

VECTOR SURVEILLANCE IN NEW JERSEY

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

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CDC WEEK 42: 14 October to 20 October, 2018



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.

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	22 [‡]	4 [‡]		
Green Bank (Burlington Co.)/25	Coastal	0.68	0.12	480 [‡] (483) [‡]	20 (21)		
Corbin City (Atlantic Co.)/25	Coastal	0.14	0.32	246 (252) [‡]	18 (19)		
Dennisville (Cape May Co.)/50	Coastal	1.44	0.08	321	20		
Winslow (Camden Co.)/50	Inland	0.28	0.14	2184	52	4	1.826
Centerton (Salem Co.)/50	Inland	0.39	0.06	449	20	2	4.415
Turkey Swamp (Monmouth Co.)/49	Inland	0.08	nc	535	22	1	1.869
Glassboro (Gloucester Co.)/50	Inland	0.08	0.02	177	18		

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

Remarks: One new positive EEE pools were detected this past week in Cumberland County. Currently for the 2018 season, there are 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, 10,027 *Cs. melanura* from 593 pools have been tested, with 14 positive pools detected for an overall *Cs. melanura* MFIR of 1.396. 18150 specimens in 1777 pools from 25 other species have also been tested, with no positives detected. Overall MFIR for all species statewide is 0.497.

Traditional Resting Box Sites: 4436 *Cs. melanura* from 177 pools have been tested for EEE (plus one pool totaling 3 to be tested) in 2018. No additional positive pools were detected at the traditional resting box sites this past week. A total of 7 positive pools have been detected at the traditional resting box sites.

Additional <i>Cs. melanura</i> trapped by counties *traps with positives indicated in UNDERLINED .					
County	Trap types*	Pools	Mosquitoes	Positives	MFIR
Atlantic	CO2, <u>GR</u> , RB	52	1374	1	0.728
Bergen	RB	8	24		
Burlington	<u>CDCL</u>	68	2983	5	1.676
Cape May	GR, RB	199	478		
Cumberland	BG <u>SCL</u> , <u>RB</u>	22	160	1	6.250
Gloucester		6	223		
Middlesex	RB	2	21		
Monmouth	OTHER	1	2		
Morris	CDCL	1	1		
Ocean	CDCL, RB	37	192		
Passaic	RB	4	4		
Salem	CDCL	6	53		
Sussex	ABC	9	70		
Warren	CDCL	1	6		
TOTAL		416	5591	7	1.252

Additional County-set *Cs. melanura*: Counties maintain trap sites for *Cs. melanura* in other areas, using a variety of traps. A total of 6 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.

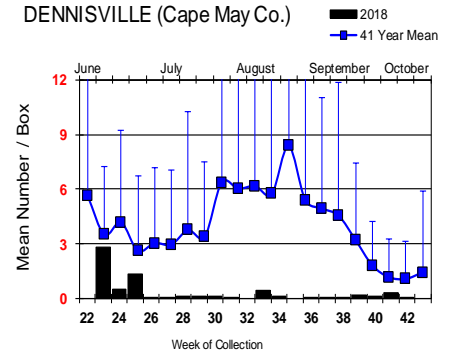
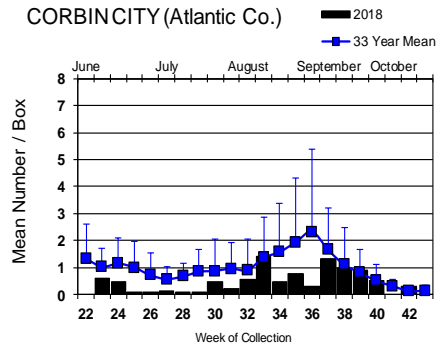
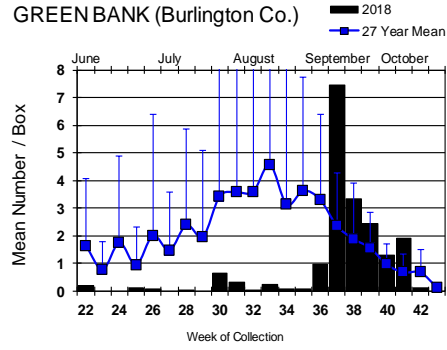
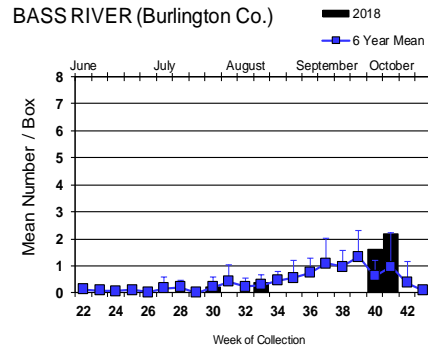
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

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

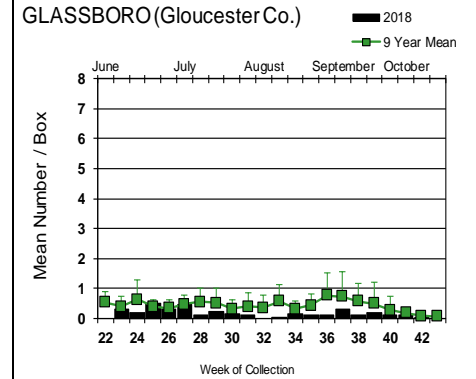
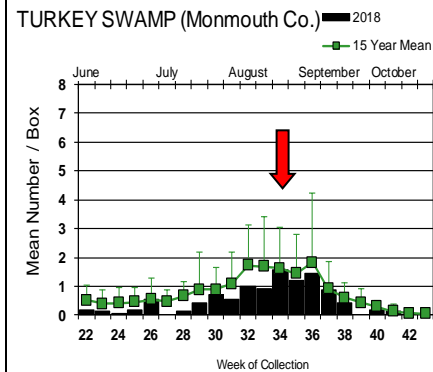
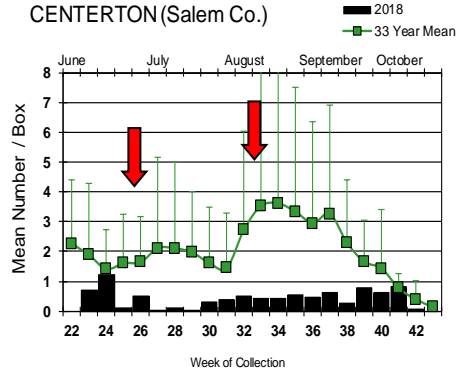
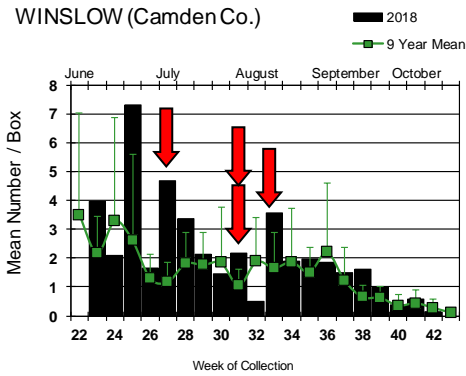
Species other than <i>Cs. melanura</i>	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	11	53		
<i>Aedes atlanticus</i>	3	45		
<i>Aedes canadensis canadensis</i>	2	14		
<i>Aedes cantator</i>	3	3		
<i>Aedes infirmatus</i>	3	6		
<i>Aedes japonicus</i>	2	11		
<i>Aedes mitchellae</i>	1	2		
<i>Aedes sollicitans</i>	15	94		
<i>Aedes taeniorhynchus</i>	3	88		
<i>Aedes triseriatus</i>	2	6		
<i>Aedes vexans</i>	7	99		
<i>Anopheles barberi</i>	2	17		
<i>Anopheles bradleyi</i>	72	443		
<i>Anopheles crucians</i>	1	1		
<i>Anopheles punctipennis</i>	23	95		
<i>Anopheles quadrimaculatus</i>	3	4		
<i>Coquillettidia perturbans</i>	90	1818		
<i>Culex erraticus</i>	159	1589		
<i>Culex pipiens</i>	942	11176		
<i>Culex restuans</i>	1	1		
<i>Culex salinarius</i>	350	1633		
<i>Culex</i> spp.	69	606		
<i>Culiseta inornata</i>	1	10		
<i>Psorophora ciliata</i>	2	9		
<i>Psorophora columbiae</i>	2	7		
<i>Psorophora ferox</i>	8	320		
State Total	1777	18150		

Culiseta melanura Populations



Coastal



Inland



Populations have decreased significantly and below historical averages, except for Corbin City, where abundances were low, but more than twice the historical average (obscured by blue historical box but just barely above the positive error bar).



 = 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(1) SC(1) VA(2) WI(2) Ontario Canada(10)
- mosquito pools: CT(6) FL(2) 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) DE(6)
- 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					24/25
Alaska					
Arizona	1	84	1	4	11/16
Arkansas				2	6/7
California	483	1,947	150	10	132
Colorado	Present	Present		5	82/84
Connecticut		391/393			15/19
Delaware	27		47	3	5/6
DC	1	21		2	14
Florida	1	25/27	362/434	3/5	14/16
Georgia		Present			20/24
Hawaii					
Idaho		39		4	13
Illinois	34	3,003/3,011		11	103/117
Indiana		654/665		1/18	22/26
Iowa		100		13	77
Kansas					11/19
Kentucky		Present		1/2	9
Louisiana	98	1055/1063		4/5	85/87
Maine		4		1	3
Maryland(+DC)	1	30		6	39
Mass.		579		3	42
Michigan	165/166	154		2	84/90
Minnesota		Present		Present	37/38
Mississippi		111			42/43
Missouri	1	3		5	13/14

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Montana		9		42	43/44
Nebraska	1	122			212/225
Nevada		Present			6/7
New Hampshire	4	30/35			
New Jersey		1,299/		1	50/
New Mexico					4/5
New York		1,480/1,490		12/14	56/66
North Carolina					3/5
North Dakota	12	102		4	184
Ohio		3,262/3,264		38/43	44/49
Oklahoma		21traps		1	10/14
Oregon	1	47			1/2
Pennsylvania	106/107	4,680/4,729		70/90	72/87
Rhode Island		10			
South Carolina				3	5/9
South Dakota		9counties			161
Tennessee	1	850/891			10/11
Texas	6	922/946		8/9	76/89
Utah		180		9	10/11
Vermont		151		1	
Virginia				1	35/40
Washington		49		2	2
West Virginia		24			
Wisconsin	54/55	83		3	11
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 19 October 2018

Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	1	11		
<i>Aedes albopictus</i>	1615	14479	34	2.348
<i>Aedes atlanticus</i>	26	167		
<i>Aedes atropalpus</i>	26	61		
<i>Aedes canadensis canadensis</i>	35	251		
<i>Aedes cantator</i>	9	111		
<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>	786	4451	19	4.269
<i>Aedes mitchellae</i>	1	2		
<i>Aedes sollicitans</i>	29	363		
<i>Aedes sticticus</i>	5	53		
<i>Aedes taeniorhynchus</i>	18	379	1	2.639
<i>Aedes thibaulti</i>	1	10		
<i>Aedes triseriatus</i>	289	723	3	4.149
<i>Aedes trivittatus</i>	34	505	1	1.980
<i>Aedes vexans</i>	239	4941	2	0.405
<i>Anopheles barberi</i>	3	24		
<i>Anopheles bradleyi</i>	85	858		
<i>Anopheles crucians</i>	2	3	1	333.333
<i>Anopheles punctipennis</i>	95	346	1	2.890
<i>Anopheles quadrimaculatus</i>	186	2633	1	0.380
<i>Anopheles walkeri</i>	1	35		
<i>Coquillettidia perturbans</i>	118	2761	3	1.087
<i>Culex erraticus</i>	216	1880	6	3.191
<i>Culex pipiens</i>	1043	13046	32	2.453
<i>Culex restuans</i>	686	4729	9	1.903
<i>Culex salinarius</i>	403	3835	1	0.261
<i>Culex</i> spp.	3710	144000	1193	8.285
<i>Culex territans</i>	16	70		
<i>Culiseta inornata</i>	1	10		
<i>Culiseta melanura</i>	596	10066	15	1.490
<i>Orthopodomyia signifera</i>	4	5		
<i>Psorophora ciliata</i>	8	74		
<i>Psorophora columbiae</i>	32	242	1	4.132
<i>Psorophora cyanescens</i>	2	19		
<i>Psorophora ferox</i>	80	1473		
<i>Psorophora howardii</i>	2	14	1	71.429
<i>Uranotaenia sapphirina</i>	10	39		
Grand Total	10422	212708	1324	6.224

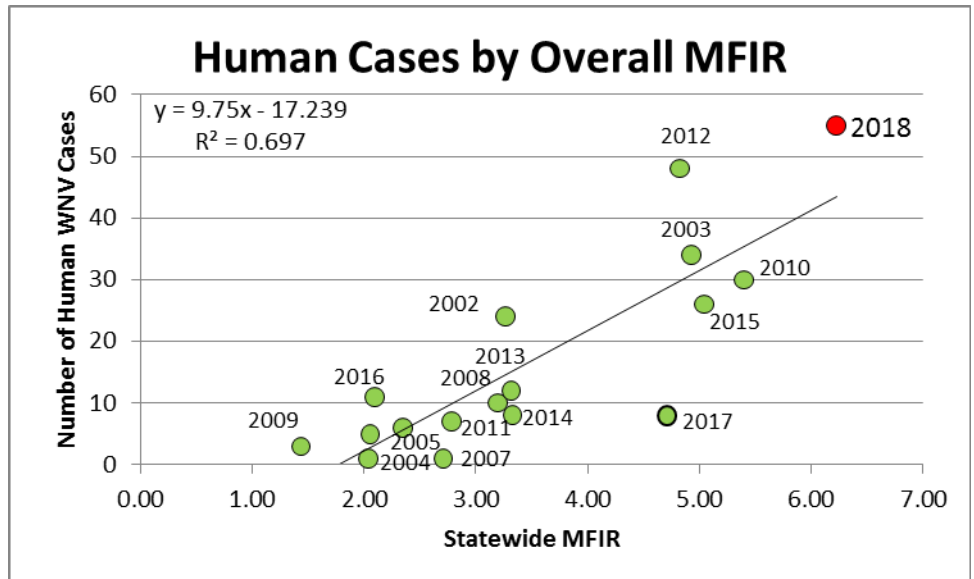
Remarks: To date, 10,422 pools of 212,708 mosquitoes from 40 species have been tested. A total of 1,324 positive WNV pools have been detected throughout the state. The bulk of new positives continue to be in the enzootic vector(s) *Culex* spp. First positive WNV pool detected has been revised from 7 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. 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 finally decreased to 6.224 from last week's 6.400.

NOTE - Additional WNV pools have been reported to the counties, but are not yet in the database. This report should be considered up for revision as necessary.

Humans, Horses and Wild Birds:

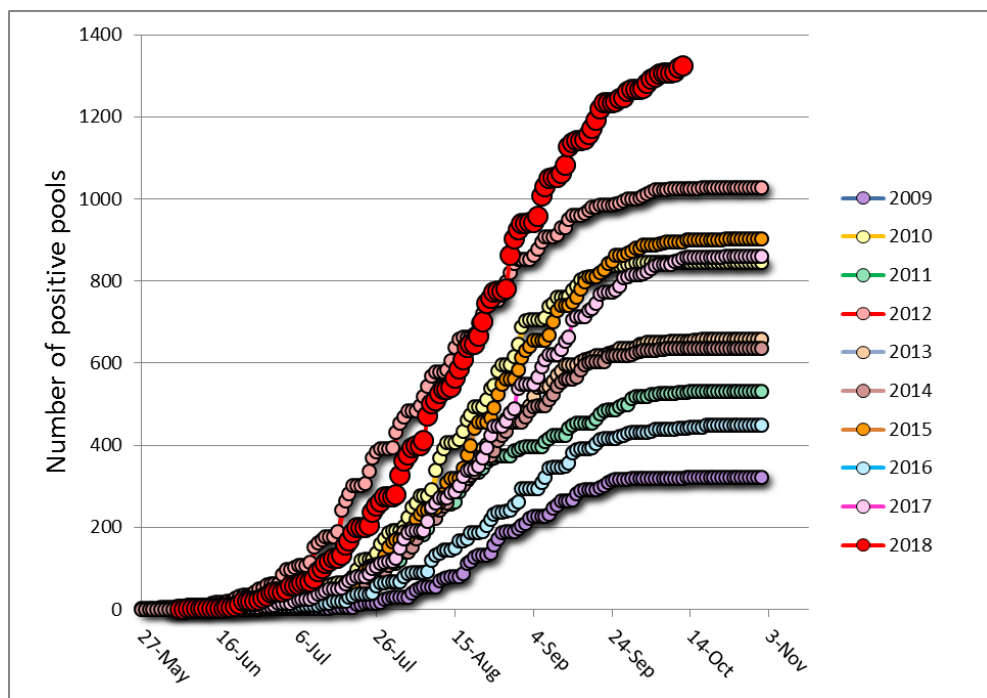
Currently 55 human cases of WNV have been detected in the following counties: Atlantic 1, Bergen 7, Burlington 3, Camden 3, Cape May 2, Cumberland 2, Essex 1, Gloucester 1, Hudson 4, Hunterdon 3, Mercer 1 Middlesex 5, Monmouth 3, Morris 4, Ocean 2, Passaic 3, Somerset 4, Sussex 1, Union 1, and Warren 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 rise 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 19 October 2018.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		312	7650	23	3.007
	<i>Aedes albopictus</i>	53	1034	1	0.967
	<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>	20	331	1	3.021
	<i>Anopheles bradleyi</i>	6	242		
	<i>Coquillettidia perturbans</i>	13	320	1	3.125
	<i>Culex erraticus</i>	21	224	1	4.464
	<i>Culex pipiens</i>	22	766	6	7.833
	<i>Culex restuans</i>	1	23		
	<i>Culex salinarius</i>	1	24		
	<i>Culex spp.</i>	55	1536	11	7.161
	<i>Culiseta melanura</i>	71	1626	2	1.230
	<i>Psorophora ciliata</i>	1	1		
	<i>Psorophora columbiae</i>	1	1		
	<i>Psorophora ferox</i>	18	892		
Bergen		405	23170	161	6.949
	<i>Aedes albopictus</i>	39	928	1	1.078
	<i>Aedes japonicus</i>	6	25	1	40.00
	<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>Coquillettidia perturbans</i>	4	50		
	<i>Culex salinarius</i>	9	270		
	<i>Culex spp.</i>	306	20476	158	7.716
	<i>Culiseta melanura</i>	8	24		
	<i>Psorophora ferox</i>	2	82		
	<i>Psorophora howardii</i>	1	2	1	500.00
Burlington		296	9230	35	3.792
	<i>Aedes albopictus</i>	25	397		
	<i>Aedes atlanticus</i>	3	45		
	<i>Aedes canadensis canadensis</i>	1	10		
	<i>Aedes infirmatus</i>	3	6		
	<i>Aedes japonicus</i>	15	159	2	12.579
	<i>Aedes mitchellae</i>	1	2		
	<i>Aedes taeniorhynchus</i>	1	42		
	<i>Aedes triseriatus</i>	4	27		
	<i>Aedes vexans</i>	10	369		
	<i>Anopheles bradleyi</i>	3	101		
	<i>Anopheles punctipennis</i>	1	1		
	<i>Anopheles quadrimaculatus</i>	1	3		

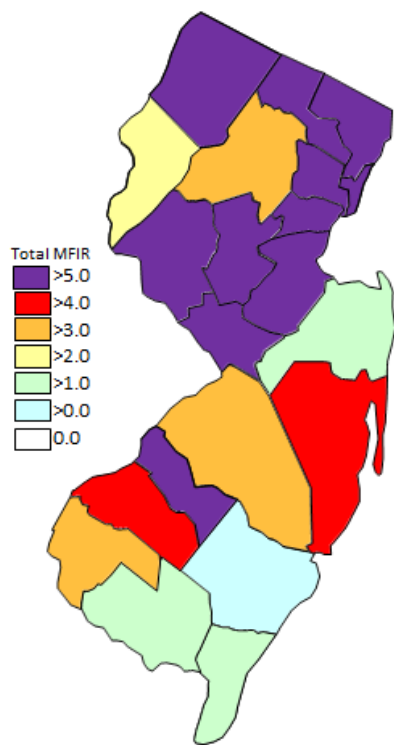
<i>Coquillettidia perturbans</i>	2	127		
<i>Culex erraticus</i>	10	146		
<i>Culex pipiens</i>	6	6		
<i>Culex salinarius</i>	10	398		
<i>Culex</i> spp.	106	3882	27	6.955
<i>Culiseta melanura</i>	90	3486	6	1.721
<i>Psorophora ciliata</i>	1	8		
<i>Psorophora columbiae</i>	2	14		
<i>Psorophora ferox</i>	1	1		
Camden	201	6423	39	6.072
<i>Aedes albopictus</i>	31	90	3	33.333
<i>Aedes excrucians</i>	1	2		
<i>Aedes japonicus</i>	29	138	1	7.246
<i>Aedes triseriatus</i>	2	4		
<i>Anopheles punctipennis</i>	2	3		
<i>Culex</i> spp.	82	3993	33	8.264
<i>Culiseta melanura</i>	53	2191	2	0.913
<i>Psorophora ferox</i>	1	2		
Cape May	3653	21609	20	0.926
<i>Aedes albopictus</i>	680	1452		
<i>Aedes atlanticus</i>	16	30		
<i>Aedes atropalpus</i>	26	61		
<i>Aedes canadensis canadensis</i>	8	12		
<i>Aedes cantator</i>	3	3		
<i>Aedes infirmatus</i>	2	3		
<i>Aedes japonicus</i>	266	558		
<i>Aedes sollicitans</i>	8	8		
<i>Aedes sticticus</i>	1	1		
<i>Aedes taeniorhynchus</i>	5	5		
<i>Aedes triseriatus</i>	141	253		
<i>Aedes vexans</i>	31	50		
<i>Anopheles barberi</i>	1	16		
<i>Anopheles bradleyi</i>	69	342		
<i>Anopheles punctipennis</i>	9	17		
<i>Anopheles quadrimaculatus</i>	146	2258		
<i>Coquillettidia perturbans</i>	10	33		
<i>Culex erraticus</i>	66	414		
<i>Culex pipiens</i>	942	11176	17	1.521
<i>Culex restuans</i>	582	2643	3	1.135
<i>Culex salinarius</i>	335	1198		
<i>Culex</i> spp.	46	147		
<i>Culex territans</i>	16	70		
<i>Culiseta melanura</i>	220	803		
<i>Orthopodomyia signifera</i>	2	3		
<i>Psorophora columbiae</i>	6	11		
<i>Psorophora ferox</i>	9	14		
<i>Uranotaenia sapphirina</i>	7	28		
Cumberland	307	3882	10	2.576
<i>Aedes albopictus</i>	68	1176	3	2.551
<i>Aedes japonicus</i>	14	49		
<i>Aedes sollicitans</i>	3	13		
<i>Aedes sticticus</i>	1	1		
<i>Aedes triseriatus</i>	8	16		

<i>Aedes trivittatus</i>	3	11		
<i>Aedes vexans</i>	34	585		
<i>Anopheles bradleyi</i>	1	24		
<i>Anopheles punctipennis</i>	13	59		
<i>Anopheles quadrimaculatus</i>	18	323		
<i>Coquillettidia perturbans</i>	6	6		
<i>Culex erraticus</i>	31	715	2	2.797
<i>Culex pipiens</i>	7	43		
<i>Culex restuans</i>	2	2		
<i>Culex salinarius</i>	7	58		
<i>Culex</i> spp.	50	445	3	6.742
<i>Culiseta melanura</i>	22	160	2	12.500
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	9	89		
<i>Psorophora ferox</i>	7	97		
<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	565	14705	117	7.956
<i>Aedes albopictus</i>	125	923	6	6.501
<i>Aedes canadensis canadensis</i>	1	4		
<i>Aedes japonicus</i>	93	924	9	9.740
<i>Aedes triseriatus</i>	17	73		
<i>Aedes vexans</i>	8	64		
<i>Anopheles barberi</i>	1	7		
<i>Anopheles punctipennis</i>	17	80	1	12.500
<i>Anopheles quadrimaculatus</i>	5	13		
<i>Coquillettidia perturbans</i>	5	19		
<i>Culex pipiens</i>	28	394	5	12.690
<i>Culex restuans</i>	1	3		
<i>Culex</i> spp.	229	11623	96	8.259
<i>Culiseta melanura</i>	25	401		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	1	8		
<i>Psorophora ferox</i>	8	168		
Hudson	220	9701	68	7.010
<i>Aedes albopictus</i>	13	178		
<i>Culex</i> spp.	207	9523	68	7.141
Hunterdon	384	16976	159	9.366
<i>Culex</i> spp.	384	16976	159	9.366
Mercer	335	5802	43	7.411
<i>Aedes albopictus</i>	80	888	3	3.378
<i>Aedes canadensis canadensis</i>	1	6		
<i>Aedes japonicus</i>	72	314	1	3.185
<i>Aedes triseriatus</i>	2	7		

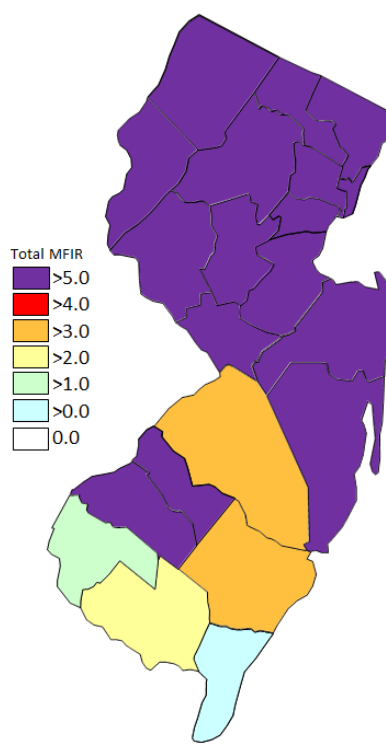
<i>Aedes trivittatus</i>	1	1		
<i>Aedes vexans</i>	25	351	1	2.849
<i>Coquillettidia perturbans</i>	2	37	1	27.027
<i>Culex erraticus</i>	7	17		
<i>Culex pipiens</i>	6	60	1	16.667
<i>Culex restuans</i>	44	1176	6	5.102
<i>Culex</i> spp.	94	2944	30	10.190
<i>Culiseta melanura</i>	1	1		
Middlesex	245	6617	56	8.463
<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</i> spp.	222	6280	56	8.917
<i>Culiseta inornata</i>	1	10		
Monmouth	561	11357	63	5.547
<i>Aedes albopictus</i>	127	3453	6	1.738
<i>Aedes atlanticus</i>	1	5		
<i>Aedes canadensis canadensis</i>	15	110		
<i>Aedes cantator</i>	5	50		
<i>Aedes grossbecki</i>	2	10		
<i>Aedes japonicus</i>	24	77		
<i>Aedes sollicitans</i>	5	37		
<i>Aedes taeniorhynchus</i>	4	7		
<i>Aedes triseriatus</i>	20	136		
<i>Aedes trivittatus</i>	7	56		
<i>Aedes vexans</i>	29	154		
<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 salinarius</i>	9	263		
<i>Culex</i> spp.	202	6174	52	8.422
<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>	6	58	1	17.241
<i>Psorophora ferox</i>	17	55		
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	369	3244	26	8.015
<i>Aedes albopictus</i>	108	898	5	5.568
<i>Aedes cantator</i>	1	58		
<i>Aedes japonicus</i>	42	100		
<i>Aedes taeniorhynchus</i>	2	50		
<i>Aedes triseriatus</i>	29	72	2	27.778
<i>Aedes vexans</i>	5	50		
<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 restuans</i>	1	1		
<i>Culex salinarius</i>	4	86		
<i>Culex</i> spp.	93	1380	17	12.319
<i>Culiseta melanura</i>	37	192	1	5.208
<i>Psorophora ferox</i>	4	10		
Passaic	250	2084	16	7.678
<i>Aedes abserratus</i>	1	11		
<i>Aedes albopictus</i>	33	162		
<i>Aedes japonicus</i>	61	365	1	2.740
<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>	11	20		
<i>Culex pipiens</i>	11	202		
<i>Culex restuans</i>	9	95		
<i>Culex</i> spp.	107	1108	15	13.538
<i>Culiseta melanura</i>	4	4		
<i>Psorophora cyanescens</i>	2	19		
Salem	406	7453	9	1.208
<i>Aedes albopictus</i>	75	918		
<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	250.000
<i>Aedes triseriatus</i>	30	40		
<i>Aedes trivittatus</i>	3	4		
<i>Aedes vexans</i>	5	182		
<i>Anopheles bradleyi</i>	2	5		
<i>Anopheles punctipennis</i>	4	10		
<i>Anopheles quadrimaculatus</i>	5	17		
<i>Coquillettidia perturbans</i>	20	550		
<i>Culex erraticus</i>	41	258	1	3.876
<i>Culex pipiens</i>	11	14		
<i>Culex restuans</i>	5	16		
<i>Culex salinarius</i>	12	760	1	1.316
<i>Culex</i> spp.	113	3925	5	1.274
<i>Culiseta melanura</i>	27	505	1	1.980
<i>Psorophora ciliate</i>	1	6		
<i>Psorophora columbiae</i>	4	13		

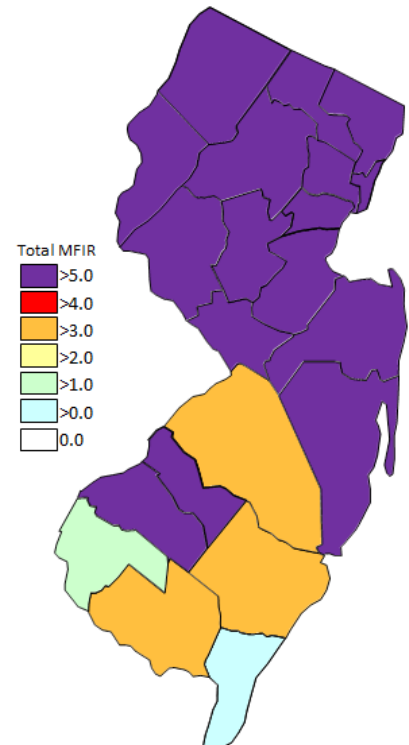
	<i>Psorophora ferox</i>	4	25		
	<i>Psorophora howardii</i>	1	12		
	<i>Uranotaenia sapphirina</i>	1	2		
Somerset		289	8811	84	9.534
	<i>Aedes albopictus</i>	5	17		
	<i>Aedes canadensis canadensis</i>	1	12		
	<i>Aedes japonicus</i>	15	159		
	<i>Aedes triseriatus</i>	5	9		
	<i>Aedes trivittatus</i>	2	2		
	<i>Anopheles punctipennis</i>	3	5		
	<i>Culex</i> spp.	257	8606	84	9.761
	<i>Psorophora ferox</i>	1	1		
Sussex		350	10401	55	5.288
	<i>Aedes albopictus</i>	3	5		
	<i>Aedes canadensis canadensis</i>	1	31		
	<i>Aedes japonicus</i>	8	225		
	<i>Aedes triseriatus</i>	3	27		
	<i>Aedes trivittatus</i>	2	129		
	<i>Aedes vexans</i>	16	944		
	<i>Anopheles punctipennis</i>	1	24		
	<i>Coquillettidia perturbans</i>	15	1008		
	<i>Culex pipiens</i>	10	385	3	7.792
	<i>Culex restuans</i>	41	770		
	<i>Culex salinarius</i>	13	670		
	<i>Culex</i> spp.	227	6038	52	8.612
	<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		431	15019	82	5.460
	<i>Aedes albopictus</i>	34	712	1	1.404
	<i>Aedes cinereus</i>	1	18		
	<i>Aedes japonicus</i>	47	828	1	1.208
	<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</i> spp.	291	12428	79	6.357
	<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		10422	212708	1324	6.224



Cumulative WNV activity in 2017.



WNV activity to 19 October 2018.



WNV activity last week, 2018

Saint Louis Encephalitis (SLE) to 19 October 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 19 October 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 19 October 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		53	1034	53	1034	53	1034	53	1034		
	<i>Aedes albopictus</i>	53	1034	53	1034	53	1034	53	1034		
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		136	1873	136	1873	136	1873	136	1873		

Chikungunya (CHIK) to 19 October 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 7 travel-related human cases in NJ.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		53	1034		
	<i>Aedes albopictus</i>	53	1034		
Bergen		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		136	1862		

Zika (ZIKV) to 19 October 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		53	1034		
	<i>Aedes albopictus</i>	53	1034		
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		801	3274		