

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

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Data download 2:30 pm 17 September



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

Arbovirus Summary

- Currently, there are 812 positive WNV pools (757 pools of *Culex* Mix, *Cx. pipiens* or *Cx. restuans*, 7 pools of *Cs melanura*, 26 pools of *Ae albopictus*, 4 pools of *Ae. japonicus*, 3 pools of *Ae. triseriatus*, *Ae. vexans* and *Anopheles punctipennis* each, 2 pools of *Coquillettidia perturbans* and one pool each of *Ae. taeniorhynchus*, *Ae. trivittatus*, *An. bradleyi*, *An. quadrimaculatus*, *Cx. erraticus*, *Psorophora ciliata*, and *Ps. ferox*). Four positive birds (1 *Corvus brachyrhynchos*, 3 *Accipiter cooperii*) have been detected. There has been one fatal human case of WNV from Camden County and 9 confirmed or probable human cases).
- There are 20 positive EEE pools, 14 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	0.50	0.00	1	1		
Green Bank (Burlington Co.)/25	Coastal	3.04	0.44	39	8		
Corbin City (Atlantic Co.)/25	Coastal	2.18	1.16	353	15		
Dennisville (Cape May Co.)/50	Coastal	4.61	0.00	101	13	2	19.802
Winslow (Camden Co.)/50	Inland	1.94	0.44	402	16	3	7.463
Centerton (Salem Co.)/50	Inland	2.73	0.00	235	17		
Turkey Swamp (Monmouth Co.)/50	Inland	1.81	0.76	134	11		
Glassboro (Gloucester Co.)/50	Inland	0.43	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

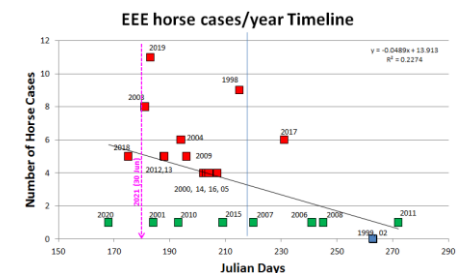
Remarks: Currently, 20 positive EEE pools (14 in *Cs. melanura*, 3 in *Cx. Mix*, and 1 each in *Culex erraticus*, *Aedes taeniorhynchus*, *Ae. triseriatus*) have been detected. First detected pool of *Cs. melanura* was from a county-run site in Gloucester, sampled 30 June. Current weekly mean is for Week 36.

Statewide: 9083 *Cs. melanura* from 513 pools have been tested, with 14 positive pools detected and an overall *Cs. melanura* MFIR of 1.541. 155,772 specimens in 5160 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 0.121.

Traditional Resting Box Sites: 1375 *Cs. melanura* from 88 pools have been tested, with 5 positive pools detected, three at Winslow in Camden County and 2 at Dennisville, Cape May County. The latest positive came in Winslow during week 36. Overall *Cs. melanura* MFIR at the traditional resting box site is 3.636.

Additional <i>Cs. melanura</i> trapped by counties *traps with positives indicated in BOLD UNDERLINED>					
County	Trap types*	Pools	Mosquitoes	Positives	MFIR
Atlantic	CO2, GRA, RB	66	1884	5	2.654
Bergen	NJLT, RB	11	215		
Burlington	ULVT	51	1913	1	0.523
Camden	GRA	1	2		
Cape May	GRA, RB	37	508		
Cumberland	CO2, GRA, RB	35	279		
Gloucester	RB	82	2282	3	1.315
Middlesex	CO2, NJLT	5	16		
Monmouth	CO2, Other	3	6		
Morris	CO2, GRA, RB	32	105		
Ocean	CO2, GRA	19	45		
Salem	CO2, GRA, RB	31	173		
Sussex	CO2, GRA, RB	51	264		
Warren	CO2	1	16		
TOTAL		425	7708	9	1.168

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 Burlington County for a total of 9 positive pools from county-set sites.



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

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

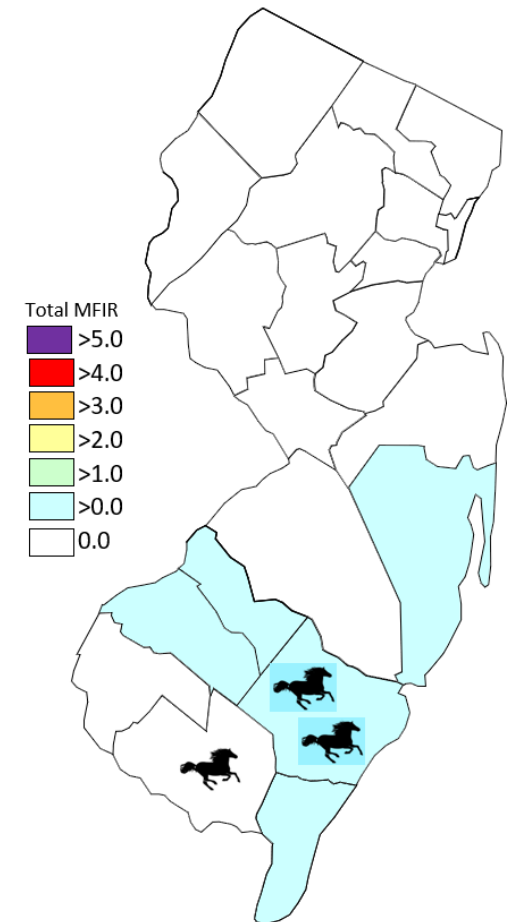
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

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/>

Species other than <i>Cs. melanura</i>	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	14	118		
<i>Aedes albopictus</i>	399	3889		
<i>Aedes atlanticus</i>	12	303		
<i>Aedes aurifer</i>	5	102		
<i>Aedes canadensis canadensis</i>	82	1217		
<i>Aedes cantator</i>	41	565		
<i>Aedes cinereus</i>	3	80		
<i>Aedes grossbecki</i>	9	33		
<i>Aedes japonicus</i>	240	1343		
<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>	32	1281	1	0.781
<i>Aedes thibaulti</i>	2	105		
<i>Aedes triseriatus</i>	50	98	1	10.204
<i>Aedes trivittatus</i>	32	812		
<i>Aedes vexans</i>	125	3419		
<i>Anopheles spp.</i>	14	324		
<i>Anopheles bradleyi</i>	27	652		
<i>Anopheles crucians</i>	20	241		
<i>Anopheles punctipennis</i>	193	2950		
<i>Anopheles quadrimaculatus</i>	74	1163		
<i>Anopheles walkeri</i>	12	873		
<i>Coquillettidia perturbans</i>	205	6506		
<i>Culex erraticus</i>	113	1752	1	0.571
<i>Culex Mix</i>	2843	111743	3	0.027
<i>Culex pipiens</i>	332	11108		
<i>Culex restuans</i>	96	1957		
<i>Culex salinarius</i>	51	770		
<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>	9	111		
<i>Psorophora columbiae</i>	25	673		
<i>Psorophora ferox</i>	30	496		
<i>Psorophora howardii</i>	3	18		
State Total	5160	155772	6	0.039

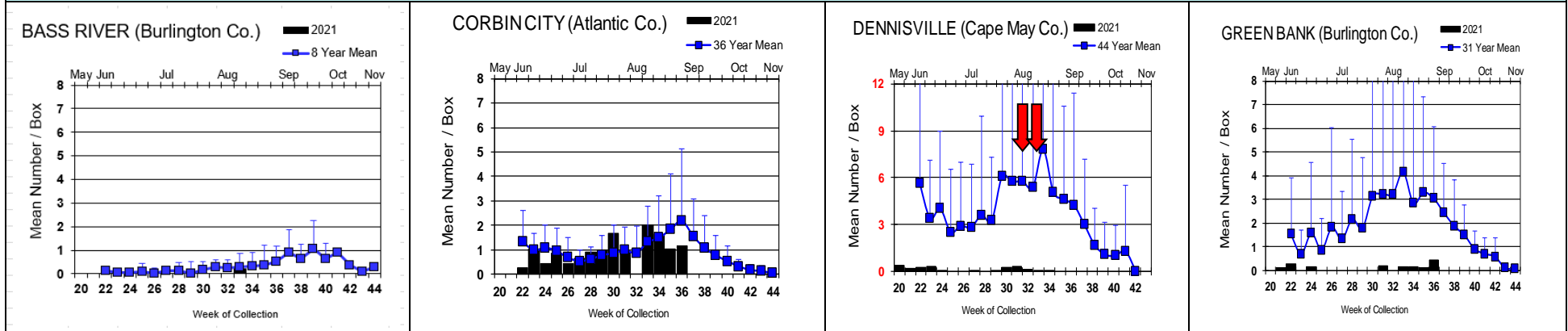
Additional Species: 36 additional species were tested for EEE. One positive pool of *Culex erraticus*, a known endemic vector that may also act as a bridge vector, was detected in Atlantic County on 5 Aug. The latest positive pools were detected *Culex Mix* (Atlantic and Camden counties).

Overall MFIR rates, human and animal cases per county:

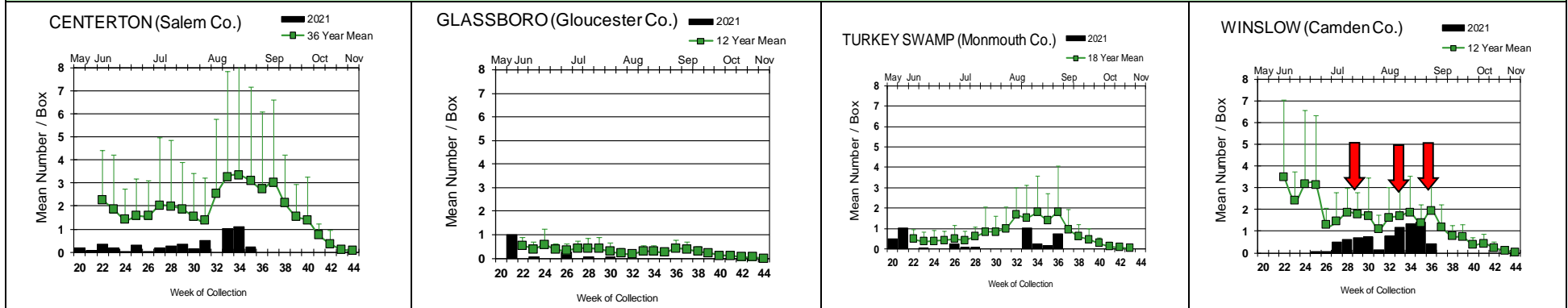


Culiseta melanura Populations



Coastal



Inland



This year's surveillance season began two weeks earlier to accommodate increasing indications of earlier population emergences. To date, 5 positive pools have been detected, two at Dennisville, and three at Winslow, the latest coming in week 36. 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: ~~1(AZ lab error)~~ 2(AK) 15(FL) 1(MD) 1(MN) 3(NC) 3(NJ) 4(NY) 2(SC) 1(TX) 5(WI) 1(Ontario)
- mosquito pools: 1(MD) 20(NJ) 1(TX)
- sentinel: 171(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					6/8
Alaska					
Arizona		118	12	3	29
Arkansas					1
California	173/182	1877/2032	63/67	7/8	35/46
Colorado		200/246		3/18	29/38
Connecticut		81/154			
Delaware					
Florida		2	43/50	1	1
Georgia					1
Hawaii					
Idaho	1	43/45		8/11	6/10
Illinois	19/24	2159/2309	0	0	8/15
Indiana	0	84/160		0	1
Iowa					2
Kansas					1
Kentucky				1	
Louisiana					3
Maine					
Maryland(+DC)		96/104			1
Mass.		108/120		1	4/7
Michigan				1	
Minnesota				2	
Mississippi		24/39		2/3	1
Missouri					2

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Montana					
Nebraska	0	6/26		3	4/17
Nevada					
New Hampshire					
New Jersey	4	703/812		0	7/10
New Mexico					
New York				2	3
North Carolina					
North Dakota	1	16		2	19
Ohio		160/1002			1/4
Oklahoma				1/4	
Oregon	2	49	0	1/7	0
Pennsylvania	0	76	0	0	1
Rhode Island					
South Carolina				1	2
South Dakota					4
Tennessee					2
Texas	10	1050/1146	1	1	14/16
Utah				9	1
Vermont					
Virginia					
Washington		51		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 17 September 2021

Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	15	120		
<i>Aedes albopictus</i>	452	4349	26	5.978
<i>Aedes atlanticus</i>	13	312		
<i>Aedes aurifer</i>	5	102		
<i>Aedes canadensis canadensis</i>	92	1337		
<i>Aedes cantator</i>	47	722		
<i>Aedes cinereus</i>	3	80		
<i>Aedes grossbecki</i>	9	33		
<i>Aedes japonicus</i>	285	1928	4	2.075
<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>	40	1509	1	0.663
<i>Aedes thibaulti</i>	2	105		
<i>Aedes triseriatus</i>	97	278	3	10.791
<i>Aedes trivittatus</i>	38	828	1	1.208
<i>Aedes vexans</i>	138	3676	3	0.816
<i>Anopheles spp.</i>	16	393		
<i>Anopheles bradleyi</i>	29	777	1	1.287
<i>Anopheles crucians</i>	24	277		
<i>Anopheles punctipennis</i>	222	3476	3	0.863
<i>Anopheles quadrimaculatus</i>	84	1294	1	0.773
<i>Anopheles walkeri</i>	13	898		
<i>Coquillettidia perturbans</i>	205	6506	2	0.307
<i>Culex erraticus</i>	113	1752	1	0.571
<i>Culex spp.</i>	3332	134164	733	5.463
<i>Culex pipiens</i>	397	13012	23	1.768
<i>Culex restuans</i>	103	2014	1	0.497
<i>Culex salinarius</i>	62	1111		
<i>Culex territans</i>	1	1		
<i>Culiseta inornata</i>	18	244		
<i>Culiseta melanura</i>	513	9083	7	0.771
<i>Culiseta morsitans</i>	4	8		
<i>Orthopodomyia signifera</i>	3	4		
<i>Psorophora ciliata</i>	10	120	1	8.333
<i>Psorophora columbiae</i>	30	784		
<i>Psorophora ferox</i>	41	672	1	1.488
<i>Psorophora howardii</i>	4	68		
Grand Total	6505	192982	812	4.208

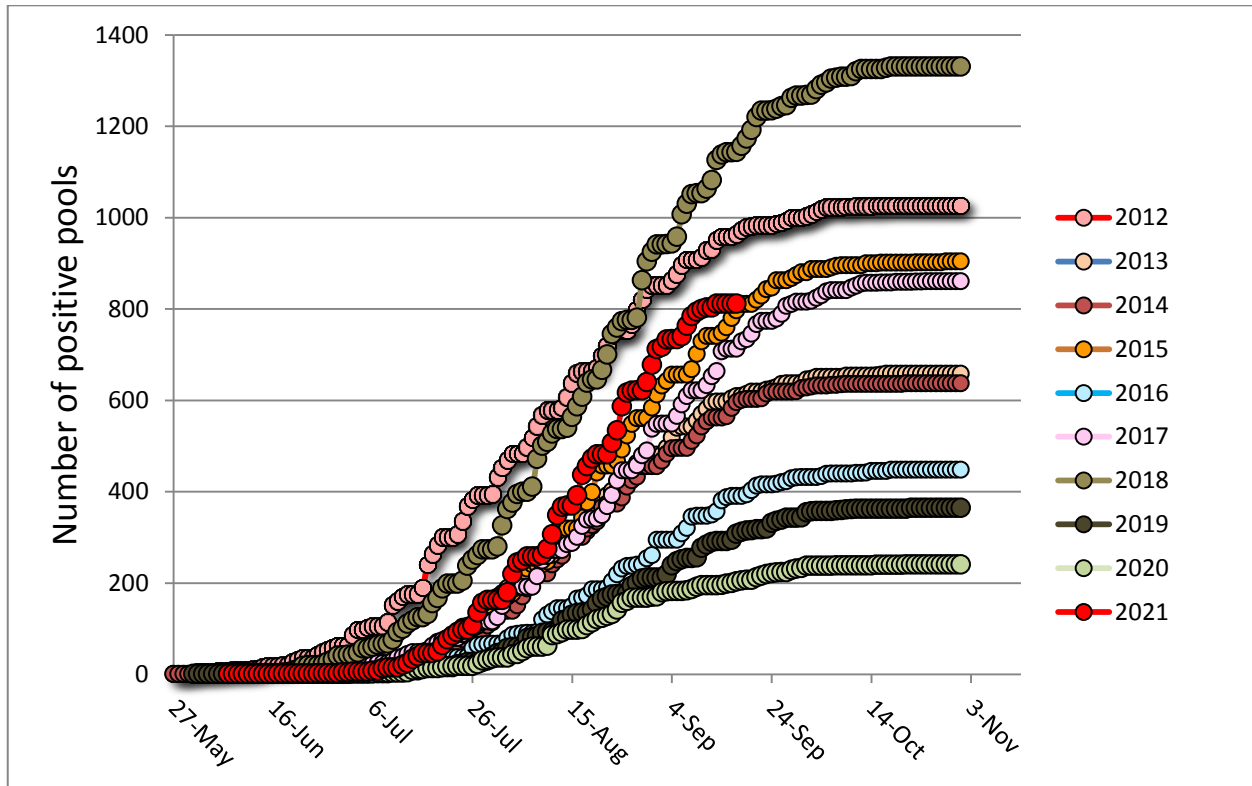
Remarks: To date 6505 pools of 192,982 mosquitoes from 36 species have been tested. 812 pools (757 pools of *Culex* Mix, *Cx. pipiens* or *Cx. restuans*, 7 pools of *Cs melanura*, 26 pools of *Ae albopictus*, 4 pools of *Ae. japonicus* 3 pools of *Ae. triseriatus*, *Ae. vexans* and *Anopheles punctipennis* each, 2 pools of *Coquillettidia perturbans* and one pool each of *Ae. taeniorhynchus*, *Ae. trivittatus*, *An. bradleyi*, *An. quadrimaculatus*, *Cx. erraticus*, *Psorophora ciliata*, and *Ps. ferox*) 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.