VECTOR SURVEILLANCE IN NEW JERSEY

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

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4 July to 10 July, 2021, CDC Week 27
Data download 11:52 am 9 July

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

- **Currently, there are 4 positive WNV pools, all in *Culex* Mix (Bergen, Burlington, Somerset and Warren County). No other arboviruses in mosquito pools were found positive.**
- **There is one human case of Jamestown Canyon virus, in Sussex County. Date of onset was May 8.**

- **In 2020, there were 13 positive EEE pools in *Culiseta melanura*.**
- **There were 241 positive WNV pools, in *Culex* Mix (231), in *Culex pipiens* (4), *Culex restuans* (1), *Culiseta melanura (2)*, *Aedes albopictus* (2), and *Aedes canadensis canadensis (1)*.**
- **There were 6 positive JVC pools in *Aedes cantator* (2), *Aedes taeniorhynchus* (1), *Anopheles quadrimaculatus* (1) and *Coquillettidia perturbans* (2).**
- **There was one EEE horse case reported. There are no WNV horse cases.**
- **There were 3 human WNV cases; in Essex County (1) and Monmouth County (2).**
- **There was one WNV positive Red-tailed Hawk (*Buteo jamaicensis*) in Cumberland County (regular surveillance of birds is no longer done in NJ).**
- **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**	0.11	ND	0	0		
Green Bank (Burlington Co.)/25	**Coastal**	1.33	ND	10	2		
Corbin City (Atlantic Co.)/25	**Coastal**	0.55	ND	66	4		
Dennisville (Cape May Co.)/50	**Coastal**	2.83	ND	64	6		
Winslow (Camden Co.)/50	**Inland**	1.44	0.06	7	2		
Centerton (Salem Co.)/50	**Inland**	2.00	ND	68	7		
Turkey Swamp (Monmouth Co.)/50	**Inland**	0.43	ND	4	2		
Glassboro (Gloucester Co.)/50	**Inland**	0.42	ND	89	4		

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

Remarks: Currently, no EEE arboviral activity has been detected. Sampling near Bass River has begun again with the understanding that the canopy has opened up after a fire and the site might not see much activity. Current weekly mean is for Week 26 as no data for the current week are in. Reagents for EEE testing have become limited, resulting in testing modifications. This should resolve itself soon.

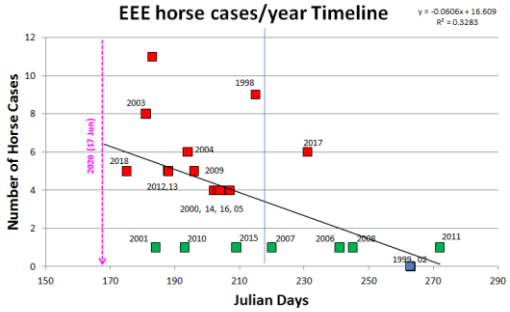
Statewide: 4015 *Cs. melanura* from 222 pools have been tested, with no positives detected and an overall *Cs. melanura* MFIR of 0.000. 53,185 specimens in 1971 pools from 34 other species have also been tested with no positive pools detected. Overall MFIR for all species statewide is 0.000.

Traditional Resting Box Sites: 308 *Cs. melanura* from 27 pools have been tested, with no positive pools detected. 0 mosquitoes in 0 pools are pending. Overall *Cs. melanura* MFIR at the traditional resting box site is 0.000.

	Additional *Cs. melanura* trapped by counties *traps with positives indicated in **BOLD UNDERLINED.**				
County	**Trap types***	**Pools**	**Mosquitoes**	**Positives**	**MFIR**
Atlantic	CO2, RB	25	784		
Bergen	NJLT, RB	5	48		
Burlington	ULVT	24	942		
Cape May	GRA, RB	17	327		
Cumberland	CO2, GRA, RB	19	204		
Gloucester	RB	42	1189		
Middlesex	NJLT	4	9		
Monmouth	Other	1	1		
Morris	CO2, RB	7	33		
Ocean	CO2	7	12		
Salem	CO2, GRA, RB	14	76		
Sussex	CO2, GRA, RB	30	82		
TOTAL		**195**	**3707**		

Additional County-set *Cs. melanura*: Counties maintain trap sites for *Cs. melanura* in other areas, using a variety of traps. Currently, no positive pools of *Cs. melanura* have been detected outside of the traditional resting box sites.

Graph below indicate start times to detection of EEE in *Culiseta melanura* from 1998 to 2020. Last year was the earliest collected during that time period, suggesting the possibility of multiple horse cases.



Horses and Humans: Last year, only 1 horse was reported with EEE, detected in September. ***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

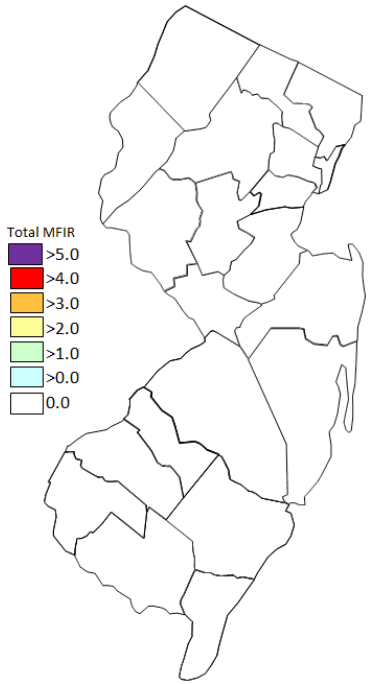
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

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	14	118		
Aedes albopictus	56	247		
Aedes atlanticus	3	70		
Aedes aurifer	5	102		
Aedes canadensis canadensis	63	887		
Aedes cantator	38	546		
Aedes cinereus	2	79		
Aedes grossbecki	9	33		
Aedes japonicus	100	384		
Aedes mitchellae	1	1		
Aedes sollicitans	13	302		
Aedes sticticus	15	261		
Aedes stimulans	5	28		
Aedes taeniorhynchus	11	613		
Aedes thibaulti	2	105		
Aedes triseriatus	6	13		
Aedes trivittatus	8	98		
Aedes vexans	42	981		
Anopheles bradleyi	13	374		
Anopheles crucians	6	50		
Anopheles punctipennis	97	1258		
Anopheles quadrimaculatus	36	263		
Anopheles walkeri	12	873		
Coquillettidia perturbans	58	1401		
Culex erraticus	13	25		
Culex Mix	1093	38731		
Culex pipiens	123	3421		
Culex restuans	64	1304		
Culex salinarius	30	228		
Culex territans	1	1		
Culiseta inornata	16	240		
Orthopodomyia signifera	3	4		
Psorophora ciliata	2	2		
Psorophora columbiae	6	114		
Psorophora ferox	5	28		
State Total	**1971**	**53185**		

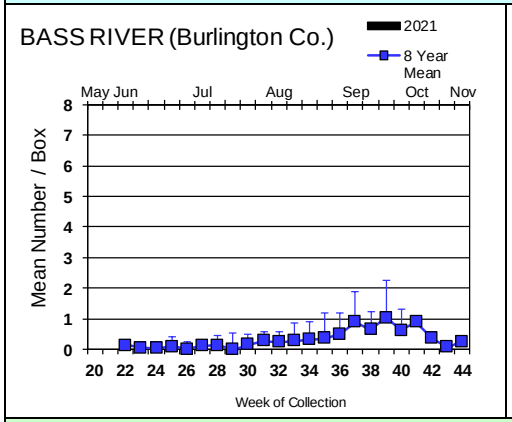
Additional Species: 34 additional species were tested for EEE. No positive pools have been detected to date.

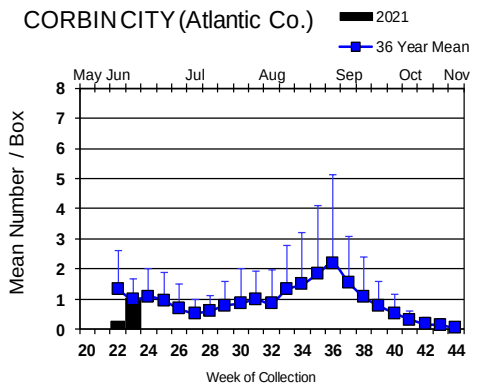
Overall MFIR rates, human and animal cases per county:

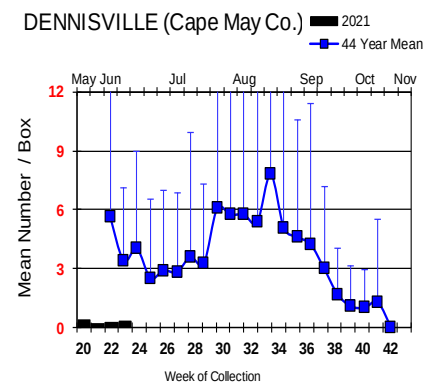


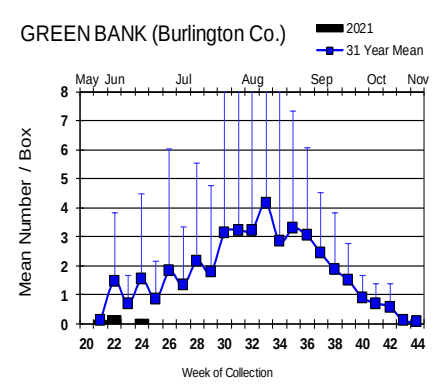
Culiseta melanura Populations

Coastal

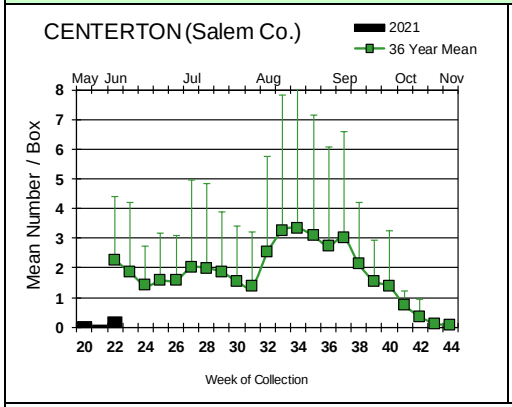


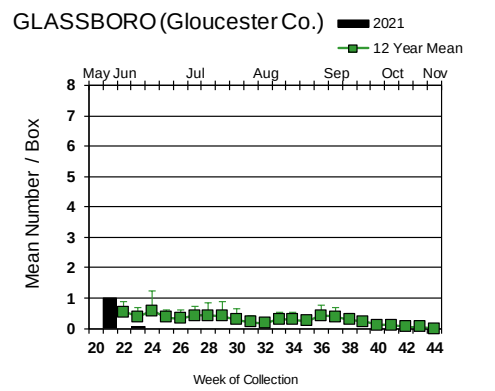


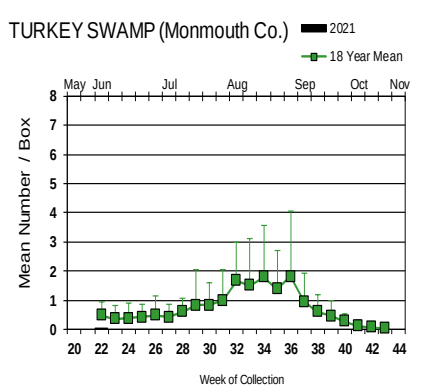


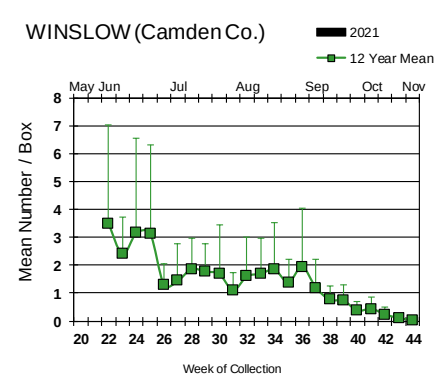


Inland









This year's surveillance season began two weeks earlier to accommodate increasing indications of earlier population emergences. Currently, no catches have been reported at any of the raditional resting box sites. No viral activity has been reported. Adult Surveillance reports at http://vectorbio.rutgers.edu/reports/mosquito/) suggests that populations are around historical averages at southern areas, but it is unknown why no *melanura* are going to resting boxes.

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

EEE in US (2021 cumulative cases): (Black or Red = previous + new reported cases occurring)

- **equine: 1(AZ) 8(FL) 1(Ontario)**
- **mosquito pools:**
- **sentinel: 102(FL)**
- **human:**

West Nile Virus Positive Organisms in US, 2021

West Nile in US (2021 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					**2**
Alaska					
Arizona					
Arkansas					
California	**22/35**	**29/115**	**0**	**1**	**0**
Colorado		**1**			**0**
Connecticut		**0**			
Delaware					
Florida			**2**		
Georgia					
Hawaii					
Idaho		**2**			
Illinois	**0**	**8/10**	**0**	**0**	**0**
Indiana	**0**	**0**		**0**	**0**
Iowa					
Kansas					
Kentucky					
Louisiana					
Maine					
Maryland(+DC)					
Mass.		**1**			
Michigan					
Minnesota					
Mississippi					
Missouri					

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Montana					
Nebraska	**0**	**0**		**0**	**0**
Nevada					
New Hampshire					
New Jersey		**2/3**		**0**	**0**
New Mexico					
New York					
North Carolina					
North Dakota					
Ohio		**2/8**			
Oklahoma					
Oregon	**0**	**0**	**0**	**0**	**0**
Pennsylvania	**0**	**6 counties**	**0**	**0**	**0**
Rhode Island					
South Carolina				**1**	
South Dakota					
Tennessee					
Texas	**0**	**24/52**	**0**	**0**	**0**
Utah					
Vermont					
Virginia					
Washington		**1**			
West Virginia					
Wisconsin					
Wyoming					

* 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.

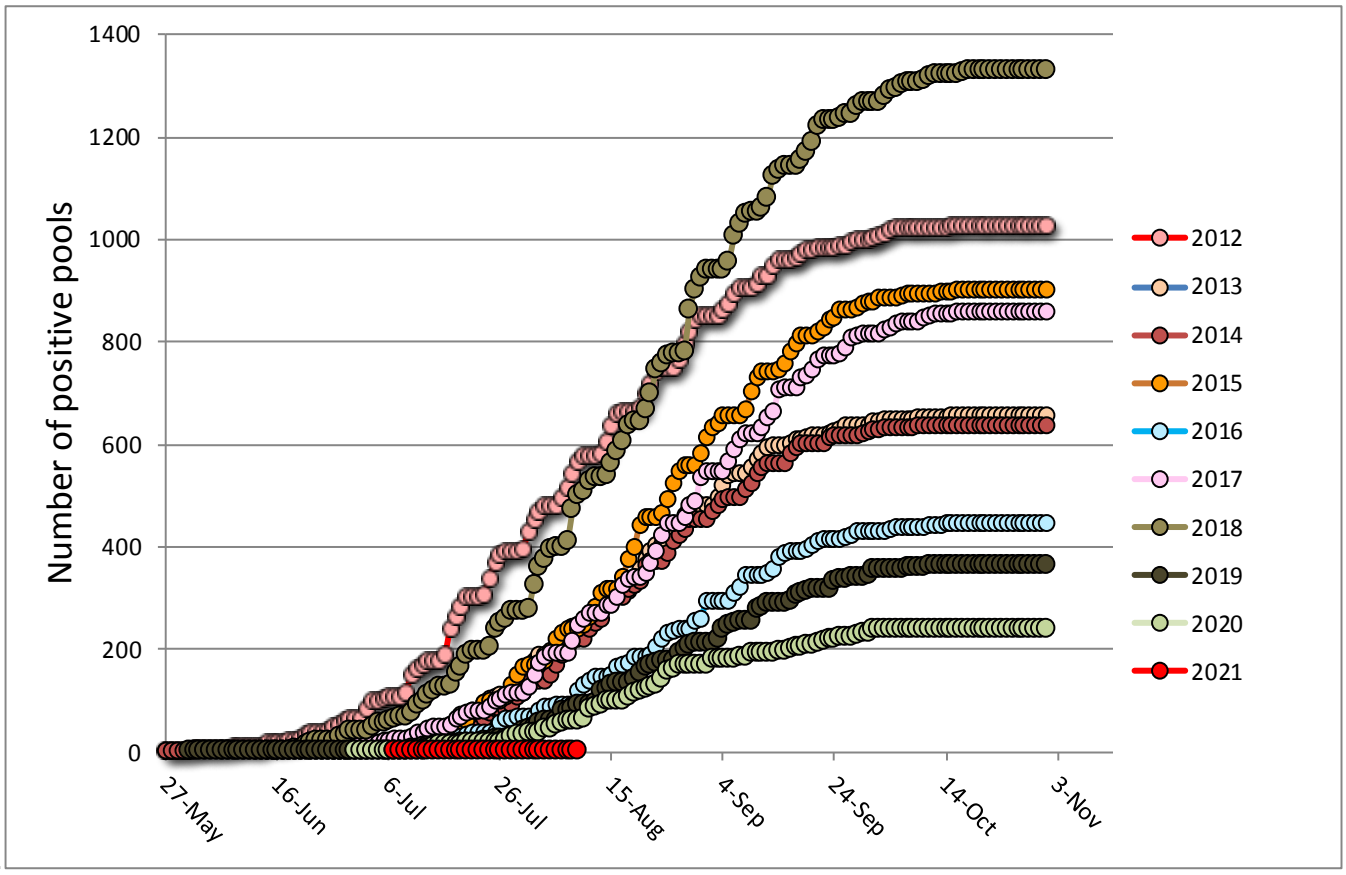
Mosquito Species Submitted and Tested for West Nile Virus through 9 July 2021

Species	Pools	Mosquitoes	Positives	MFIR
Aedes abserratus	14	118		
Aedes albopictus	69	332		
Aedes atlanticus	3	70		
Aedes aurifer	5	102		
Aedes canadensis canadensis	67	926		
Aedes cantator	40	556		
Aedes cinereus	2	79		
Aedes grossbecki	9	33		
Aedes japonicus	110	463		
Aedes mitchellae	1	1		
Aedes sollicitans	14	319		
Aedes sticticus	15	261		
Aedes stimulans	5	28		
Aedes taeniorhynchus	16	736		
Aedes thibaulti	2	105		
Aedes triseriatus	18	53		
Aedes trivittatus	9	99		
Aedes vexans	44	1008		
Anopheles bradleyi	13	374		
Anopheles crucians	6	50		
Anopheles punctipennis	101	1285		
Anopheles quadrimaculatus	36	263		
Anopheles walkeri	12	873		
Coquillettidia perturbans	69	1901		
Culex erraticus	15	28		
Culex spp.	1192	43126	4	0.093
Culex pipiens	144	4093		
Culex restuans	64	1304		
Culex salinarius	30	228		
Culex territans	1	1		
Culiseta inornata	16	240		
Culiseta melanura	231	4116		
Orthopodomyia signifera	3	4		
Psorophora ciliata	2	2		
Psorophora columbiae	6	114		
Psorophora ferox	6	30		
Grand Total	**2390**	**63321**	**4**	**0.063**

Remarks: To date 2390 pools of 63,321 mosquitoes from 35 species have been tested. Four pools of Culex Mix have been identified as positive for WNV (Bergen, Burlington, Somerset, Warren counties). First positive detected in a pool of *Culex* Mix collected on 7 June in Somerset County. Cumulative MFIR for all mosquitoes in New Jersey is 0.063.

Humans, Horses and Wild Birds: No horses have been reported infected with WNV in 2021. No human activity has been reported to date. 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 9 years, inclusive of the most active (2018) year. 2021 is represented in RED, with first positive showing on 7 June.

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