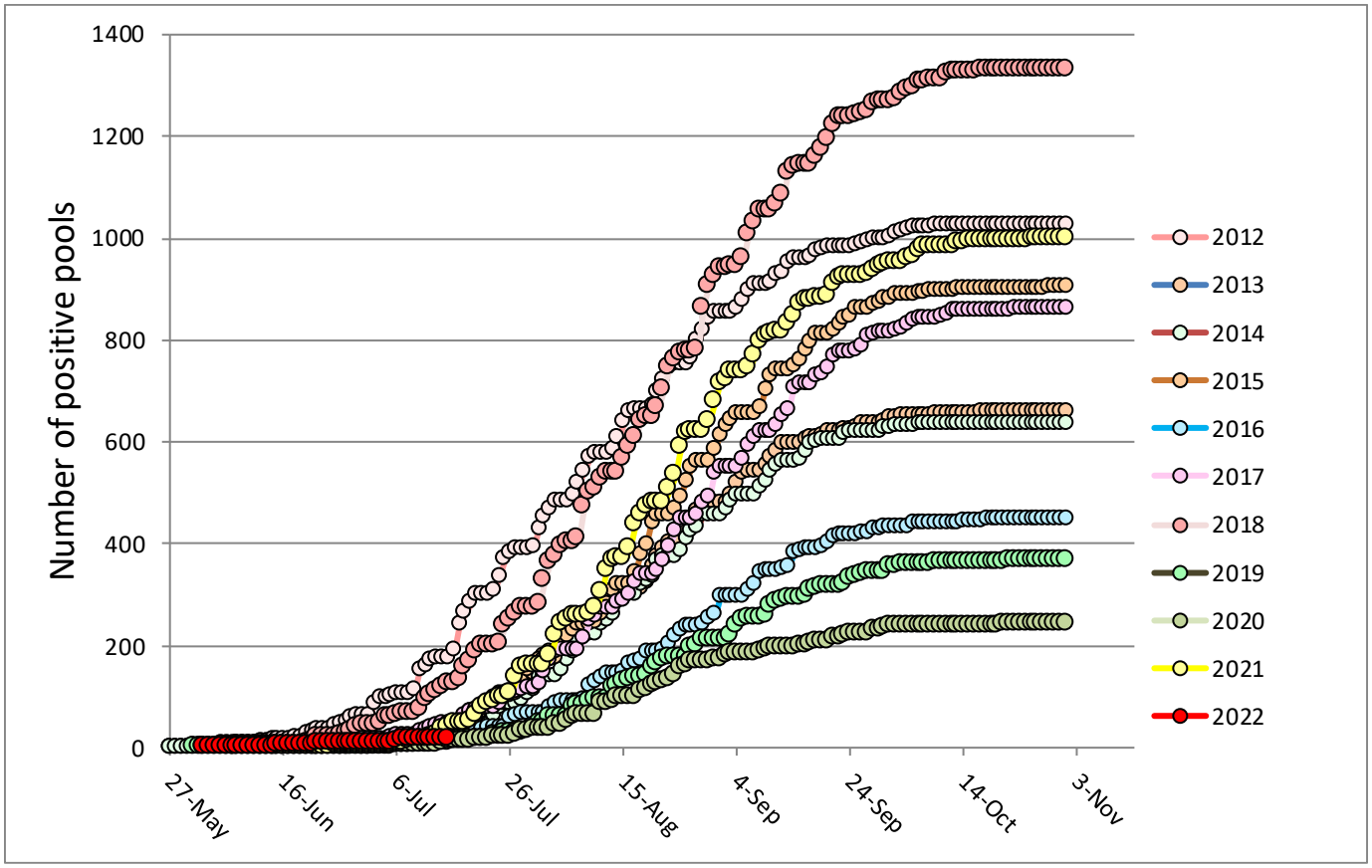
Mosquito Species Submitted and Tested for West Nile Virus through 15 July 2022

Species	Pools	Mosquitoes	Positives	MFIR
Aedes abserratus	17	393		
Aedes albopictus	108	824		
Aedes atlanticus	3	7		
Aedes aurifer	15	151		
Aedes canadensis canadensis	63	1068		
Aedes cantator	44	1632	1	0.613
Aedes cinereus	3	24		
Aedes grossbecki	9	51		
Aedes japonicus	198	1134		
Aedes provocans	2	3		
Aedes sollicitans	17	228		
Aedes sticticus	7	166		
Aedes stimulans	13	71		
Aedes taeniorhynchus	12	376		
Aedes triseriatus	49	155	1	6.452
Aedes trivittatus	1	1		
Aedes vexans	92	2328	1	0.430
Anopheles bradleyi	9	117		
Anopheles crucians	4	7		
Anopheles punctipennis	112	1330		
Anopheles quadrimaculatus	24	298		
Coquillettidia perturbans	96	2607		
Culex erraticus	8	29		
Culex spp.	1081	41053	10	0.244
Culex pipiens	121	4283	2	0.467
Culex restuans	115	1770		
Culex salinarius	14	279		
Culiseta inornata	4	7		
Culiseta melanura	162	1324		
Orthopodomyia signifera	2	2		
Psorophora ciliata	2	7		
Psorophora columbiae	4	33		
Psorophora ferox	13	221		
Grand Total	**2424**	**61979**	**15**	**0.242**

Remarks: To date 2424 pools of 61,979 mosquitoes from 32 species have been tested, with 15 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 cantator, Ae. triseriatus*, and *Ae. vexans*. Cumulative MFIR for all mosquitoes in New Jersey is 0.242.

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.