

**VECTOR SURVEILLANCE IN NEW JERSEY**  
**EEE, WNV and SLE**  
CDC WEEK 39: September 27 to October 3, 2009

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*Culiseta melanura* and Eastern Equine Encephalitis

SITE	Inland / Coastal	Historic Mean	Current Weekly Mean	Total Tested to Date*	Total Pools Submitted	EEE Isolations	MFIR
<b>Green Bank</b> (Burlington County)	Coastal	1.6	5.64	937	38	3	3.20
<b>Corbin City</b> (Atlantic County)	Coastal	0.8	1.36	279	22	1	3.58
<b>Dennisville</b> (Cape May County)	Coastal	2.3	2.67	1714	54	20	11.67
<b>Winslow</b> † (Camden County)	Inland	No history	0.98	1435	33	15	10.45
<b>Centerton</b> (Salem County)	Inland	1.8	0.88	484	33	1	2.07
<b>Turkey Swamp</b> (Monmouth County)	Inland	0.3	0.58	1356	118	11*	8.11
<b>Glassboro</b> (Gloucester County)	Inland	No history	2.37	956	39	4	4.18

\*Including trial run last week in May. † Date of site change-over occurred during Week 30.

**Remarks:** Eastern equine encephalitis virus continues in southern New Jersey. The total number of positive EEE pools of mosquitoes rose slightly from 110 to 112, with the gain in one positive *Cs. melanura* and one positive *Cx. erraticus*. Positive pools of *Cs. melanura* from the traditional resting box sites are at 54 (note change in decline of 1 from last week). Thirty-five positive *Cs. melanura* pools come from traps set by county agencies and 23 other positive species come from those traps (see below). To date, 337 pools from 7190 *Cs. melanura* mosquitoes have been sent for EEE testing from the seven resting box collections, and a total of 716 pools from 13385 *Cs. melanura* from all trap sites. (\*15 positive pools reported last week for the Turkey Swamp site was in error.)

Positive species other than <i>Cs. melanura</i>	County(s)	Total Pools	Total Mosquitoes	Total Positive Pools	MFIR
<i>Aedes canadensis</i>	Burlington, Monmouth	41	722	3	4.16
<i>Aedes japonicus</i>	Ocean	46	191	1	5.24
<i>Aedes vexans</i>	Gloucester	38	810	1	1.23
<i>Anopheles punctipennis</i>	Monmouth	58	318	1	3.14

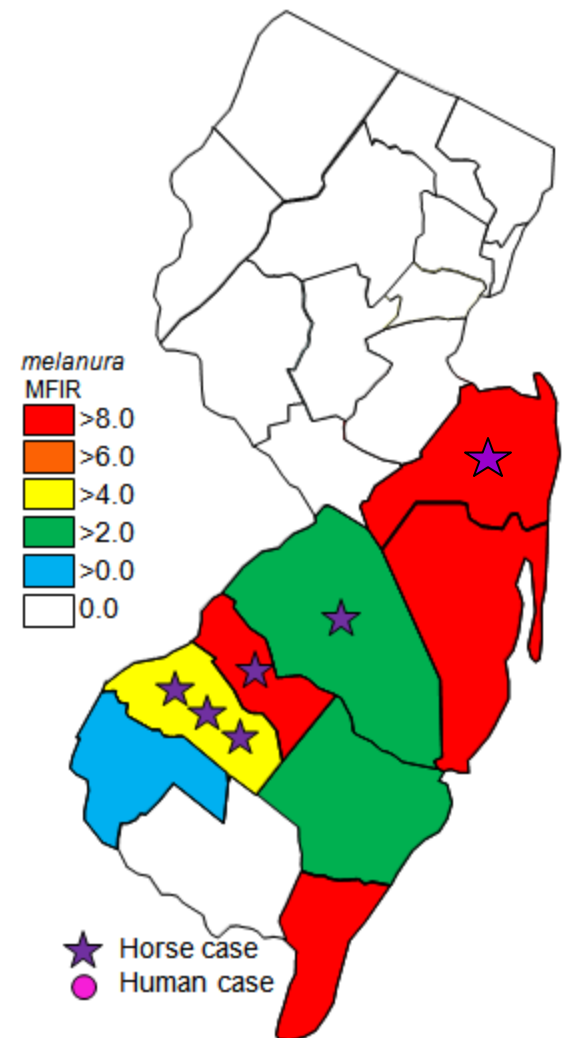
Positive species other than <i>Cs. melanura</i>	County(s)	Total Pools	Total Mosquitoes	Total Positive Pools	MFIR
Mixed <i>Culex</i> species	Atlantic, Monmouth	225	7752	3	0.39
<i>Culex erraticus</i>	Cape May	156	6433	12	1.87
<i>Culex pipiens</i>	Cape May	62	464	1	2.16
<i>Culex salinarius</i>	Burlington	114	3185	1	0.31

**Additional Species Pools:** Additional positive pools in other species have declined to 1 *Cx. erraticus* pool. This reflects the overall lowered arboviral activity seen for both EEE and WNV throughout the state. Other species tested for EEE include *Aedes abserratus*; *Ae. albopictus*, *Ae. atlanticus*, *Ae. atropalpus*, *Ae. cantator*, *Ae. cinereus*, *Ae. sollicitans*, *Ae. sticticus*, *Ae. taeniorhynchus*, *Ae. thibaulti*, *Ae. triseriatus*, *Ae. trivittatus*, *Anopheles barberi*, *An. bradleyi*, *An. crucians*, *An. quadrimaculatus*, *An. walker*, *Coquillettidia perturbans*, *Cx. restuans*, *Cx. territans*, *Culiseta inornata*, *Psorophora ciliate*, *Ps. columbiae*, *Ps. ferox*, *Ps. howardii* and *Uranotaenia sapphirina*.

**MFIR values:** There were no additional pools of EEE positive *Cs. melanura* at traditional resting box sites during week 39. Note, however, that the map to the right changed little from last week. The calculation of a cumulative MFIR changes less often toward the end of the season due to the “inertia” of the larger total number of mosquitoes collected over the season. For counties that collect a lot of samples, this can result in high MFIR values even when there are no positives recently collected. Graph to the right is the MFIR values of *Cs. melanura* for counties with positive pools, including non-resting box pools. Stars only indicate which counties have positive horses, not location.

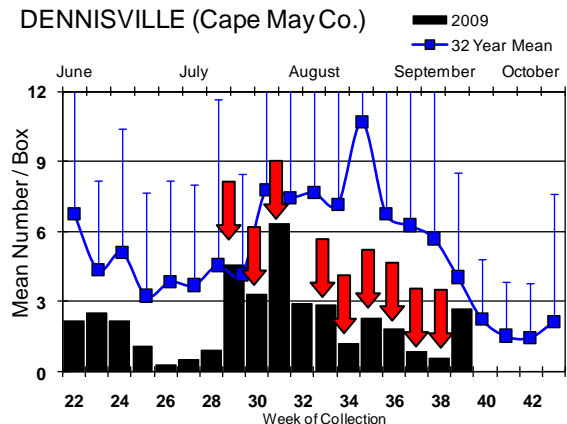
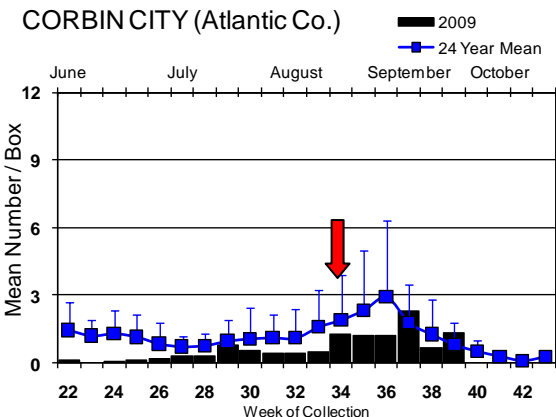
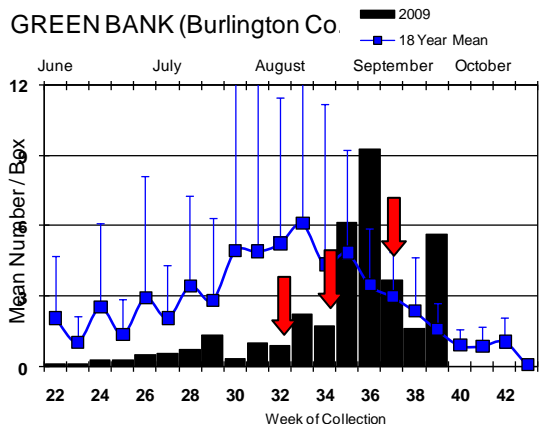
**Horses and Humans:** A Monmouth County 3 year old mare was found positive for EEE. Symptoms developed for this horse on 4 October and the horse was euthanized on the same day. As with the other cases, vaccination was absent or incomplete. The number of EEE positive horses increases to six (Burlington-1, Camden-1, Gloucester-3 and Monmouth-1). The fate of these six horses 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](http://www.aaep.org/vaccination_guidelines.htm)

No human cases have been detected to date.

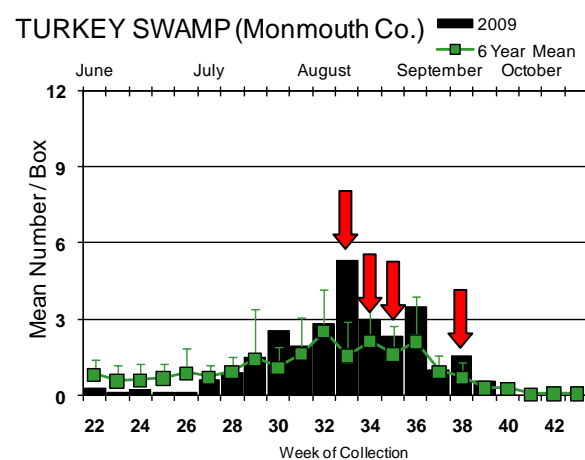
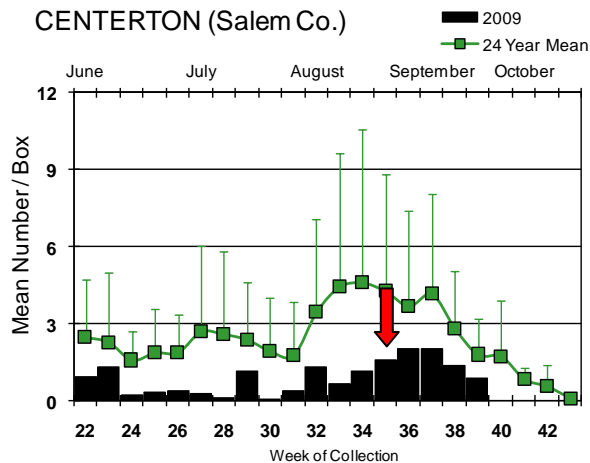
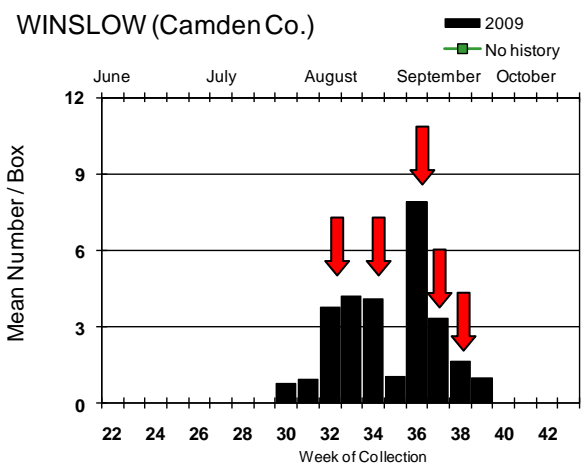


# Culiseta melanura Population Graphs

## Coastal

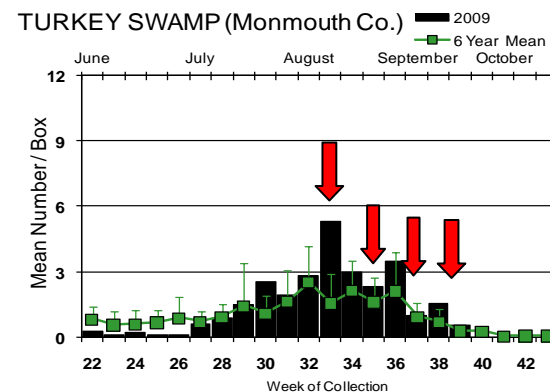


## Inland



None of the traditional resting box location detected any positive *Culiseta melanura* pools. However, with positive pools being present both in the enzootic vector and other species, continued vigilance is required.

↓ = positive pool(s) detected.



**EEE in US (2009 cumulative cases):** (Red = new reported cases occurring) [1 horse case Nova Scotia]

- equine: 19(AL) 69(FL) 44(GA) 21(LA) 1(MA) 15(ME) 1(MO) 44(MS) 16(NC) 6[1alpaca,1llama](NH) 5(NJ) 4(NY) 1(RI) 11(SC) 4(TX) 10(VA)
- mosquito: 99(CT) 3(FL) 2(LA) 53(MA) 2(ME) 68(NH) 112(NJ) 59(NY) 3(RI) 137(VA)
- sentinel: 2(AL) 166/87wild(FL) 24(NC) 58[1emu,1fairbluebird(*Irena* sp)](VA)
- human: 1(LA) 1(NH) 1(NY)

## West Nile Virus

**West Nile in US (2009 cumulative cases):** Single black values indicate no change from previous week. Black values / red values equals previous week/**New totals**.

Note: Some data reported by states are provisional and are subject to change. Sources for this table can be found [here](#).

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Alabama			1/2	1	
Alaska					
Arizona	1	80/84	5	0	16
Arkansas					1/3
California	457/471	1008/1034	306/330	11/15	61/72
Colorado		70/78		15/18	71/73
Connecticut	0	26/32	0	0	0
Delaware					
DC					
Florida	2 (flavi)		15/38	1	1
Georgia	0	17		2	2
Hawaii					
Idaho	1	9 co.		10	29
Illinois	21/25	377/389	0	5/6	4
Indiana	2	117/124		0	3
Iowa		9	6	2	3
Kansas		4/5			4/7
Kentucky	1	1		5	2/3
Louisiana		944/1034	5/10	2/3	14
Maine					
Maryland	0	8/9		0	1
Mass.		25/26		0	0
Michigan		3	0	0	0
Minnesota	1	4			1/3
Mississippi		7		4	41/47
Missouri		347 flavi		2	2/3
Montana		5		12/14	5
Nebraska	17/20	72		3/6	33

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Nevada		18		3	12
New Hampshire		0		0	0
New Jersey	28/29	278/296	0	1	1/2
New Mexico		1		4/6	5/7
New York	29/56	92/96	0	0	2
North Carolina					
North Dakota	0	0		2 dogs	1
Ohio	0	234		0	2
Oklahoma	0	6	0	0	4/6
Oregon	15	266	0	5	7
Pennsylvania	10	267/279	0	2	2
Rhode Island		2			
South Carolina	2	11/13			3
South Dakota	0	18	0	3/4	14/17
Tennessee	1	463/481	0	0	2/3
Texas	8	341/366	0	6/9	66/84
Utah		280/284	1	6	0
Vermont	3/4	8/11	0	0	0
Virginia		39/41	8/14	2/3	0
Washington	20/22	326/341	0	64/67	27/28
West Virginia	1/2	72/132	0	1	0
Wisconsin	5		0	1	0
Wyoming		22		2	8/10

**Protocol:** New Jersey Department of Health and Senior Services (NJDHSS Public Health and Environmental Laboratories, PHEL) and the Cape May County Division of Mosquito Control tests mosquito pools using RT-PCR Taqman techniques.

**Mosquito Species Submitted for West Nile Virus Testing through 8 October 2009**

<b>Species</b>	<b>Pools</b>	<b>Mosquitoes</b>	<b>Positives</b>	<b>MFIR</b>
<i>Aedes abserratus</i>	1	1		
<i>Aedes albopictus</i>	617	4256	3	0.705
<i>Aedes atlanticus</i>	16	45		
<i>Aedes atropalpus</i>	2	16		
<i>Aedes canadensis canadensis</i>	125	2751		
<i>Aedes cantator</i>	55	463		
<i>Aedes cinereus</i>	2	7		
<i>Aedes grossbecki</i>	3	35		
<i>Aedes japonicus</i>	756	4758	1	0.210
<i>Aedes sollicitans</i>	33	370		
<i>Aedes sticticus</i>	12	115		
<i>Aedes taeniorhynchus</i>	17	141		
<i>Aedes thibaulti</i>	6	9		
<i>Aedes triseriatus</i>	271	1058	1	0.945
<i>Aedes trivittatus</i>	39	604		
<i>Aedes vexans</i>	175	2460	1	0.407
<i>Anopheles barberi</i>	7	24		
<i>Anopheles bradleyi</i>	42	822	1	1.217
<i>Anopheles crucians</i>	5	33		
<i>Anopheles punctipennis</i>	166	601		
<i>Anopheles quadrimaculatus</i>	134	1515		
<i>Anopheles walkeri</i>	1	19		
<i>Coquillettidia perturbans</i>	65	622		
<i>Culex erraticus</i>	172	6602		
<i>Culex pipiens</i>	983	21000	11	0.524
<i>Culex restuans</i>	602	6729	2	0.297
<i>Culex salinarius</i>	174	3702		
<i>Culex spp.</i>	3677	146186	274	1.874
<i>Culex territans</i>	32	116		
<i>Culiseta inornata</i>	1	2		
<i>Culiseta melanura</i>	650	10028	2	0.199
<i>Culiseta morsitans</i>	1	3		
<i>Orthopodomyia signifera</i>	3	3		
<i>Psorophora ciliata</i>	6	48		
<i>Psorophora columbiae</i>	9	165		
<i>Psorophora ferox</i>	46	488		
<i>Psorophora howardii</i>	1	6		
<i>Uranotaenia sapphirina</i>	4	19		
<b>State Total</b>	<b>8911</b>	<b>212822</b>	<b>296</b>	<b>1.372</b>

**Remarks:** The number of pools positive for West Nile virus has increased from 289 to 296. Infected pools continue to be primarily from ornithophilic species (289 pools). Increased activity is occurring in potential bridge vectors, with positive pools detected in *Aedes albopictus*, *Ae. japonicus*, *Ae. triseriatus* and *Ae. vexans* (the first two are competent vectors of WNV). Despite an increase in activity, this season continues to be less active as compared to last year.

**Humans, Horses and Wild Birds:** Two human cases have been reported to PHEL. The first human was in Hunterdon County with symptom onset on 18 August. The second resided in Camden County, with onset of symptoms occurring on 28 August. For more details plus information about WNV, see the PHEL's West Nile Virus Alert and FAQ Sheets: <http://www.state.nj.us/health/cd/westnile/enceph.htm>

One horse with an uncertain vaccination history in Salem County was found positive earlier in the season. Seventeen positive Blue Jays (*Cyanocitta cristata*) mostly in Ocean County, four American Crows (*Corvus brachyrhynchos*), six unknown crow species (*Corvus*) and two unknown hawks have been detected with WNV infection to date. No Fish Crows (*Corvus ossifragus*) have been reported infected with WNV, although nearly as many Fish Crows as American Crows have been sent in to PHEL for testing.

2009 Positive Mosquito pools to date / Total Mosquito Pools Submitted	This time last year* * 2008 started later (at least one month) last year than in 2009
296 / 8911 (3.3%)	616 / 8043 (7.7%)
2009 Positive Birds to date / Total Birds Submitted	This time last year* * 2008 started later (at least one month) last year than in 2009
29 / 118 (24.6%)	52 / 161 (32.3%)

**WNV Results by County through 8 October 2009**

County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Atlantic</b>		<b>259</b>	<b>6291</b>	<b>3</b>	<b>0.477</b>
	<i>Aedes albopictus</i>	19	256		
	<i>Aedes atlanticus</i>	2	9		
	<i>Aedes canadensis canadensis</i>	7	84		
	<i>Aedes cantator</i>	8	148		
	<i>Aedes grossbecki</i>	1	8		
	<i>Aedes japonicus</i>	13	79		
	<i>Aedes sollicitans</i>	5	17		
	<i>Aedes sticticus</i>	2	18		
	<i>Aedes taeniorhynchus</i>	7	43		
	<i>Aedes thibaulti</i>	3	3		
	<i>Aedes triseriatus</i>	5	12		
	<i>Aedes trivittatus</i>	4	32		
	<i>Aedes vexans</i>	22	626		
	<i>Anopheles bradleyi</i>	7	58	1	17.241
	<i>Anopheles punctipennis</i>	6	11		
	<i>Anopheles quadrimaculatus</i>	5	9		
	<i>Culex erraticus</i>	3	15		
	<i>Culex restuans</i>	2	5		
	<i>Culex salinarius</i>	2	37		
	<i>Culex spp.</i>	100	4342	2	0.461
	<i>Culex territans</i>	1	1		
	<i>Culiseta melanura</i>	29	423		
	<i>Psorophora columbiae</i>	2	3		
	<i>Psorophora ferox</i>	4	52		
<b>Bergen</b>		<b>229</b>	<b>15096</b>	<b>80</b>	<b>5.299</b>
	<i>Aedes albopictus</i>	5	21		
	<i>Aedes japonicus</i>	12	42		
	<i>Aedes triseriatus</i>	1	1		
	<i>Anopheles punctipennis</i>	4	11		
	<i>Culex spp.</i>	207	15021	80	5.326
<b>Burlington</b>		<b>521</b>	<b>14313</b>	<b>25</b>	<b>1.747</b>

<i>Aedes abserratus</i>	1	1		
<i>Aedes albopictus</i>	44	315		
<i>Aedes atlanticus</i>	3	18		
<i>Aedes atropalpus</i>	2	16		
<i>Aedes canadensis canadensis</i>	27	1286		
<i>Aedes cantator</i>	6	67		
<i>Aedes cinereus</i>	1	6		
<i>Aedes grossbecki</i>	1	26		
<i>Aedes japonicus</i>	33	169		
<i>Aedes sollicitans</i>	5	71		
<i>Aedes sticticus</i>	2	85		
<i>Aedes taeniorhynchus</i>	4	57		
<i>Aedes triseriatus</i>	16	85		
<i>Aedes trivittatus</i>	2	9		
<i>Aedes vexans</i>	29	1017		
<i>Anopheles barberi</i>	1	1		
<i>Anopheles bradleyi</i>	10	469		
<i>Anopheles crucians</i>	2	11		
<i>Anopheles punctipennis</i>	11	46		
<i>Anopheles quadrimaculatus</i>	4	12		
<i>Coquillettidia perturbans</i>	21	288		
<i>Culex erraticus</i>	11	36		
<i>Culex pipiens</i>	1	75		
<i>Culex restuans</i>	2	4		
<i>Culex salinarius</i>	22	591		
<i>Culex spp.</i>	142	6198	25	4.034
<i>Culex territans</i>	3	13		
<i>Culiseta inornata</i>	1	2		
<i>Culiseta melanura</i>	101	3096		
<i>Psorophora ciliate</i>	2	34		
<i>Psorophora columbiae</i>	2	7		
<i>Psorophora ferox</i>	7	182		
<i>Psorophora howardii</i>	1	6		
<i>Uranotaenia sapphirina</i>	1	14		
<b>Camden</b>	<b>272</b>	<b>7148</b>	<b>20</b>	<b>2.798</b>
<i>Aedes albopictus</i>	31	154	2	12.987
<i>Aedes japonicus</i>	40	103	1	9.709
<i>Aedes thibaulti</i>	1	1		
<i>Aedes triseriatus</i>	5	5		
<i>Aedes trivittatus</i>	2	2		
<i>Aedes vexans</i>	1	1		
<i>Anopheles punctipennis</i>	3	8		
<i>Anopheles quadrimaculatus</i>	3	4		
<i>Culex pipiens</i>	3	107		
<i>Culex restuans</i>	3	3		
<i>Culex spp.</i>	170	6664	17	2.551
<i>Culex territans</i>	1	1		
<i>Culiseta melanura</i>	6	92		
<i>Orthopodomyia signifera</i>	3	3		
<b>Cape May</b>	<b>2234</b>	<b>36883</b>	<b>13</b>	<b>0.352</b>
<i>Aedes albopictus</i>	134	506		

<i>Aedes canadensis canadensis</i>	8	96		
<i>Aedes cantator</i>	8	24		
<i>Aedes japonicus</i>	194	715		
<i>Aedes sollicitans</i>	10	111		
<i>Aedes taeniorhynchus</i>	4	21		
<i>Aedes triseriatus</i>	45	150		
<i>Aedes vexans</i>	4	6		
<i>Anopheles bradleyi</i>	13	198		
<i>Anopheles punctipennis</i>	7	21		
<i>Anopheles quadrimaculatus</i>	32	1068		
<i>Coquillettidia perturbans</i>	3	30		
<i>Culex erraticus</i>	104	5780		
<i>Culex pipiens</i>	495	8406	6	0.714
<i>Culex restuans</i>	388	4382	2	0.456
<i>Culex salinarius</i>	97	2725		
<i>Culex spp.</i>	471	9198	3	0.326
<i>Culex territans</i>	7	29		
<i>Culiseta melanura</i>	209	3412	2	0.586
<i>Psorophora ferox</i>	1	5		
<b>Cumberland</b>	<b>121</b>	<b>2407</b>	<b>1</b>	<b>0.415</b>
<i>Aedes albopictus</i>	11	130		
<i>Aedes atlanticus</i>	1	5		
<i>Aedes cantator</i>	1	15		
<i>Aedes japonicas</i>	17	107		
<i>Aedes triseriatus</i>	2	11		
<i>Aedes vexans</i>	1	4		
<i>Anopheles punctipennis</i>	1	1		
<i>Anopheles quadrimaculatus</i>	2	5		
<i>Culex erraticus</i>	9	96		
<i>Culex pipiens</i>	19	556	1	1.799
<i>Culex restuans</i>	2	6		
<i>Culex salinarius</i>	1	5		
<i>Culex spp.</i>	40	1341		
<i>Culex territans</i>	1	1		
<i>Culiseta melanura</i>	13	124		
<b>Essex</b>	<b>271</b>	<b>3791</b>	<b>2</b>	<b>0.528</b>
<i>Aedes albopictus</i>	21	128		
<i>Aedes japonicus</i>	27	153		
<i>Aedes sticticus</i>	1	1		
<i>Aedes triseriatus</i>	18	32		
<i>Aedes trivittatus</i>	4	28		
<i>Aedes vexans</i>	17	69		
<i>Anopheles punctipennis</i>	9	16		
<i>Anopheles quadrimaculatus</i>	7	14		
<i>Coquillettidia perturbans</i>	4	6		
<i>Culex spp.</i>	157	3297	2	0.607
<i>Psorophora ciliata</i>	1	3		
<i>Psorophora ferox</i>	5	44		
<b>Gloucester</b>	<b>675</b>	<b>13550</b>	<b>3</b>	<b>0.221</b>
<i>Aedes albopictus</i>	59	644		

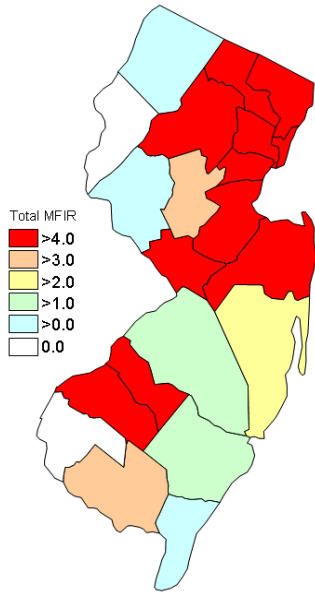


<i>Aedes atlanticus</i>	1	1		
<i>Aedes canadensis canadensis</i>	2	2		
<i>Aedes japonicus</i>	66	520		
<i>Aedes thibaulti</i>	1	4		
<i>Aedes triseriatus</i>	12	53		
<i>Aedes trivittatus</i>	1	75		
<i>Aedes vexans</i>	17	98		
<i>Anopheles barberi</i>	3	20		
<i>Anopheles crucians</i>	2	21		
<i>Anopheles punctipennis</i>	37	204		
<i>Anopheles quadrimaculatus</i>	40	179		
<i>Anopheles walkeri</i>	1	19		
<i>Coquillettidia perturbans</i>	7	31		
<i>Culex pipiens</i>	326	10755	3	0.279
<i>Culex restuans</i>	20	142		
<i>Culex salinarius</i>	1	1		
<i>Culex territans</i>	4	9		
<i>Culiseta melanura</i>	72	762		
<i>Psorophora ciliata</i>	2	9		
<b>Hudson</b>	<b>228</b>	<b>11596</b>	<b>43</b>	<b>3.708</b>
<i>Culex</i> spp.	228	11596	43	3.708
<b>Hunterdon</b>	<b>322</b>	<b>15123</b>	<b>33</b>	<b>2.208</b>
<i>Aedes albopictus</i>	1	45		
<i>Culex erraticus</i>	4	109		
<i>Culex</i> spp.	315	14949	33	2.208
<b>Mercer</b>	<b>471</b>	<b>8063</b>	<b>3</b>	<b>0.372</b>
<i>Aedes albopictus</i>	52	153		
<i>Aedes japonicus</i>	69	176		
<i>Aedes triseriatus</i>	8	12		
<i>Culex erraticus</i>	1	1		
<i>Culex pipiens</i>	97	783		
<i>Culex restuans</i>	128	1820		
<i>Culex salinarius</i>	6	26		
<i>Culex</i> spp.	110	5092	3	0.589
<b>Middlesex</b>	<b>305</b>	<b>13611</b>	<b>12</b>	<b>0.882</b>
<i>Aedes albopictus</i>	11	87		
<i>Aedes japonicus</i>	25	333		
<i>Aedes triseriatus</i>	1	6		
<i>Culex</i> spp.	268	13185	12	0.910
<b>Monmouth</b>	<b>680</b>	<b>6241</b>	<b>2</b>	<b>0.320</b>
<i>Aedes albopictus</i>	78	390		
<i>Aedes atlanticus</i>	4	4		
<i>Aedes canadensis canadensis</i>	37	304		
<i>Aedes cantator</i>	11	52		
<i>Aedes japonicus</i>	54	285		
<i>Aedes sollicitans</i>	2	3		
<i>Aedes thibaulti</i>	1	1		
<i>Aedes triseriatus</i>	30	139		

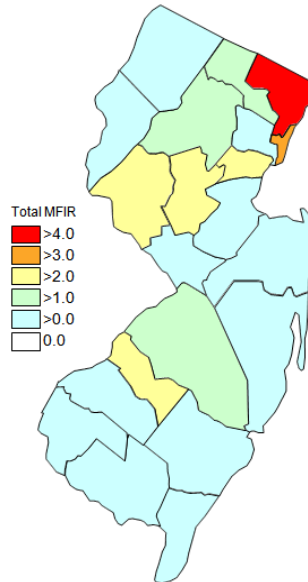
<i>Aedes trivittatus</i>	9	21		
<i>Aedes vexans</i>	18	111		
<i>Anopheles barberi</i>	3	3		
<i>Anopheles crucians</i>	1	1		
<i>Anopheles punctipennis</i>	33	127		
<i>Anopheles quadrimaculatus</i>	15	31		
<i>Coquillettidia perturbans</i>	6	15		
<i>Culex erraticus</i>	13	137		
<i>Culex pipiens</i>	22	61		
<i>Culex restuans</i>	29	63		
<i>Culex salinarius</i>	1	5		
<i>Culex</i> spp.	159	2973	2	0.673
<i>Culex territans</i>	13	60		
<i>Culiseta melanura</i>	130	1413		
<i>Psorophora columbiae</i>	1	3		
<i>Psorophora ferox</i>	7	34		
<i>Uranotaenia sapphirina</i>	3	5		
<b>Morris</b>	<b>215</b>	<b>8678</b>	<b>9</b>	<b>1.037</b>
<i>Aedes japonicus</i>	30	421		
<i>Aedes triseriatus</i>	5	39		
<i>Anopheles punctipennis</i>	1	2		
<i>Culex</i> spp.	179	8216	9	1.095
<b>Ocean</b>	<b>661</b>	<b>10619</b>	<b>6</b>	<b>0.565</b>
<i>Aedes albopictus</i>	88	1200	1	0.833
<i>Aedes atlanticus</i>	5	8		
<i>Aedes canadensis canadensis</i>	41	951		
<i>Aedes cantator</i>	21	157		
<i>Aedes cinereus</i>	1	1		
<i>Aedes grossbecki</i>	1	1		
<i>Aedes japonicus</i>	75	426		
<i>Aedes sollicitans</i>	8	133		
<i>Aedes sticticus</i>	6	10		
<i>Aedes taeniorhynchus</i>	2	20		
<i>Aedes triseriatus</i>	34	98		
<i>Aedes trivittatus</i>	5	15		
<i>Aedes vexans</i>	50	221	1	4.525
<i>Anopheles bradleyi</i>	12	97		
<i>Anopheles punctipennis</i>	27	53		
<i>Anopheles quadrimaculatus</i>	9	21		
<i>Coquillettidia perturbans</i>	13	25		
<i>Culex erraticus</i>	2	2		
<i>Culex pipiens</i>	3	4		
<i>Culex restuans</i>	16	20		
<i>Culex salinarius</i>	24	89		
<i>Culex</i> spp.	159	6810	4	0.587
<i>Culiseta melanura</i>	42	177		
<i>Psorophora columbiae</i>	2	2		
<i>Psorophora ferox</i>	15	78		
<b>Passaic</b>	<b>120</b>	<b>2193</b>	<b>4</b>	<b>1.824</b>
<i>Aedes albopictus</i>	10	76		

	<i>Aedes canadensis canadensis</i>	1	20		
	<i>Aedes japonicus</i>	28	450		
	<i>Aedes triseriatus</i>	14	67	1	14.925
	<i>Anopheles punctipennis</i>	2	5		
	<i>Culex</i> spp.	65	1575	3	1.905
<b>Salem</b>		<b>210</b>	<b>5578</b>	<b>3</b>	<b>0.538</b>
	<i>Aedes albopictus</i>	14	53		
	<i>Aedes japonicus</i>	8	37		
	<i>Aedes triseriatus</i>	3	3		
	<i>Aedes vexans</i>	5	173		
	<i>Anopheles punctipennis</i>	11	57		
	<i>Anopheles quadrimaculatus</i>	12	163		
	<i>Coquillettidia perturbans</i>	4	128		
	<i>Culex erraticus</i>	23	406		
	<i>Culex pipiens</i>	2	42	1	23.810
	<i>Culex restuans</i>	6	94		
	<i>Culex salinarius</i>	6	172		
	<i>Culex</i> spp.	72	3592	2	0.557
	<i>Culex territans</i>	2	2		
	<i>Culiseta melanura</i>	39	504		
	<i>Psorophora ciliate</i>	1	2		
	<i>Psorophora columbiae</i>	2	150		
<b>Somerset</b>		<b>330</b>	<b>6986</b>	<b>15</b>	<b>2.147</b>
	<i>Aedes albopictus</i>	16	48		
	<i>Aedes canadensis canadensis</i>	2	8		
	<i>Aedes japonicus</i>	41	555		
	<i>Aedes sticticus</i>	1	1		
	<i>Aedes triseriatus</i>	39	152		
	<i>Aedes trivittatus</i>	12	422		
	<i>Aedes vexans</i>	3	25		
	<i>Anopheles punctipennis</i>	12	33		
	<i>Anopheles quadrimaculatus</i>	5	9		
	<i>Coquillettidia perturbans</i>	3	4		
	<i>Culex</i> spp.	193	5711	15	2.627
	<i>Psorophora ferox</i>	3	18		
<b>Sussex</b>		<b>344</b>	<b>9668</b>	<b>6</b>	<b>0.621</b>
	<i>Aedes japonicus</i>	3	3		
	<i>Aedes triseriatus</i>	30	187		
	<i>Coquillettidia perturbans</i>	3	94		
	<i>Culex pipiens</i>	15	211		
	<i>Culex restuans</i>	6	190		
	<i>Culex salinarius</i>	14	51		
	<i>Culex</i> spp.	263	8904	6	0.674
	<i>Culiseta melanura</i>	9	25		
	<i>Culiseta morsitans</i>	1	3		
<b>Union</b>		<b>169</b>	<b>4552</b>	<b>12</b>	<b>2.636</b>
	<i>Aedes albopictus</i>	24	95		
	<i>Aedes japonicus</i>	20	139		
	<i>Aedes sollicitans</i>	3	35		

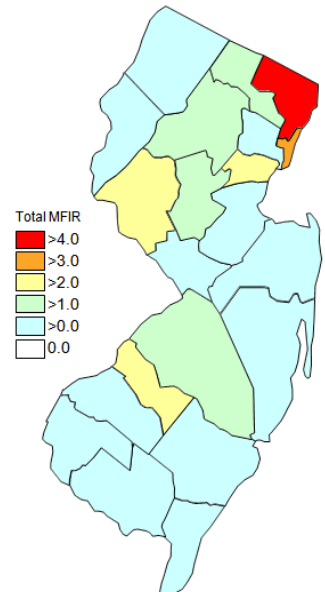
<i>Aedes triseriatus</i>	3	6		
<i>Aedes vexans</i>	8	109		
<i>Anopheles punctipennis</i>	2	6		
<i>Coquillettidia perturbans</i>	1	1		
<i>Culex spp.</i>	105	4087	12	2.936
<i>Psorophora ferox</i>	3	74		
<b>Warren</b>	<b>274</b>	<b>13435</b>	<b>1</b>	<b>0.074</b>
<i>Culex spp.</i>	274	13435	1	0.074
<b>Grand Total</b>	<b>8911</b>	<b>215822</b>	<b>296</b>	<b>1.372</b>



Cumulative activity in 2008



Activity this year to 8 Oct 2009



Activity last week, 2009.

### Saint Louis Encephalitis (SLE) through 8 October 2009.

New Jersey will be selectively testing for SLE this year. 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.

County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Burlington</b>		<b>451</b>	<b>12292</b>		
	<i>Aedes abserratus</i>	1	1		
	<i>Aedes albopictus</i>	44	315		
	<i>Aedes atlanticus</i>	3	18		
	<i>Aedes atropalpus</i>	2	16		
	<i>Aedes canadensis canadensis</i>	14	544		
	<i>Aedes cantator</i>	5	66		
	<i>Aedes cinereus</i>	1	6		
	<i>Aedes japonicus</i>	32	168		
	<i>Aedes sollicitans</i>	5	71		
	<i>Aedes sticticus</i>	1	41		
	<i>Aedes taeniorhynchus</i>	4	57		
	<i>Aedes triseriatus</i>	15	84		
	<i>Aedes trivittatus</i>	2	9		

<i>Aedes vexans</i>	24	773		
<i>Anopheles barberi</i>	1	1		
<i>Anopheles bradleyi</i>	9	468		
<i>Anopheles crucians</i>	2	11		
<i>Anopheles punctipennis</i>	9	40		
<i>Anopheles quadrimaculatus</i>	3	11		
<i>Coquillettidia perturbans</i>	21	288		
<i>Culex erraticus</i>	11	36		
<i>Culex pipiens</i>	1	75		
<i>Culex restuans</i>	1	3		
<i>Culex salinarius</i>	21	590		
<i>Culex spp.</i>	140	6189		
<i>Culex territans</i>	2	7		
<i>Culiseta inornata</i>	1	2		
<i>Culiseta melanura</i>	63	2159		
<i>Psorophora ciliate</i>	2	34		
<i>Psorophora columbiae</i>	2	7		
<i>Psorophora ferox</i>	7	182		
<i>Psorophora howardii</i>	1	6		
<i>Uranotaenia sapphirina</i>	1	14		
<b>Camden</b>	<b>189</b>	<b>4880</b>		
<i>Aedes albopictus</i>	29	146		
<i>Aedes japonicus</i>	28	80		
<i>Aedes triseriatus</i>	5	5		
<i>Aedes vexans</i>	1	1		
<i>Culex pipiens</i>	2	95		
<i>Culex restuans</i>	1	1		
<i>Culex spp.</i>	120	4549		
<i>Orthopodomyia signifera</i>	3	3		
<b>Cape May</b>	<b>971</b>	<b>17311</b>		
<i>Aedes albopictus</i>	18	88		
<i>Aedes cantator</i>	1	2		
<i>Aedes japonicus</i>	6	34		
<i>Aedes triseriatus</i>	3	14		
<i>Anopheles quadrimaculatus</i>	1	1		
<i>Coquillettidia perturbans</i>	2	22		
<i>Culex erraticus</i>	2	78		
<i>Culex pipiens</i>	350	6575		
<i>Culex restuans</i>	176	1762		
<i>Culex salinarius</i>	21	182		
<i>Culex spp.</i>	378	8402		
<i>Culiseta melanura</i>	13	151		
<b>Essex</b>	<b>216</b>	<b>3563</b>		
<i>Aedes albopictus</i>	21	128		
<i>Aedes japonicus</i>	17	107		
<i>Aedes sticticus</i>	1	1		
<i>Aedes triseriatus</i>	9	14		
<i>Aedes vexans</i>	9	25		
<i>Anopheles punctipennis</i>	1	1		

	<i>Coquillettidia perturbans</i>	1	1		
	<i>Culex spp.</i>	155	3283		
	<i>Psorophora ferox</i>	2	3		
<b>Hunterdon</b>		<b>66</b>	<b>3300</b>		
	<i>Culex spp.</i>	66	3300		
<b>Mercer</b>		<b>453</b>	<b>7961</b>		
	<i>Aedes albopictus</i>	52	153		
	<i>Aedes japonicus</i>	65	172		
	<i>Aedes triseriatus</i>	8	12		
	<i>Culex pipiens</i>	94	772		
	<i>Culex restuans</i>	124	1777		
	<i>Culex salinarius</i>	4	24		
	<i>Culex spp.</i>	106	5051		
<b>Ocean</b>		<b>2</b>	<b>3</b>		
	<i>Aedes albopictus</i>	1	1		
	<i>Culex spp.</i>	1	2		
<b>Somerset</b>		<b>22</b>	<b>557</b>		
	<i>Aedes albopictus</i>	1	4		
	<i>Culex spp.</i>	21	553		
<b>Somerset</b>		<b>30</b>	<b>187</b>		
	<i>Aedes triseriatus</i>	30	187		
<b>Grand Total</b>		<b>2386</b>	<b>49940</b>		

Specimens submitted by the counties continue to be negative for SLE.

### La Crosse Encephalitis (LAC) through 8 October 2009.

New Jersey will be selectively testing for La Crosse (LAC) virus this year. 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).

County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Cape May</b>		<b>309</b>	<b>1364</b>		
	<i>Aedes albopictus</i>	112	426		
	<i>Aedes japonicus</i>	142	567		
	<i>Aedes sollicitans</i>	1	2		
	<i>Aedes triseriatus</i>	42	138		
	<i>Anopheles bradleyi</i>	1	34		
	<i>Culex pipiens</i>	1	41		
	<i>Culex restuans</i>	1	8		

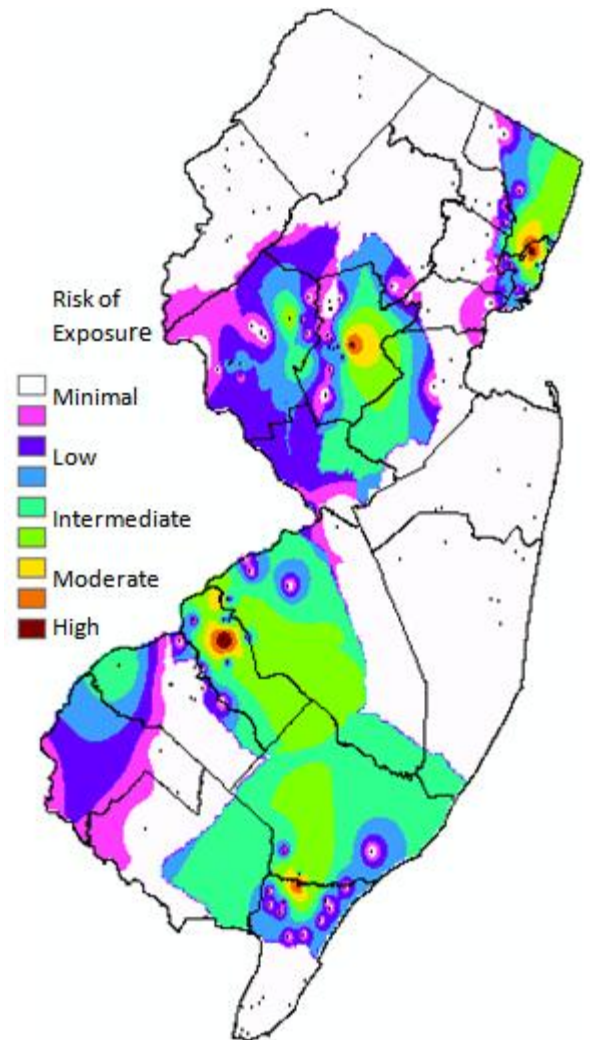
	<i>Culex salinarius</i>	2	77		
	<i>Culex spp.</i>	6	70		
	<i>Culiseta melanura</i>	1	1		
<b>Passaic</b>		<b>2</b>	<b>17</b>		
	<i>Aedes triseriatus</i>	2	17		
<b>Sussex</b>		<b>30</b>	<b>187</b>		
	<i>Aedes triseriatus</i>	30	187		
<b>Grand Total</b>		<b>320</b>	<b>1502</b>		

### WNV Risk Assessment

This multivariate model was developed using both climatic and biotic variables in predicting the number of weekly New Jersey human cases from 2002-2006 data. We began by using greater than 30 variables, eliminating those that did not have an explanatory value toward predicting risk of human cases. Five variables ultimately emerged, including *Culex* MFIR, Spring Rainfall, temperature variations from average, non-*Culex* MFIR values and the percent of dead birds. We were able to account for greater than 75 percent of the variability. The model features variables that are lagged to include the time from being bitten by an infected mosquito to showing symptoms (i.e., incubation time up to 14 days).

GIS Application: Data for all five variables used in the model were retrieved and prepared for GIS use. Estimates of the 5 variables at pool collection points were obtained through interpolation of each variable and extraction. The extracted variables were then used in the multivariate equation to estimate human cases, and finally plotted through interpolation in ArcMap 9.2.

The scale representing risk of exposure was heavily weighted by the many values representing less than 1 person (i.e., a potential human case), and the risk for a single case is represented by the lime-green category right before Moderate risk of exposure. Thus, most risk in the state lies well below the potential occurrence of a single case. Two weeks ago, the highest risk represented a potential of 3 human cases. For the current map, the highest potential is greater than 20 cases. This much higher risk is attributed to a few high MFIR calculations that resulted from smaller samples submitted during this particular week as well as the effects of the percent dead birds. Two weeks ago, a shift was observed toward the coastal region, but this shift was perceptually emphasized with a corresponding lack of submissions on the other side of the state. For the current map, the southern shift of risk has been previously observed in prior years as the seasonal progression of WNV positive pools.



NOTE: These maps are presented as an additional early warning tool available for counties to use as part of their decision-making processes for controlling public-health mosquitoes. It should be understood that minimal risk does not mean no risk and that everyone should always use [personal protection](#) to avoid mosquito bites.