

VECTOR SURVEILLANCE IN NEW JERSEY EEE, WNV, SLE, LAC, DENV, CHIK, ZIKV, and JCV

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5 September to 11 September, 2021, CDC Week 36

Data download 2:00 am 11 September



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

Arbovirus Summary

- Currently, there are 703 positive WNV pools, (661 pools of *Culex Mix*, *Cx. pipiens* or *Cx. restuans*, 6 pools of *Cs melanura*, 22 pools of *Ae albopictus*, 3 pools of *Ae. triseriatus* and *Ae. japonicus* each, and one pool each of *Ae. trivittatus*, *Ae. vexans*, *An. bradleyi*, *An. quadrimaculatus*, *Cx. erraticus*, and 2 pools of *Coquillettidia perturbans*). Four positive birds (1 *Corvus brachyrhynchos*, 3 *Accipiter cooperii*). There has been one fatal human case of WNV from Camden County and 6 confirmed or probable human cases one each from Bergen, Burlington, Essex, Gloucester, Passaic, and Somerset counties).
- There are 18 positive EEE pools, 12 detected in *Cs. melanura*, 3 in *Cx. Mix* and one each in *Culex erraticus*, *Ae. taeniorhynchus*, and *Ae. triseriatus*. There has been 3 EEE horse cases, 2 in Atlantic County and one in Cumberland County.
- There are 5 positive JCV pool, first detected in *Aedes vexans*, from Sussex County, collected 8 July. Positive pools were also detected in *Anopheles spp. (2)*, *Anopheles punctipennis*, and *Culex Mix*. There is one human case of Jamestown Canyon virus, in Sussex County. Date of onset was May 8.
- 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.
- 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).

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	0.37	0.00	1	1		
Green Bank (Burlington Co.)/25	Coastal	3.30	0.12	28	7		
Corbin City (Atlantic Co.)/25	Coastal	1.84	1.04	324	14		
Dennisville (Cape May Co.)/50	Coastal	5.04	0.04	101	13	2	19.802
Winslow (Camden Co.)/50	Inland	1.39	1.42	380	15	2	5.263
Centerton (Salem Co.)/50	Inland	3.09	0.24	235	17		
Turkey Swamp (Monmouth Co.)/50	Inland	1.39	0.16	96	10		
Glassboro (Gloucester Co.)/50	Inland	0.25	0.00	110	7		

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

Remarks: Currently, 18 positive EEE pools (12 in *Cs. melanura*, 3 in *Cx. Mix*, and 1 each in *Culex erraticus*, *Aedes taeniorhynchus*, *Ae. triseriatus*) have been detected. First detected pool of *Cs. melanura* was from a county-run site in Gloucester, sampled 30 June. Current weekly mean is for Week 35.

Statewide: 8576 *Cs. melanura* from 483 pools have been tested, with 12 positive pools detected and an overall *Cs. melanura* MFIR of 1.399. 146,642 specimens in 4815 pools from 36 other species have also been tested with 6 positive pools detected, one each in *Culex erraticus* (first non-*melanura* detection), and *Aedes taeniorhynchus*, *Ae. triseriatus* and three in *Culex Mix*. Overall MFIR for all species statewide is 0.116.

Traditional Resting Box Sites: 1275 *Cs. melanura* from 84 pools have been tested, with 4 positive pools detected, two at Winslow in Camden County and 2 at Dennisville, Cape May County. Overall *Cs. melanura* MFIR at the traditional resting box site is 3.137.

County	Trap types*	Additional <i>Cs. melanura</i> trapped by counties *traps with positives indicated in BOLD UNDERLINED>			
		Pools	Mosquitoes	Positives	MFIR
Atlantic	CO2, GRA, RB	64	1770	5	2.825
Bergen	NJLT, RB	10	206		
Burlington	ULVT	46	1775		
Camden	GRA	1	2		
Cape May	GRA, RB	36	465		
Cumberland	CO2, GRA, RB	35	279		
Gloucester	RB	81	2270	3	1.322
Middlesex	CO2, NJLT	5	16		
Monmouth	CO2, Other	3	6		
Morris	CO2, GRA, RB	23	65		
Ocean	CO2, GRA	16	34		
Salem	CO2, GRA, RB	29	150		
Sussex	CO2, GRA, RB	49	247		
Warren	Co2	1	16		
TOTAL		399	7301	8	1.096

horse cases from 1998 to 2020.

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.

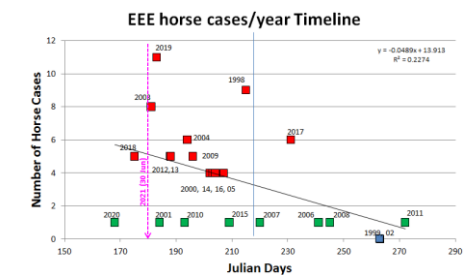
Case	Animal	Age	Sex	County	Date of Onset	Euthanized?	Vaccinated?	Comment
1	horse	7	mare	Cumb.	Aug 18	Aug 19	no	https://jerseyfresh.nj.gov/agriculture/news/press/2021/approved/press210824.html
2	horse	8	mare	Atl.	Aug 26	Aug 27	no	
3	horse	7	stallion	Atl.	Aug 28	Aug 29	no	Miniature horse

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/>

Additional County-set *Cs. melanura*: Counties maintain trap sites for *Cs. melanura* in other areas, using a variety of traps. First positive pools of *Cs. melanura* have been detected at a non-traditional resting box site in Gloucester County, collected 30Jun. The latest positive pools came from Atlantic County for a total of 8 positive pools from county-set sites.

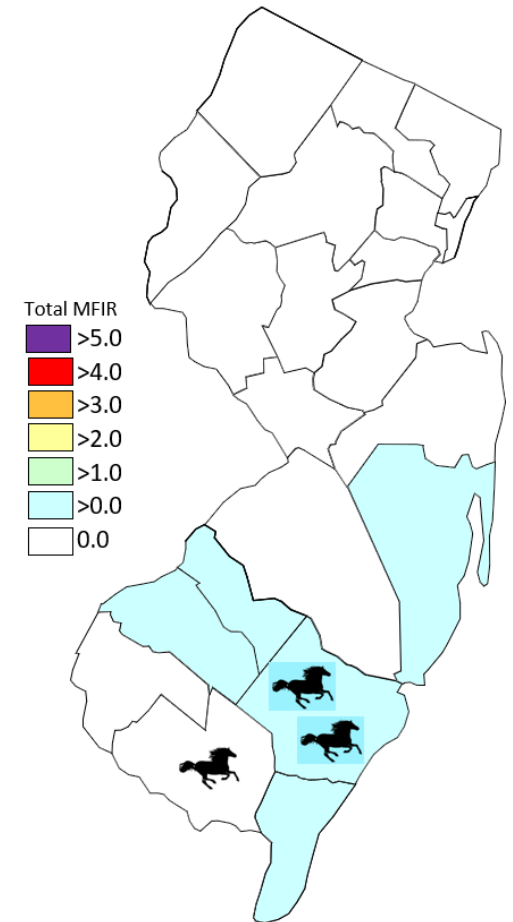


Graph above indicate start times to detection of EEE in *Culiseta melanura* and associated number of

Species other than <i>Cs. melanura</i>	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	14	118		
<i>Aedes albopictus</i>	354	3547		
<i>Aedes atlanticus</i>	11	263		
<i>Aedes aurifer</i>	5	102		
<i>Aedes canadensis canadensis</i>	78	1154		
<i>Aedes cantator</i>	41	565		
<i>Aedes cinereus</i>	3	80		
<i>Aedes grossbecki</i>	9	33		
<i>Aedes japonicus</i>	228	1298		
<i>Aedes mitchellae</i>	1	1		
<i>Aedes sollicitans</i>	21	525		
<i>Aedes sticticus</i>	15	261		
<i>Aedes stimulans</i>	5	28		
<i>Aedes taeniorhynchus</i>	30	1278	1	0.782
<i>Aedes thibaulti</i>	2	105		
<i>Aedes triseriatus</i>	45	90	1	11.111
<i>Aedes trivittatus</i>	21	314		
<i>Aedes vexans</i>	106	2782		
<i>Anopheles spp.</i>	13	300		
<i>Anopheles bradleyi</i>	25	600		
<i>Anopheles crucians</i>	18	229		
<i>Anopheles punctipennis</i>	187	2924		
<i>Anopheles quadrimaculatus</i>	72	1161		
<i>Anopheles walkeri</i>	12	873		
<i>Coquillettidia perturbans</i>	198	6421		
<i>Culex erraticus</i>	95	1389	1	0.720
<i>Culex Mix</i>	2672	105717	3	0.028
<i>Culex pipiens</i>	310	10369		
<i>Culex restuans</i>	91	1846		
<i>Culex salinarius</i>	50	744		
<i>Culex territans</i>	1	1		
<i>Culiseta inornata</i>	17	242		
<i>Culiseta morsitans</i>	4	8		
<i>Orthopodomyia signifera</i>	3	4		
<i>Psorophora ciliata</i>	7	106		
<i>Psorophora columbiae</i>	24	662		
<i>Psorophora ferox</i>	25	487		
<i>Psorophora howardii</i>	2	15		
State Total	4815	146642	6	0.041

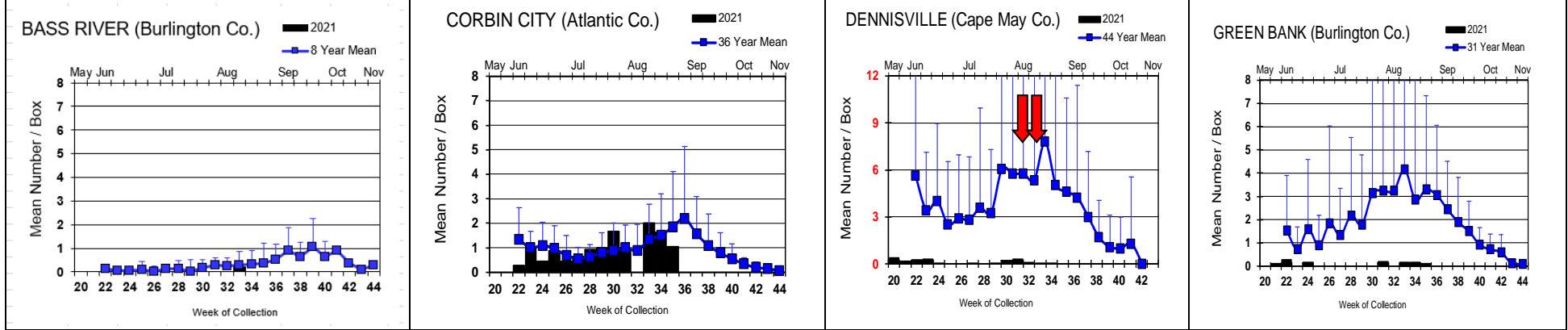
Additional Species: 36 additional species were tested for EEE. One positive pool of *Culex erraticus*, a known endemic vector that may also act as a bridge vector, was detected in Atlantic County on 5 Aug. The latest positive pools were detected *Culex Mix* (Atlantic and Camden counties).

Overall MFIR rates, human and animal cases per county:

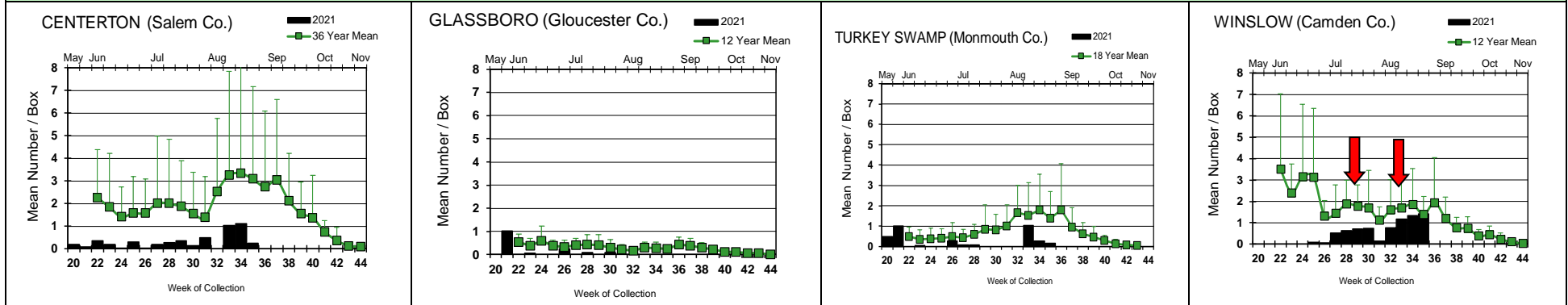


Culiseta melanura Populations



Coastal



Inland



This year's surveillance season began two weeks earlier to accommodate increasing indications of earlier population emergences. To date, 4 positive pools have been detected, two at Dennisville, and two at Winslow. The first seasonal positive pool on the state had been detected at Winslow. Adult mosquito surveillance reports at <http://vectorbio.rutgers.edu/reports/mosquito/> continue to suggest resting box collections are lower than light box collections.



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

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

- equine: ~~4(AZ lab error)~~ **2(AK) 15(FL) 1(MN) 3(NC) 3(NJ) 3(NY) 1(SC) 1(TX) 4(WI) 1(Ontario)**
- mosquito pools: **1(MD) 18(NJ) 1(TX)**
- sentinel: **169(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					5/6
Alaska					
Arizona		118	12		29
Arkansas					1
California	160/173	1646/1877	45/63	6/7	32/35
Colorado		200/246		1	29/38
Connecticut		81/154			
Delaware					
Florida		1/2	41/43		
Georgia					1
Hawaii					
Idaho	1	23/43		1/8	2/6
Illinois	18/19	1921/2159	0	0	2/8
Indiana	0	75/84		0	1
Iowa					2
Kansas					1
Kentucky					
Louisiana					3
Maine					
Maryland(+DC)		96			1
Mass.		98/108		1	4
Michigan				1	
Minnesota					
Mississippi		16/24		2/3	
Missouri					1/2

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Montana					
Nebraska	0	6		0	4
Nevada					
New Hampshire					
New Jersey	4	445/603		0	5/7
New Mexico					
New York					3
North Carolina					
North Dakota	1	16		2	5/19
Ohio		160/1002			1/4
Oklahoma				1	
Oregon	2	49	0	1	0
Pennsylvania	0	76	0	0	1
Rhode Island					
South Carolina				1	2
South Dakota					4
Tennessee					2
Texas	10	832/1050	1	1	9/14
Utah					1
Vermont					
Virginia					
Washington		46/4651		5/6	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 11 September 2021

Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	15	120		
<i>Aedes albopictus</i>	407	4007	22	5.490
<i>Aedes atlanticus</i>	12	272		
<i>Aedes aurifer</i>	5	102		
<i>Aedes canadensis canadensis</i>	88	1274		
<i>Aedes cantator</i>	47	722		
<i>Aedes cinereus</i>	3	80		
<i>Aedes grossbecki</i>	9	33		
<i>Aedes japonicus</i>	273	1883	3	1.593
<i>Aedes mitchellae</i>	1	1		
<i>Aedes sollicitans</i>	24	655		
<i>Aedes sticticus</i>	15	261		
<i>Aedes stimulans</i>	5	28		
<i>Aedes taeniorhynchus</i>	38	1506		
<i>Aedes thibaulti</i>	2	105		
<i>Aedes triseriatus</i>	89	267	3	11.236
<i>Aedes trivittatus</i>	27	330	1	3.030
<i>Aedes vexans</i>	119	3039	1	0.329
<i>Anopheles spp.</i>	15	369		
<i>Anopheles bradleyi</i>	27	725	1	1.379
<i>Anopheles crucians</i>	22	265		
<i>Anopheles punctipennis</i>	216	3450	1	0.290
<i>Anopheles quadrimaculatus</i>	82	1292	1	0.774
<i>Anopheles walkeri</i>	13	898		
<i>Coquillettidia perturbans</i>	198	6421	2	0.311
<i>Culex erraticus</i>	95	1389	1	0.720
<i>Culex spp.</i>	3161	128138	648	5.057
<i>Culex pipiens</i>	375	12273	12	0.978
<i>Culex restuans</i>	98	1903	1	0.525
<i>Culex salinarius</i>	61	1085		
<i>Culex territans</i>	1	1		
<i>Culiseta inornata</i>	18	244		
<i>Culiseta melanura</i>	483	8576	6	0.700
<i>Culiseta morsitans</i>	4	8		
<i>Orthopodomyia signifera</i>	3	4		
<i>Psorophora ciliata</i>	8	115		
<i>Psorophora columbiae</i>	29	773		
<i>Psorophora ferox</i>	36	663		
<i>Psorophora howardii</i>	3	65		
Grand Total	6127	183342	703	3.834

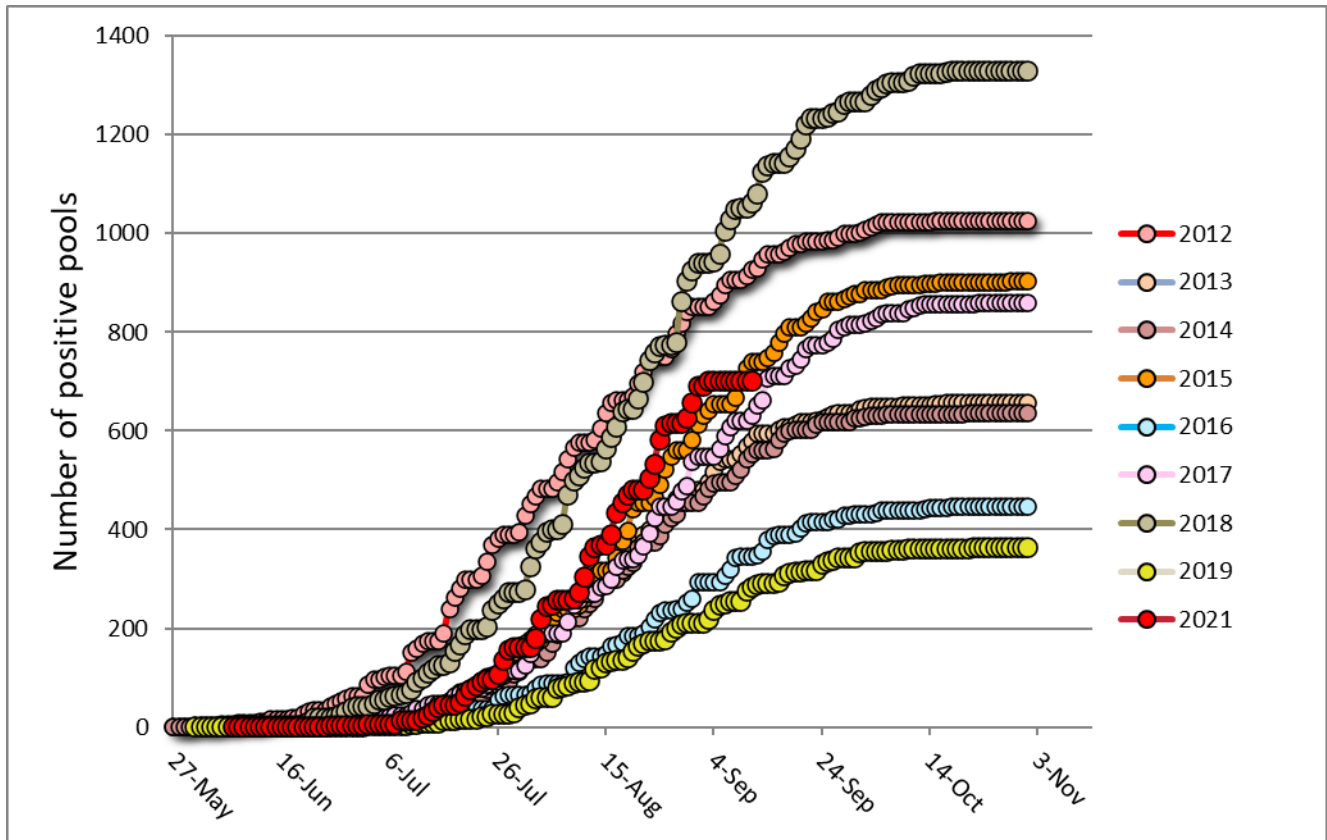
Remarks: To date 6127 pools of 183,342 mosquitoes from 36 species have been tested. 703 pools (661 pools of *Culex* Mix, *Cx. pipiens* or *Cx. restuans*, 6 pools of *Cs melanura*, 22 pools of *Ae albopictus*, 3 pools of *Ae. triseriatus* and *Ae. japonicus* each, and one pool each of *Ae. trivittatus*, *Ae. vexans*, *An. bradleyi*, *An. quadrimaculatus*, *Cx. erraticus*, and 2 pools of *Coquillettidia perturbans*) have been identified as positive for WNV in all but Salem County. 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 3.452.

Humans, Horses and Wild Birds: No horses have been reported infected with WNV in 2021. Seven human cases (one fatality from Camden County, and one each in Bergen, Burlington, Essex, Gloucester, Passaic, and Somerset counties) 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>

Although birds are no longer routinely tested in New Jersey, one American Crow (*Corvus brachyrhynchos*) from Burlington County has tested positive for WNV. Three Cooper's Hawks (*Accipiter cooperii*) tested positive from Union County.



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.