

VECTOR SURVEILLANCE IN NEW JERSEY

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

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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	nc	nc	22	4		
Green Bank (Burlington Co.)/25	Coastal	nc	nc	484	19		
Corbin City (Atlantic Co.)/25	Coastal	nc	nc	265	21		
Dennisville (Cape May Co.)/50	Coastal	nc	nc	325	21		
Winslow (Camden Co.)/50	Inland	nc	nc	2192	54	4	1.825
Centerton (Salem Co.)/50	Inland	nc	nc	455	23	2	4.396
Turkey Swamp (Monmouth Co.)/49	Inland	nc	nc	535	22	1	1.869
Glassboro (Gloucester Co.)/50	Inland	nc	nc	183	21		

*Current week (in parentheses) results pending. ‡ corrected from previous week NC=no collection

Remarks: This is the report for the season. For the 2018 season, there were 14 detections of EEE among submitted mosquito pools, seven at resting box sites (4 at Winslow, 2 at Centerton, 1 at Turkey Swamp) and seven from county-set traps. All positive pools are in the enzootic vector, *Culiseta melanura*. Five horses have tested positive for EEE; all were not vaccinated and all were euthanized.

Statewide, 10,473 *Cs. melanura* from 648 pools have been tested, with 14 positive pools detected for an overall *Cs. melanura* MFIR of 1.337. 19387 specimens in 1955 pools from 26 other species have also been tested, with no positives detected. Overall MFIR for all species statewide is 0.469.

Traditional Resting Box Sites: 4461 *Cs. melanura* from 185 pools have been tested for EEE in 2018. No additional positive pools were detected at the traditional resting box sites to the end of the season for a total of 7 positive pools at the traditional resting box sites.

Additional <i>Cs. melanura</i> trapped by counties *traps with positives indicated in BOLD UNDERLINED .					
County	Trap types*	Pools	Mosquitoes	Positives	MFIR
Atlantic	CO2, GR , RB	55	1379	1	0.725
Bergen	RB	9	26		
Burlington	CDCL	77	3121	5	1.602
Cape May	GR, RB	222	522		
Cumberland	BGSCL, RB	27	192	1	5.208
Gloucester		11	422		
Middlesex	RB	2	21		
Monmouth	OTHER	1	2		
Morris	CDCL	1	1		
Ocean	CDCL, RB	38	193		
Passaic	RB	4	4		
Salem	CDCL	6	53		
Sussex	ABC	9	70		
Warren	CDCL	1	6		
TOTAL		463	6012	7	1.164

Additional County-set *Cs. melanura*: Counties maintain trap sites for *Cs. melanura* in other areas, using a variety of traps. A total of 7 county-trapped positive pools have been detected, one in Atlantic and four in Burlington County. The last came from Cumberland County, collected on 2 Oct.

Horses and Humans: Five horses have been reported with EEE. The fifth horse is a 12 year old gelding in Gloucester County. Symptom onset was 12 Sep and the unvaccinated horse was euthanized on the 13th Sep. The fourth horse was reported in Ocean County. This gelding of unknown age and unknown vaccination history showed symptoms on the 3rd of September and was euthanized on the 4th. A third EEE horse was reported in Ocean County. This seven year old had an unknown vaccination history, but had apparently been purchased 2 months prior. Date of onset and euthanasia was 4 Sept. The second reported horse with EEE was euthanized on 27 Aug in Camden County. This 12 year old gelding had not been vaccinated this year. The first horse case of EEE was reported in a 5 year-old mare in Monmouth County. This horse was reportedly vaccinated last year, but was not current for 2018. She was euthanized on 18 Aug. Last year, there were 6 horses detected with EEE. EEE is nearly always fatal for those horses without a complete vaccination history. Horses in New Jersey that have gone down in the past with EEE have either an incomplete vaccination history or NO vaccination history. **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.

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

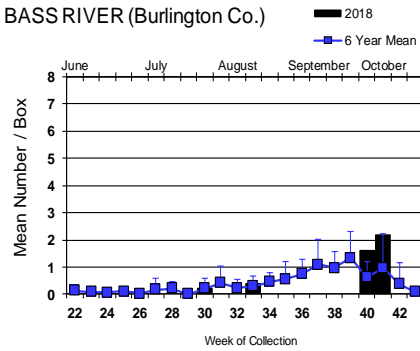
Additional Species: Twenty-six additional species were tested for EEE. No positives were detected.

Species other than <i>Cs. melanura</i>	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	15	71		
<i>Aedes atlanticus</i>	4	59		
<i>Aedes canadensis canadensis</i>	5	63		
<i>Aedes cantator</i>	4	4		
<i>Aedes infirmatus</i>	3	6		
<i>Aedes japonicus</i>	3	21		
<i>Aedes mitchellae</i>	1	2		
<i>Aedes sollicitans</i>	17	103		
<i>Aedes taeniorhynchus</i>	4	89		
<i>Aedes triseriatus</i>	2	6		
<i>Aedes vexans</i>	10	231		
<i>Anopheles barberi</i>	2	17		
<i>Anopheles bradleyi</i>	77	502		
<i>Anopheles crucians</i>	3	25		
<i>Anopheles punctipennis</i>	28	142		
<i>Anopheles quadrimaculatus</i>	3	4		
<i>Coquillettidia perturbans</i>	92	1835		
<i>Culex erraticus</i>	188	1731		
<i>Culex pipiens</i>	1015	11689		
<i>Culex restuans</i>	1	1		
<i>Culex salinarius</i>	382	1756		
<i>Culex spp.</i>	78	641		
<i>Culiseta inornata</i>	1	10		
<i>Psorophora ciliata</i>	2	9		
<i>Psorophora columbiae</i>	2	7		
<i>Psorophora ferox</i>	12	357		
<i>Uranotaenia sapphirina</i>	1	6		
State Total	1955	19387		

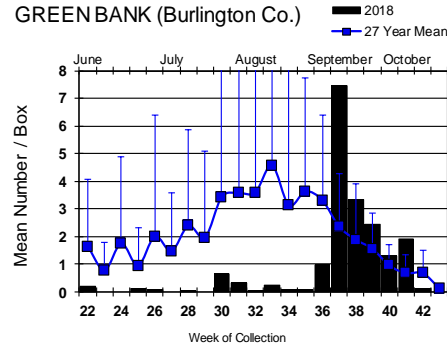
Culiseta melanura Populations

Coastal

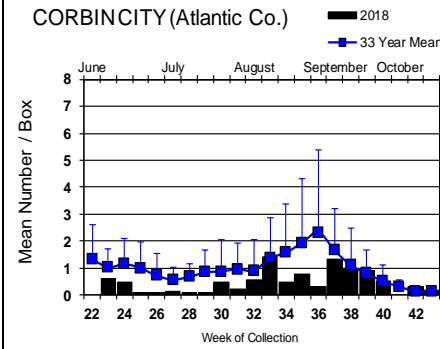
BASS RIVER (Burlington Co.)



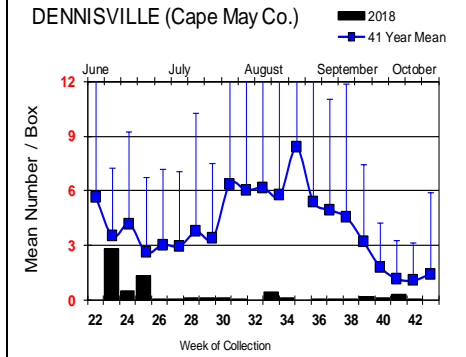
GREEN BANK (Burlington Co.)



CORBINCITY (Atlantic Co.)

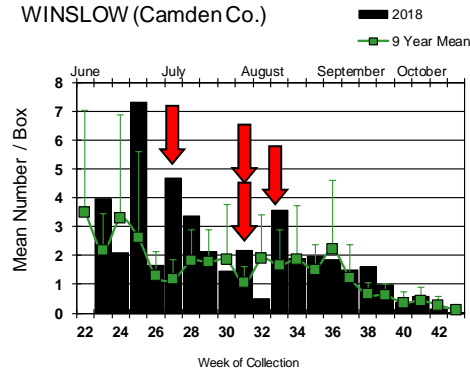


DENNISVILLE (Cape May Co.)

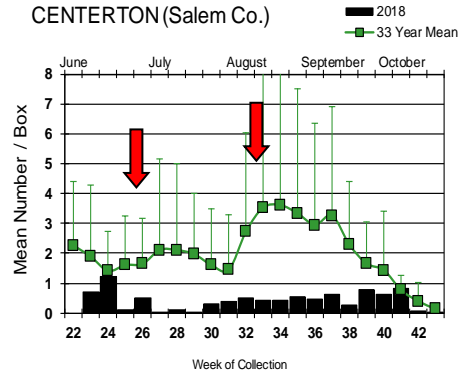


Inland

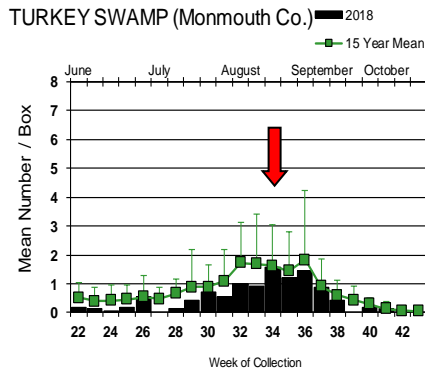
WINSLOW (Camden Co.)



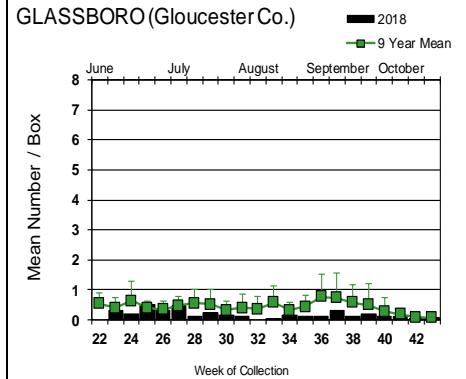
CENTERTON (Salem Co.)





TURKEY SWAMP (Monmouth Co.)



GLASSBORO (Gloucester Co.)



As has been the case for the past several years, populations of *Culiseta melanura* have been well below averages calculated since the sites have been monitored (some, like Dennisville, since 1977). We still detect EEE activity despite low populations, such as at Centerton (or in the past at Green Bank). These sites with lower populations tend to be opening up in the canopy, but as long as they remain active with regard to virus, they will be included in our monitoring sites. This year, as with the past several years, we first picked up activity on the western side of the state, then found virus in the eastern side.


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

EEE in US (2018 cumulative cases): (Black or Red = previous + new reported cases occurring)

- equine: AL(3) FL(51/2 mule & donkey) GA(6) IN(2) LA(6) MI(4) NC(7) NJ(5) NY(2) SC(1) VA(2) WI(2) Ontario Canada(10)
- mosquito pools: CT(6) FL(3) GA(3) LA(1) MA(2) NC(1) NH(6) NJ(14) NY(25) RI(4)
- sentinel: FL(143/6 owl emus & 5 emu flocks, 2 emus) DE(8)
- human: FL(3) GA(1) MI(1)

West Nile Virus Positive Organisms in US, 2018

West Nile in US (2017 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					28
Alaska					1
Arizona	1	142	1	4	19
Arkansas				2	7
California	493/496	1,954/1,959	156	10/11	156/170
Colorado	Present	Present		5	92/93
Connecticut		393			22
Delaware	37/40		66/68	3/5	8/9
DC	1	21		2	14
Florida	5	28	544/580	5/6	17/21
Georgia		Present			29
Hawaii					
Idaho		39		4	15
Illinois	34	3,012		11	137/139
Indiana		688		23	30
Iowa		102		13/14	95/100
Kansas					23
Kentucky		Present		2	12
Louisiana	98	1063		5	87
Maine		4		1	3*
Maryland(+DC)	1	30		6	41
Mass.		579		3	44
Michigan	187	154		3	101/103
Minnesota		Present		Present	39
Mississippi		111/116			44/47
Missouri	1	3		5	17

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Montana		9		42	45
Nebraska	1	122		2	234/235
Nevada		Present			8
New Hampshire	4	32			
New Jersey		1,327/1331		1	58
New Mexico					5
New York		1,496		20	82
North Carolina					6
North Dakota	12	102		4	200
Ohio		3,281		43/48	57/59
Oklahoma		21traps		1	17
Oregon	1	58		2	2
Pennsylvania	107	4,729		92	100
Rhode Island		10			
South Carolina			5	3	12
South Dakota		9counties			161/168
Tennessee	2	978/980			11
Texas	6	970/998		12	101/103
Utah		180		9	11
Vermont		157		1	
Virginia				1	47
Washington		49		2	3
West Virginia		24			
Wisconsin	55	83		3	19/21
Wyoming	3	17		15	4

* 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 16 November 2018

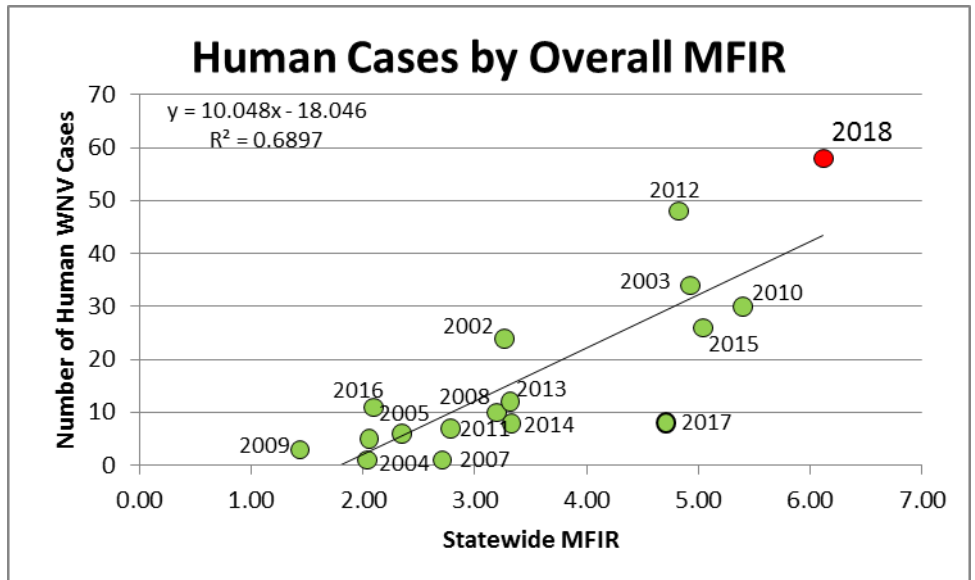
Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	1	11		
<i>Aedes albopictus</i>	1739	15048	34	2.259
<i>Aedes atlanticus</i>	30	185		
<i>Aedes atropalpus</i>	26	61		
<i>Aedes canadensis canadensis</i>	38	300		
<i>Aedes cantator</i>	10	112		
<i>Aedes cinereus</i>	1	18		
<i>Aedes excrucians</i>	1	2		
<i>Aedes grossbecki</i>	2	10		
<i>Aedes infirmatus</i>	5	9		
<i>Aedes japonicus</i>	848	4616	19	4.116
<i>Aedes mitchellae</i>	1	2		
<i>Aedes sollicitans</i>	31	372		
<i>Aedes sticticus</i>	5	53		
<i>Aedes taeniorhynchus</i>	20	382	1	2.618
<i>Aedes thibaulti</i>	1	10		
<i>Aedes triseriatus</i>	298	739	3	4.060
<i>Aedes trivittatus</i>	35	506	1	1.976
<i>Aedes vexans</i>	267	5620	2	0.356
<i>Anopheles barberi</i>	3	24		
<i>Anopheles bradleyi</i>	90	917		
<i>Anopheles crucians</i>	4	27	1	37.037
<i>Anopheles punctipennis</i>	104	402	1	2.488
<i>Anopheles quadrimaculatus</i>	202	2722	1	0.367
<i>Anopheles walkeri</i>	1	35		
<i>Coquillettidia perturbans</i>	120	2778	3	1.080
<i>Culex erraticus</i>	249	2031	6	2.954
<i>Culex pipiens</i>	1119	13567	32	2.359
<i>Culex restuans</i>	781	5064	9	1.777
<i>Culex salinarius</i>	435	3958	1	0.253
<i>Culex</i> spp.	3823	145394	1200	8.253
<i>Culex territans</i>	18	74		
<i>Culiseta inornata</i>	1	10		
<i>Culiseta melanura</i>	651	10512	15	1.427
<i>Orthopodomyia signifera</i>	4	5		
<i>Psorophora ciliata</i>	8	74		
<i>Psorophora columbiae</i>	34	246	1	4.065
<i>Psorophora cyanescens</i>	2	19		
<i>Psorophora ferox</i>	91	1533		
<i>Psorophora howardii</i>	2	14	1	71.429
<i>Uranotaenia sapphirina</i>	13	53		
Grand Total	11114	217515	1331	6.119

Remarks: To date, 11,114 pools of 217,515 mosquitoes from 40 species have been tested. A total of 1,331 positive WNV pools have been detected throughout the state. The bulk of positives were in the enzootic vector(s) *Culex* spp. First positive WNV pool detected has been revised from 7 June 2018 in Warren County to 5 June in Gloucester County, in *Culex pipiens*. Last year, the first positive *Culex* Mix pool was detected in Sussex County on 12 June and the first non-*Culex* positive was collected in *Aedes albopictus* on 14 July in Gloucester County. This year, the first non-*Culex* positive species was *Aedes japonicus*, also collected in Gloucester County on 7 JUNE, more than one month earlier. Last positive pools were *Culex* spp. collected on 17 October in Gloucester County. Positive non-*Culex* species continue to include *Aedes albopictus*, *Ae. japonicus*, *Ae. taeniorhynchus*, *Ae. triseriatus*, *Ae. trivittatus*, *Ae. vexans*, *Anopheles crucians*, *An. punctipennis*, *An. quadrimaculatus*, *Coquillettidia perturbans*, *Culex erraticus*, *Culiseta melanura*, *Psorophora columbiae* and *Ps. howardii*. The statewide MFIR rate for all mosquitoes has decreased to 6.119 from last week's 6.228.

Humans, Horses and Wild Birds:

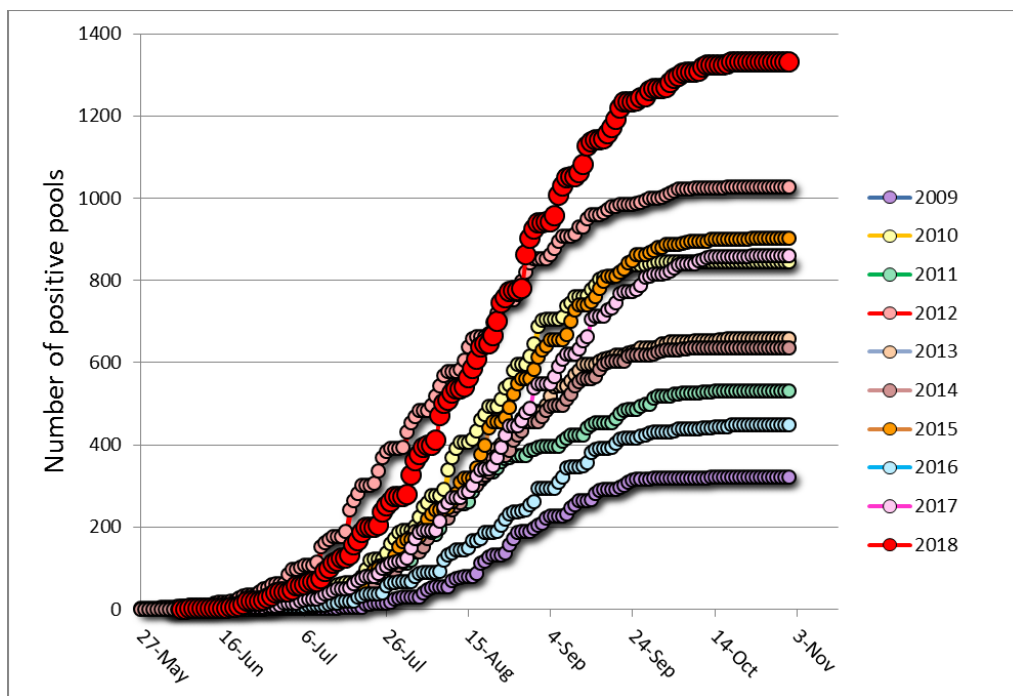
Currently 58 human cases of WNV have been detected in the following counties: Atlantic 1, Bergen 10, Burlington 3, Camden 3, Cape May 2, Cumberland 2, Essex 1, Gloucester 1, Hudson 4, Hunterdon 3, Mercer 1, Middlesex 5, Monmouth 3, Morris 4, Ocean 2, Passaic 3, Somerset 4, Sussex 1, Union 1, and Warren 4.

The graph to the right shows the relationship between statewide overall endpoint MFIR and human cases since the beginning of the outbreak. This week, the estimate for 2018 continued to be above the trend line, consistent with higher than normal activity.



One WNV horse case has been reported, occurring in Burlington County. The 10 year old mare is currently being treated. For further information, see <http://www.nj.gov/health/cd/statistics/arboviral-stats/>.

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 (2012) and least active (2009) years. The red series represents this year and currently has well surpassed other recent years in activity.

WNV Results by County through 16 November 2018.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		335	7996	24	3.002
	<i>Aedes albopictus</i>	55	1047	1	0.955
	<i>Aedes atlanticus</i>	4	85		
	<i>Aedes canadensis canadensis</i>	6	65		
	<i>Aedes japonicus</i>	7	67		
	<i>Aedes sollicitans</i>	5	105		
	<i>Aedes sticticus</i>	1	35		
	<i>Aedes taeniorhynchus</i>	5	271		
	<i>Aedes triseriatus</i>	1	2		
	<i>Aedes vexans</i>	25	580	1	1.724
	<i>Anopheles bradleyi</i>	6	242		
	<i>Coquillettidia perturbans</i>	13	320	1	3.125
	<i>Culex erraticus</i>	26	230	1	4.348
	<i>Culex pipiens</i>	22	766	6	7.833
	<i>Culex restuans</i>	1	23		
	<i>Culex salinarius</i>	1	24		
	<i>Culex</i> spp.	60	1593	12	7.533
	<i>Culex territans</i>	1	3		
	<i>Culiseta melanura</i>	76	1644	2	1.217
	<i>Psorophora ciliata</i>	1	1		
	<i>Psorophora columbiae</i>	1	1		
	<i>Psorophora ferox</i>	18	892		
Bergen		423	23284	161	6.915
	<i>Aedes albopictus</i>	39	928	1	1.078
	<i>Aedes japonicus</i>	8	28	1	35.714
	<i>Aedes sollicitans</i>	3	146		
	<i>Aedes trivittatus</i>	2	29		
	<i>Aedes vexans</i>	24	1134		
	<i>Anopheles bradleyi</i>	1	4		
	<i>Anopheles punctipennis</i>	1	5		
	<i>Anopheles quadrimaculatus</i>	1	3		
	<i>Coquillettidia perturbans</i>	4	50		
	<i>Culex restuans</i>	1	1		
	<i>Culex salinarius</i>	9	270		
	<i>Culex</i> spp.	318	20576	158	7.679
	<i>Culiseta melanura</i>	9	26		
	<i>Psorophora ferox</i>	2	82		
	<i>Psorophora howardii</i>	1	2	1	500.00
Burlington		347	10014	35	3.495
	<i>Aedes albopictus</i>	25	397		
	<i>Aedes atlanticus</i>	4	59		
	<i>Aedes canadensis canadensis</i>	4	59		
	<i>Aedes infirmatus</i>	3	6		
	<i>Aedes japonicus</i>	17	163	2	12.270
	<i>Aedes mitchellae</i>	1	2		
	<i>Aedes taeniorhynchus</i>	2	43		
	<i>Aedes triseriatus</i>	4	27		
	<i>Aedes vexans</i>	13	501		
	<i>Anopheles bradleyi</i>	5	142		
	<i>Anopheles crucians</i>	2	24		

<i>Anopheles punctipennis</i>	1	1		
<i>Anopheles quadrimaculatus</i>	1	3		
<i>Coquillettidia perturbans</i>	2	127		
<i>Culex erraticus</i>	11	147		
<i>Culex pipiens</i>	6	6		
<i>Culex salinarius</i>	12	471		
<i>Culex</i> spp.	129	4180	27	6.459
<i>Culiseta melanura</i>	100	3627	6	1.654
<i>Psorophora ciliata</i>	1	8		
<i>Psorophora columbiae</i>	2	14		
<i>Psorophora ferox</i>	1	1		
<i>Uranotaenia sapphirina</i>	1	6		
Camden	211	6569	40	6.089
<i>Aedes albopictus</i>	33	104	3	28.846
<i>Aedes excrucians</i>	1	2		
<i>Aedes japonicus</i>	31	144	1	6.944
<i>Aedes triseriatus</i>	2	4		
<i>Anopheles punctipennis</i>	3	4		
<i>Culex</i> spp.	86	4117	34	8.258
<i>Culiseta melanura</i>	54	2192	2	0.912
<i>Psorophora ferox</i>	1	2		
Cape May	4038	22966	20	0.871
<i>Aedes albopictus</i>	767	1680		
<i>Aedes atlanticus</i>	18	33		
<i>Aedes atropalpus</i>	26	61		
<i>Aedes canadensis canadensis</i>	8	12		
<i>Aedes cantator</i>	4	4		
<i>Aedes infirmatus</i>	2	3		
<i>Aedes japonicus</i>	293	612		
<i>Aedes sollicitans</i>	9	9		
<i>Aedes sticticus</i>	1	1		
<i>Aedes taeniorhynchus</i>	6	7		
<i>Aedes triseriatus</i>	149	268		
<i>Aedes vexans</i>	35	55		
<i>Anopheles barberi</i>	1	16		
<i>Anopheles bradleyi</i>	72	360		
<i>Anopheles punctipennis</i>	11	20		
<i>Anopheles quadrimaculatus</i>	157	2311		
<i>Coquillettidia perturbans</i>	10	33		
<i>Culex erraticus</i>	88	474		
<i>Culex pipiens</i>	1015	11689	17	1.454
<i>Culex restuans</i>	662	2927	3	1.025
<i>Culex salinarius</i>	363	1241		
<i>Culex</i> spp.	53	166		
<i>Culex territans</i>	16	70		
<i>Culiseta melanura</i>	243	847		
<i>Orthopodomyia signifera</i>	2	3		
<i>Psorophora columbiae</i>	7	12		
<i>Psorophora ferox</i>	12	17		
<i>Uranotaenia sapphirina</i>	8	35		
Cumberland	344	4434	10	2.255
<i>Aedes albopictus</i>	78	1352	3	2.219
<i>Aedes japonicus</i>	16	51		

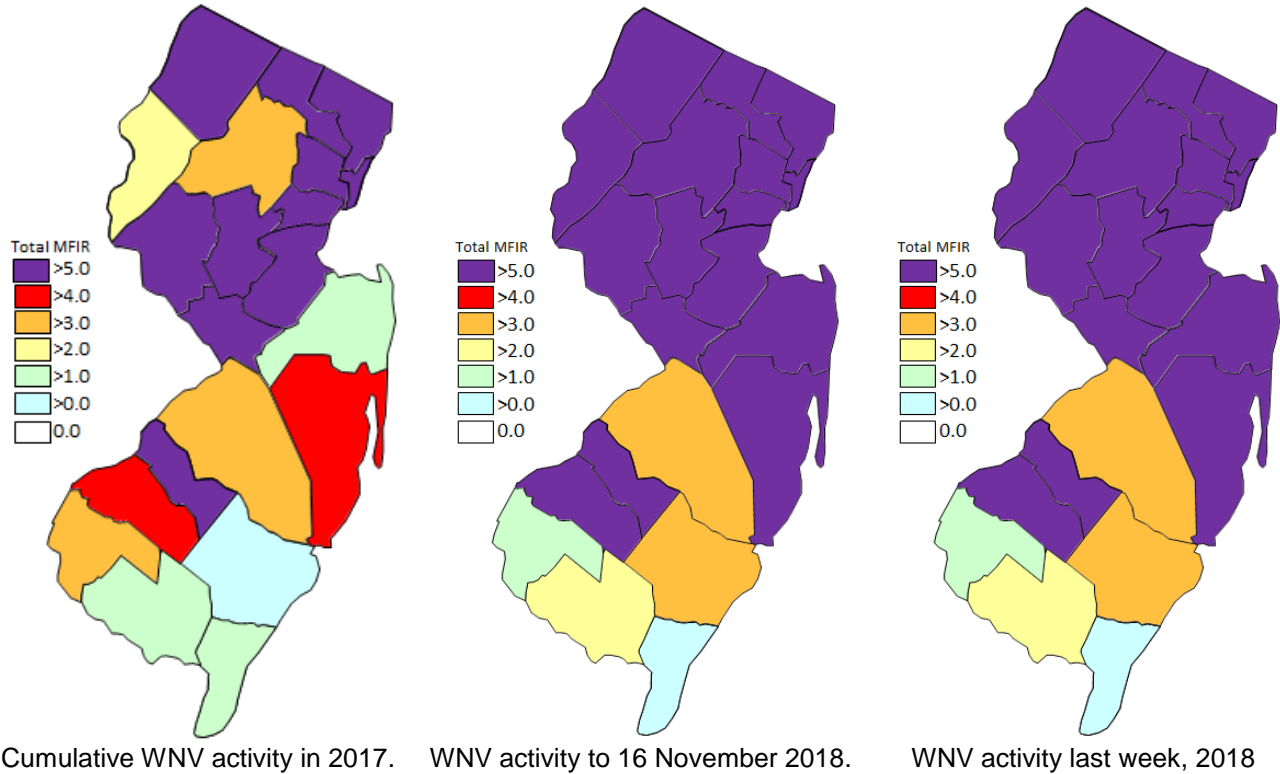
<i>Aedes sollicitans</i>	4	21		
<i>Aedes sticticus</i>	1	1		
<i>Aedes triseriatus</i>	8	16		
<i>Aedes trivittatus</i>	4	12		
<i>Aedes vexans</i>	42	776		
<i>Anopheles bradleyi</i>	1	24		
<i>Anopheles punctipennis</i>	13	59		
<i>Anopheles quadrimaculatus</i>	20	334		
<i>Coquillettidia perturbans</i>	6	6		
<i>Culex erraticus</i>	32	790	2	2.532
<i>Culex pipiens</i>	7	43		
<i>Culex restuans</i>	2	2		
<i>Culex salinarius</i>	9	65		
<i>Culex</i> spp.	54	484	3	6.198
<i>Culiseta melanura</i>	27	192	2	10.417
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	9	89		
<i>Psorophora ferox</i>	8	107		
<i>Uranotaenia sapphirina</i>	2	9		
Essex	174	939	14	14.909
<i>Aedes albopictus</i>	48	174		
<i>Aedes japonicus</i>	28	54	3	55.556
<i>Aedes trivittatus</i>	19	36	1	27.778
<i>Aedes vexans</i>	3	4		
<i>Anopheles quadrimaculatus</i>	3	3	1	333.333
<i>Culex</i> spp.	73	668	9	13.473
Gloucester	615	15702	121	7.706
<i>Aedes albopictus</i>	135	992	6	6.048
<i>Aedes canadensis canadensis</i>	1	4		
<i>Aedes japonicus</i>	99	951	9	9.464
<i>Aedes triseriatus</i>	17	73		
<i>Aedes vexans</i>	8	64		
<i>Anopheles barberi</i>	1	7		
<i>Anopheles punctipennis</i>	22	127	1	7.874
<i>Anopheles quadrimaculatus</i>	5	13		
<i>Coquillettidia perturbans</i>	7	36		
<i>Culex pipiens</i>	28	394	5	12.690
<i>Culex restuans</i>	1	3		
<i>Culex</i> spp.	244	12211	100	8.189
<i>Culiseta melanura</i>	32	605		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	1	8		
<i>Psorophora ferox</i>	13	213		
Hudson	220	9701	68	7.010
<i>Aedes albopictus</i>	13	178		
<i>Culex</i> spp.	207	9523	68	7.141
Hunterdon	397	17051	159	9.325
<i>Culex</i> spp.	397	17051	159	9.325
Mercer	350	5917	43	7.267
<i>Aedes albopictus</i>	86	944	3	3.178

<i>Aedes canadensis canadensis</i>	1	6		
<i>Aedes japonicus</i>	74	328	1	3.049
<i>Aedes triseriatus</i>	2	7		
<i>Aedes trivittatus</i>	1	1		
<i>Aedes vexans</i>	25	351	1	2.849
<i>Coquillettidia perturbans</i>	2	37	1	27.027
<i>Culex erraticus</i>	8	20		
<i>Culex pipiens</i>	6	60	1	16.667
<i>Culex restuans</i>	49	1214	6	4.942
<i>Culex spp.</i>	95	2948	30	10.176
<i>Culiseta melanura</i>	1	1		
Middlesex	248	6627	56	8.450
<i>Aedes albopictus</i>	14	148		
<i>Aedes japonicus</i>	1	64		
<i>Aedes vexans</i>	3	105		
<i>Anopheles punctipennis</i>	1	1		
<i>Coquillettidia perturbans</i>	3	9		
<i>Culex spp.</i>	225	6290	56	8.903
<i>Culiseta inornata</i>	1	10		
Monmouth	585	11414	63	5.520
<i>Aedes albopictus</i>	128	3454	6	1.737
<i>Aedes atlanticus</i>	2	6		
<i>Aedes canadensis canadensis</i>	15	110		
<i>Aedes cantator</i>	5	50		
<i>Aedes grossbecki</i>	2	10		
<i>Aedes japonicus</i>	26	80		
<i>Aedes sollicitans</i>	5	37		
<i>Aedes taeniorhynchus</i>	4	7		
<i>Aedes triseriatus</i>	21	137		
<i>Aedes trivittatus</i>	7	56		
<i>Aedes vexans</i>	32	160		
<i>Anopheles barberi</i>	1	1		
<i>Anopheles bradleyi</i>	1	1		
<i>Anopheles crucians</i>	2	3	1	333.333
<i>Anopheles punctipennis</i>	35	102		
<i>Anopheles quadrimaculatus</i>	3	4		
<i>Coquillettidia perturbans</i>	4	5		
<i>Culex erraticus</i>	14	54	2	37.037
<i>Culex restuans</i>	5	8		
<i>Culex salinarius</i>	9	263		
<i>Culex spp.</i>	210	6206	52	8.379
<i>Culex territans</i>	1	1		
<i>Culiseta melanura</i>	25	539	1	1.855
<i>Orthopodomyia signifera</i>	2	2		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	7	61	1	16.393
<i>Psorophora ferox</i>	18	56		
Morris	473	17101	166	9.707
<i>Aedes albopictus</i>	17	104		
<i>Aedes japonicus</i>	22	185		
<i>Aedes sollicitans</i>	1	1		
<i>Aedes vexans</i>	7	190		
<i>Anopheles punctipennis</i>	2	7		

<i>Anopheles quadrimaculatus</i>	1	3		
<i>Coquillettidia perturbans</i>	6	300		
<i>Culex</i> spp	412	16273	166	10.201
<i>Culiseta melanura</i>	1	1		
<i>Psorophora ferox</i>	4	37		
Ocean	382	3272	26	7.946
<i>Aedes albopictus</i>	109	899	5	5.562
<i>Aedes cantator</i>	1	58		
<i>Aedes japonicus</i>	44	103		
<i>Aedes taeniorhynchus</i>	2	50		
<i>Aedes triseriatus</i>	29	72	2	27.778
<i>Aedes vexans</i>	6	51		
<i>Anopheles bradleyi</i>	2	139		
<i>Anopheles punctipennis</i>	2	2		
<i>Anopheles quadrimaculatus</i>	3	6		
<i>Coquillettidia perturbans</i>	21	168	1	5.952
<i>Culex erraticus</i>	15	32		
<i>Culex pipiens</i>	1	1		
<i>Culex restuans</i>	2	2		
<i>Culex salinarius</i>	4	86		
<i>Culex</i> spp.	99	1400	17	12.143
<i>Culiseta melanura</i>	38	193	1	5.181
<i>Psorophora ferox</i>	4	10		
Passaic	260	2097	16	7.630
<i>Aedes abserratus</i>	1	11		
<i>Aedes albopictus</i>	37	168		
<i>Aedes japonicus</i>	65	370	1	2.703
<i>Aedes thibaulti</i>	1	10		
<i>Aedes triseriatus</i>	4	14		
<i>Aedes vexans</i>	1	34		
<i>Coquillettidia perturbans</i>	5	40		
<i>Culex erraticus</i>	12	21		
<i>Culex pipiens</i>	11	202		
<i>Culex restuans</i>	9	95		
<i>Culex</i> spp.	108	1109	15	13.526
<i>Culiseta melanura</i>	4	4		
<i>Psorophora cyanescens</i>	2	19		
Salem	418	7498	9	1.200
<i>Aedes albopictus</i>	76	923		
<i>Aedes atlanticus</i>	2	2		
<i>Aedes canadensis canadensis</i>	1	1		
<i>Aedes japonicus</i>	36	160		
<i>Aedes sollicitans</i>	2	24		
<i>Aedes taeniorhynchus</i>	1	4	1	250.00
<i>Aedes triseriatus</i>	30	40		
<i>Aedes trivittatus</i>	3	4		
<i>Aedes vexans</i>	6	188		
<i>Anopheles bradleyi</i>	2	5		
<i>Anopheles punctipennis</i>	4	10		
<i>Anopheles quadrimaculatus</i>	7	39		
<i>Coquillettidia perturbans</i>	20	550		
<i>Culex erraticus</i>	43	263	1	3.802
<i>Culex pipiens</i>	11	14		

<i>Culex restuans</i>	7	18		
<i>Culex salinarius</i>	12	760	1	1.316
<i>Culex</i> spp.	113	3925	5	1.274
<i>Culiseta melanura</i>	29	508	1	1.969
<i>Psorophora ciliate</i>	1	6		
<i>Psorophora columbiae</i>	4	13		
<i>Psorophora ferox</i>	5	26		
<i>Psorophora howardii</i>	1	12		
<i>Uranotaenia sapphirina</i>	2	3		
Somerset	289	8811	84	9.534
<i>Aedes albopictus</i>	5	17		
<i>Aedes canadensis canadensis</i>	1	12		
<i>Aedes japonicus</i>	15	159		
<i>Aedes triseriatus</i>	5	9		
<i>Aedes trivittatus</i>	2	2		
<i>Anopheles punctipennis</i>	3	5		
<i>Culex</i> spp.	257	8606	84	9.761
<i>Psorophora ferox</i>	1	1		
Sussex	362	10531	56	5.318
<i>Aedes albopictus</i>	3	5		
<i>Aedes canadensis canadensis</i>	1	31		
<i>Aedes japonicus</i>	14	255		
<i>Aedes triseriatus</i>	3	27		
<i>Aedes trivittatus</i>	2	129		
<i>Aedes vexans</i>	19	1033		
<i>Anopheles punctipennis</i>	1	24		
<i>Coquillettidia perturbans</i>	15	1008		
<i>Culex pipiens</i>	12	392	3	7.653
<i>Culex restuans</i>	41	770		
<i>Culex salinarius</i>	13	670		
<i>Culex</i> spp.	228	6042	53	8.772
<i>Culiseta melanura</i>	9	70		
<i>Psorophora ferox</i>	1	75		
Union	196	10534	78	7.405
<i>Aedes albopictus</i>	37	822	5	6.083
<i>Aedes sollicitans</i>	2	29		
<i>Culex salinarius</i>	3	108		
<i>Culex</i> spp	154	9575	73	7.624
Warren	447	15057	82	5.446
<i>Aedes albopictus</i>	34	712	1	1.404
<i>Aedes cinereus</i>	1	18		
<i>Aedes japonicus</i>	52	842	1	1.188
<i>Aedes sticticus</i>	2	16		
<i>Aedes triseriatus</i>	4	7		
<i>Aedes trivittatus</i>	14	273	1	3.663
<i>Aedes vexans</i>	18	394		
<i>Anopheles punctipennis</i>	5	35		
<i>Anopheles quadrimaculatus</i>	1	3		
<i>Anopheles walkeri</i>	1	35		
<i>Coquillettidia perturbans</i>	2	89		
<i>Culex restuans</i>	1	1		
<i>Culex</i> spp.	301	12451	79	6.345

<i>Culiseta melanura</i>	3	63		
<i>Psorophora ciliata</i>	2	56		
<i>Psorophora columbiae</i>	3	48		
<i>Psorophora ferox</i>	3	14		
Grand Total	11114	217515	1331	6.119



Saint Louis Encephalitis (SLE) to 16 November 2018.

New Jersey will be primarily testing for SLE this year only when adjacent states show human activity (Cape May tests mosquitoes in the Cape May lab independently). SLE has had previous activity in New Jersey, most notably in 1964 and 1975 (CDC's SLE [website](#)), the latter prompting the surveillance reporting by Rutgers. SLE is a flavivirus and has a similar transmission pattern to West Nile, with *Culex* species as the predominant vectors.

No pools of SLE have tested positive for 2018. No human cases have been reported.

County	Species	Pools	Mosquitoes	Positives	MFIR
Burlington		36	1987		
	<i>Culex</i> spp	36	1987		
Cape May		987	11321		
	<i>Culex pipiens</i>	942	11176		
	<i>Culex</i> spp.	45	145		
Grand Total		1023	13308		

La Crosse Encephalitis (LAC) to 16 November 2018.

New Jersey will be primarily testing for LAC this year only when adjacent states show human activity (Cape May tests mosquitoes in the Cape May lab independently). New Jersey has had 3 cases of this encephalitic disease since 1964 (see CDC's LAC [website](#)). The mortality is low but like other encephalitides, LAC can have both personal (lasting neurological sequelae) and economic impacts. LAC is a bunyavirus with a transmission cycle involving mosquitoes such as *Aedes triseriatus* and small mammals such as squirrels and chipmunks. LAC can not only infect *Aedes albopictus* but transovarial transmission was also demonstrated.

(Tesh and Gubler 1975 Laboratory studies of transovarial transmission of La Crosse and other arboviruses by *Aedes albopictus* and *Culex fatigans*. American Journal of Tropical Medicine and Hygiene 24(5):876-880).

No pools of LAC have been tested yet for 2018. No human cases have been reported.

County	Species	Pools	Mosquitoes	Positives	MFIR
Burlington		16	226		
	<i>Aedes albopictus</i>	5	79		
	<i>Aedes japonicus</i>	7	120		
	<i>Aedes triseriatus</i>	4	27		
Ocean		4	9		
	<i>Aedes albopictus</i>	2	3		
	<i>Aedes japonicus</i>	1	1		
	<i>Aedes triseriatus</i>	1	5		
Salem		3	4		
	<i>Aedes triseriatus</i>	3	4		
Sussex		3	27		
	<i>Aedes triseriatus</i>	3	27		
Grand Total		26	266		

Dengue (DENV) to 16 November 2018.

New Jersey will be selectively testing for DENV (including serotypes) this year. Dengue has not had a history of local transmission here in New Jersey, but each year, travelers can bring virus back from areas in the world with virus activity. This is significant as humans are NOT dead-end hosts and thus there is the potential for local transmission (i.e., New Jersey mosquitoes biting a sick person and then biting and transmitting the disease to someone else) to be established. DENV is a flavivirus but unlike WNV, *Aedes* mosquitoes are predominant vectors. In New Jersey, *Aedes albopictus* is a candidate for local transmission. There are 4 serotypes tested for Dengue.

Note Same pools of *Ae. albopictus* are tested for the four serotypes of Dengue as well as Chikungunya.

No pools of Dengue have been tested yet in 2018. There are currently 14 travel-related human cases in NJ.

County	Species	DENV1		DENV2		DENV3		DENV4		Pos.	MFIR
		Pool	Mos.	Pool	Mos.	Pool	Mos.	Pool	Mos.		
Atlantic		55	1047	55	1047	55	1047	55	1047		
	<i>Aedes albopictus</i>	55	1047	55	1047	55	1047	55	1047		
Bergen		1	14	1	14	1	14	1	14		

	<i>Aedes albopictus</i>	1	14	1	14	1	14	1	14		
Gloucester		7	20	7	20	7	20	7	20		
	<i>Aedes albopictus</i>	5	18	5	18	5	18	5	18		
	<i>Aedes japonicus</i>	2	2	2	2	2	2	2	2		
Middlesex		2	12	2	12	2	12	2	12		
	<i>Aedes albopictus</i>	2	12	2	12	2	12	2	12		
Monmouth		2	67	2	67	2	67	2	67		
	<i>Aedes albopictus</i>	2	67	2	67	2	67	2	67		
Morris		1	12	1	12	1	12	1	12		
	<i>Aedes albopictus</i>	1	12	1	12	1	12	1	12		
Ocean		67	709	67	709	67	709	67	709		
	<i>Aedes albopictus</i>	67	709	67	709	67	709	67	709		
Sussex		3	5	3	5	3	5	3	5		
	<i>Aedes albopictus</i>	3	5	3	5	3	5	3	5		
Grand Total		138	1886	138	1886	138	1886	138	1886		

Chikungunya (CHIK) to 16 November 2018.

New Jersey will be selectively testing for CHIK this year. Chikungunya is similar in symptoms to Dengue, a “breakbone” fever and has a low mortality rate. But this virus has had recent worldwide activity, and in the past year has come to the Western Hemisphere. As with Dengue, transmission can occur when a mosquito bites an infected human, then bites an uninfected human who subsequently becomes ill. CHIK is an alphavirus with *Aedes* mosquitoes as potential vectors. In New Jersey, *Aedes albopictus* is the mosquito of interest.

No pools of CHIK have been tested yet in 2018. There are currently 9 travel-related human cases in NJ.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		55	1047		
	<i>Aedes albopictus</i>	55	1047		
Bergen		1	14		
	<i>Aedes albopictus</i>	1	14		
Cape May		1	14		
	<i>Aedes albopictus</i>	1	14		
Gloucester		7	20		
	<i>Aedes albopictus</i>	5	18		
	<i>Aedes japonicus</i>	2	2		
Middlesex		2	12		
	<i>Aedes albopictus</i>	2	12		
Monmouth		2	67		
	<i>Aedes albopictus</i>	2	67		
Ocean		67	709		
	<i>Aedes albopictus</i>	67	709		
Somerset		1	1		
	<i>Aedes albopictus</i>	1	1		
Sussex		3	5		
	<i>Aedes albopictus</i>	3	5		
Grand Total		138	1875		

Zika (ZIKV) to 16 November 2018.

New Jersey will be selectively testing for ZIKV this year. Zika is an emerging arboviral threat with significant health consequences for fetuses and recent activity in the Western Hemisphere. Humans are potential hosts that can transmit through sexual activity. ZIKV is a flavivirus with *Aedes* mosquitoes as potential vectors. In New Jersey, *Aedes albopictus* is the mosquito of interest.

No pools have tested positive in 2018. There are currently 7 travel-related human cases in NJ.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		55	1047		
	<i>Aedes albopictus</i>	55	1047		
Bergen		1	14		
	<i>Aedes albopictus</i>	1	14		
Cape May		665	1412		
	<i>Aedes albopictus</i>	665	1412		
Gloucester		7	20		
	<i>Aedes albopictus</i>	5	18		
	<i>Aedes japonicus</i>	2	2		
Middlesex		2	12		
	<i>Aedes albopictus</i>	2	12		
Monmouth		2	67		
	<i>Aedes albopictus</i>	2	67		
Ocean		67	709		
	<i>Aedes albopictus</i>	67	709		
Somerset		1	1		
	<i>Anopheles punctipennis</i>	1	1		
Sussex		3	5		
	<i>Aedes albopictus</i>	3	5		
Grand Total		803	3287		