

VECTOR SURVEILLANCE IN NEW JERSEY
EEE, WNV, SLE and LAC
CDC WEEK 41: October 11 to October 17, 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
Green Bank (Burlington County)	Coastal	0.9	0.80	1022	41	3	2.94
Corbin City (Atlantic County)	Coastal	0.3	0.84	309	24	1	3.24
Dennisville (Cape May County)	Coastal	1.5	0.00	1714	54	20	11.67
Winslow † (Camden County)	Inland	no history	0.92	1435	33	15*	10.45
Centerton (Salem County)	Inland	0.9	0.48	563	35	2	3.55
Turkey Swamp (Monmouth County)	Inland	0.1	0.22	1419	123	11	7.75
Glassboro (Gloucester County)	Inland	no history	0.53	1027	41	4	3.89

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

Remarks: No new positive eastern equine encephalitis pools were detected from the previous week, with the total number of pools remaining at 115. Positive *Cs. melanura* pools from the traditional resting box sites remain at 56 (note adjustment from last week – total number of positive pools remains the same). Thirty-four positive *Cs. melanura* pools come from traps set by county agencies and 25 other positive species come from those traps (see below). To date, 358 pools from 7511 *Cs. melanura* mosquitoes have been sent for EEE testing from the seven resting box collections, and a total of 752 pools from 13892 *Cs. melanura* from all trap sites. *An additional pool was reported positive that is currently not in the PHEL system and will be reflected in next weeks' table.

Positive species other than <i>Cs. melanura</i>	County(s)	Total Pools	Total Mosquitoes	Total Positive Pools	MFIR
<i>Aedes canadensis</i>	Burlington, Monmouth	47	738	3	4.065
<i>Aedes japonicus</i>	Ocean	57	213	1	5.695
<i>Aedes vexans</i>	Gloucester	46	833	1	1.200
<i>Anopheles punctipennis</i>	Monmouth	63	351	1	2.849

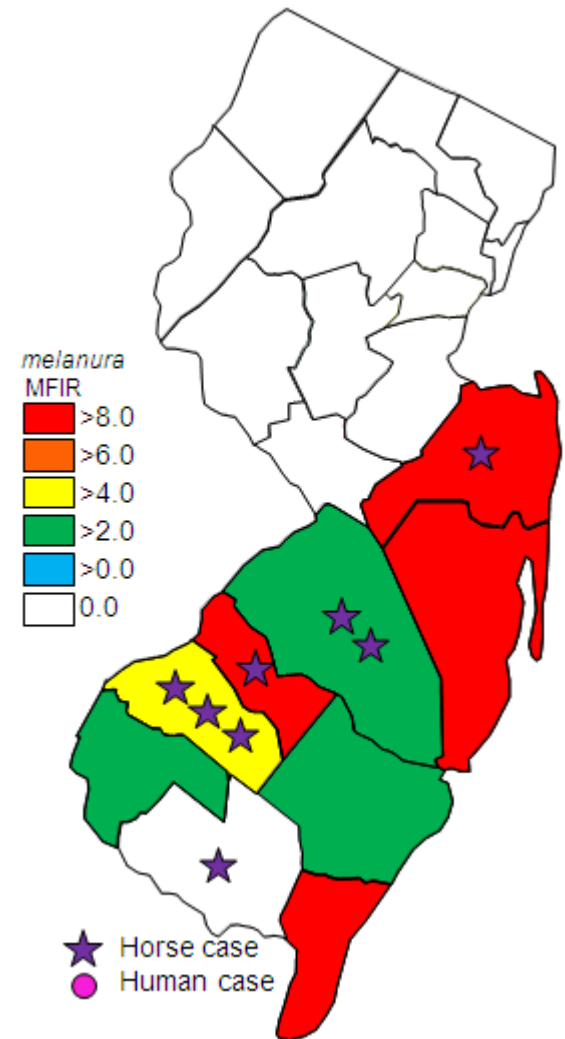
Positive species other than <i>Cs. melanura</i>	County(s)	Total Pools	Total Mosquitoes	Total Positive Pools	MFIR
Mixed <i>Culex</i> species	Atlantic, Monmouth	239	7873	3	0.381
<i>Culex erraticus</i>	Cape May	164	6533	13	1.990
<i>Culex pipiens</i>	Cape May	66	472	2	4.237
<i>Culex salinarius</i>	Burlington	116	3187	1	0.314

Additional Species Pools: There were no positive pools detected in any non-*melanura* species. Other species tested for EEE to date 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*, *Coquillettia perturbans*, *Cx. restuans*, *Cx. territans*, *Culiseta inornata*, *Cs. morsitans*, *Psorophora ciliate*, *Ps. columbiae*, *Ps. ferox*, *Ps. howardii* and *Uranotaenia sapphirina*.

MFIR values: Figure to the right is the MFIR values of *Cs. melanura* for counties with positive pools, including non-resting box pools. Stars indicate only which counties have positive horses/alpacas, not location. There was no change from last week (with the exception of an additional star in Burlington County, see below.)

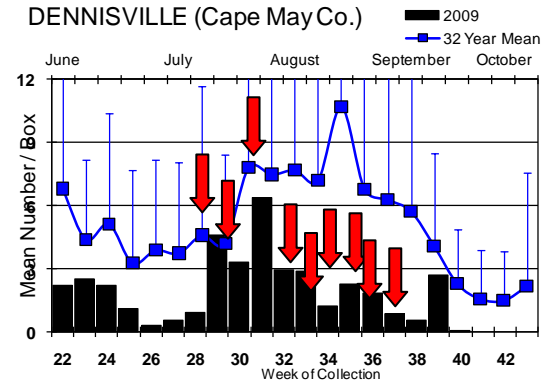
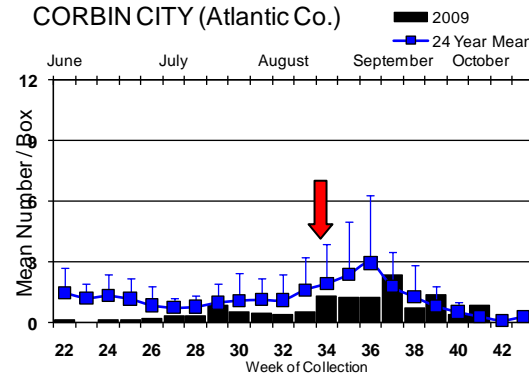
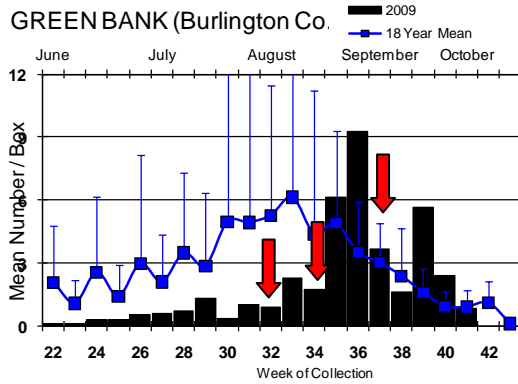
Horses and Humans: A thirteen year old mare from Burlington County was the latest horse to be euthanized for EEE after an onset of symptoms on 29 Sep. The incubation period of EEE in horses is about 5-14 days ([AMVA](http://www.amva.org)). This horse was reportedly vaccinated the day previous to euthanasia. The number of EEE positive horses/alpaca increases to eight (Burlington-2, Camden-1, Cumberland-1, Gloucester-3 and Monmouth-1). The fate of these animals 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

No human cases have been detected to date.

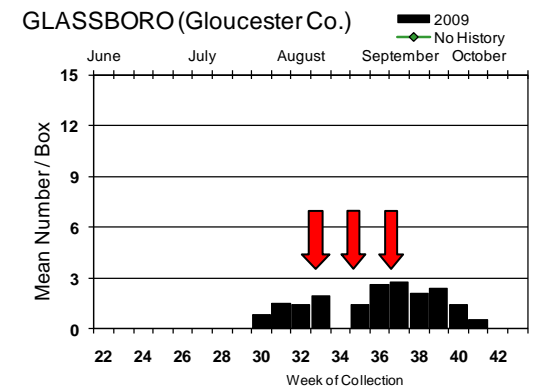
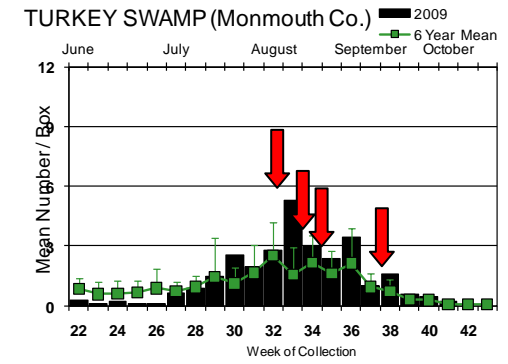
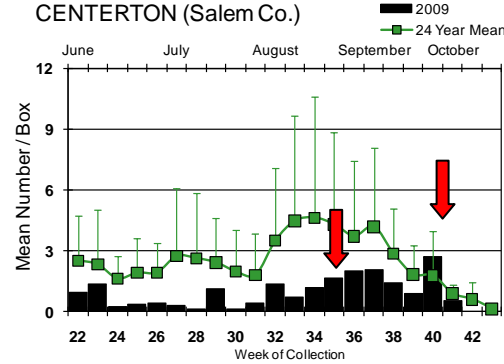
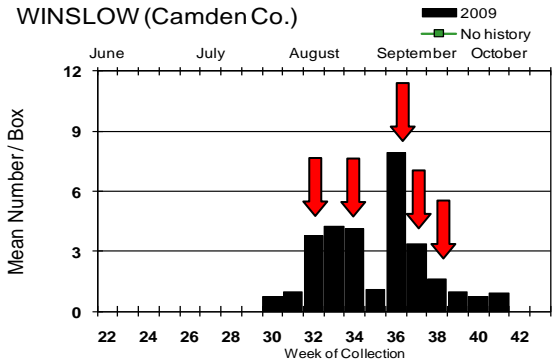


Culiseta melanura Population Graphs

Coastal



Inland



There were no new positive *Culiseta melanura* pools detected at the traditional resting box sites. For most sites, population numbers fell from the previous week. At Dennisville, there was no *Cs. melanura*. Corbin City, on the other hand, did show an increase above historical trends for that site. The other sites with comparable historical data had averages that were at or below historical trends.

= positive pool(s) detected.

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

- equine: 19(AL) 1(AR) 69(FL) 44(GA) 21(LA) 2(MA) 15(ME) 1(MO) 43(MS) 17(NC) 7[1alpaca,1llama](NH) 8(1alpaca)(NJ) 7(NY) 2(RI) 12(SC) 4(TX) 10(VA)
- mosquito: 116(CT) 3(FL) 2(LA) 54(MA) 2(ME) 5(NC) 73(NH) 115(NJ) 59(NY) 4(RI) 137(VA)
- sentinel: 2(AL) 173/93wild(FL) 2(LA) 40(NC) 6(NH) 58[1emu,1fairybluebird(*Irena* sp)](VA)
- human: 1(LA) 1(NC) 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	85/86	5	0	16
Arkansas					3
California	496	1044/1047	390/406	15	81/87
Colorado		78		18/20	87/91
Connecticut	0	32/33	0	0	0
Delaware					
DC					
Florida	2 (flavi)		42/44	3/4	2/3
Georgia	0	17		2	2
Hawaii					
Idaho	3	9 co.		10	33
Illinois	25/26	392/397	0	6	5
Indiana	2	127/134		0	3
Iowa		9	6	2	3/5
Kansas		5			7/9
Kentucky	1	1		7	3
Louisiana		1034	10/20	3	14
Maine					
Maryland	0	9		0	1
Mass.		26		1	0
Michigan		3	0	0	0
Minnesota	1	4			3
Mississippi		7		4	50
Missouri		347 flavi		2	2
Montana		1		14	4
Nebraska	20	72/105		6	33/37

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Nevada		18		3	12
New Hampshire		0		0	0
New Jersey	29/31	296/318	0	1	2
New Mexico		1		6/7	7
New York	66	98/100	0	0	4/5
North Carolina			1		
North Dakota	0	0		2 dogs	1
Ohio	0	239		0	2
Oklahoma	0	6	0	0	8
Oregon	15	266	0	5	7
Pennsylvania	10	279	0	2	2
Rhode Island		2			
South Carolina	2	13			3
South Dakota	0	18	0	4	17
Tennessee	1	487/488	0	0	6
Texas	10	377	0	9	89/96
Utah		284	1	6	1
Vermont	4	11	0	0	0
Virginia		41	14	3	0
Washington	22	341	0	67/68	32/34
West Virginia	3	132/141	0	1	0
Wisconsin	5/6		0	1	0
Wyoming		22		2	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 22 October 2009

Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	1	1		
<i>Aedes albopictus</i>	673	4497	3	0.667
<i>Aedes atlanticus</i>	17	52		
<i>Aedes atropalpus</i>	2	16		
<i>Aedes canadensis canadensis</i>	133	2785		
<i>Aedes cantator</i>	56	467		
<i>Aedes cinereus</i>	2	7		
<i>Aedes grossbecki</i>	3	35		
<i>Aedes japonicus</i>	825	4998	1	0.200
<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>	303	1157	1	0.864
<i>Aedes trivittatus</i>	40	605		
<i>Aedes vexans</i>	189	2507	1	0.399
<i>Anopheles barberi</i>	7	24		
<i>Anopheles bradleyi</i>	45	825	1	1.212
<i>Anopheles crucians</i>	6	36		
<i>Anopheles punctipennis</i>	174	643		
<i>Anopheles quadrimaculatus</i>	141	1541		
<i>Anopheles walkeri</i>	1	19		
<i>Coquillettidia perturbans</i>	65	622		
<i>Culex erraticus</i>	183	6705		
<i>Culex pipiens</i>	1014	21509	17	0.790
<i>Culex restuans</i>	626	6855	2	0.292
<i>Culex salinarius</i>	178	3716		
<i>Culex spp.</i>	3839	149363	290	1.942
<i>Culex territans</i>	33	119		
<i>Culiseta inornata</i>	1	2		
<i>Culiseta melanura</i>	687	10547	2	0.190
<i>Culiseta morsitans</i>	2	4		
<i>Orthopodomyia signifera</i>	3	3		
<i>Psorophora ciliata</i>	6	48		
<i>Psorophora columbiae</i>	9	165		
<i>Psorophora ferox</i>	48	495		
<i>Psorophora howardii</i>	1	6		
<i>Uranotaenia sapphirina</i>	8	23		
State Total	9389	221032	318	1.439

Remarks: The number of positive WNV pools rose to 318 from the 296 of last week. Mosquito activity continues to drop, although the weather has warmed up from the lows of last week. While weather in the northern half of the state has been cold enough to affect mosquito populations, the southern portion of the state has yet to feel those effects and viral activity may be more pronounced there than in the northern half.

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. Positive dead birds remain at 29. Seventeen positive Blue Jays (*Cyanocitta cristata*) mostly in Ocean County, five American Crows (*Corvus brachyrhynchos*), seven 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
318 / 9398 (4.0%)	621 / 8588 (7.2%)
2009 Positive Birds to date / Total Birds Submitted	This time last year* * 2008 started later (at least one month) last year than in 2009
31 / 126 (24.6%)	53 / 164 (32.3%)

WNV Results by County through 22 October 2009

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		272	6374	3	0.471
	<i>Aedes albopictus</i>	19	256		
	<i>Aedes atlanticus</i>	2	9		
	<i>Aedes canadensis canadensis</i>	8	99		
	<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>	5	33		
	<i>Aedes vexans</i>	23	642		
	<i>Anopheles bradleyi</i>	9	60	1	16.667
	<i>Anopheles punctipennis</i>	7	13		
	<i>Anopheles quadrimaculatus</i>	5	9		
	<i>Culex erraticus</i>	4	19		
	<i>Culex restuans</i>	2	5		
	<i>Culex salinarius</i>	2	37		
	<i>Culex spp.</i>	103	4354	2	0.459
	<i>Culex territans</i>	1	1		
	<i>Culiseta melanura</i>	31	453		
	<i>Psorophora columbiae</i>	2	3		
	<i>Psorophora ferox</i>	5	53		
Bergen		229	15096	80	5.299
	<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

Burlington	553	14618	25	1.710
<i>Aedes abserratus</i>	1	1		
<i>Aedes albopictus</i>	45	316		
<i>Aedes atlanticus</i>	3	18		
<i>Aedes atropalpus</i>	2	16		
<i>Aedes canadensis canadensis</i>	33	1302		
<i>Aedes cantator</i>	7	71		
<i>Aedes cinereus</i>	1	6		
<i>Aedes grossbecki</i>	1	26		
<i>Aedes japonicus</i>	35	174		
<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>	31	1031		
<i>Anopheles barberi</i>	1	1		
<i>Anopheles bradleyi</i>	10	469		
<i>Anopheles crucians</i>	2	11		
<i>Anopheles punctipennis</i>	12	47		
<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>	4	6		
<i>Culex salinarius</i>	24	593		
<i>Culex spp.</i>	148	6282	25	3.980
<i>Culex territans</i>	3	13		
<i>Culiseta inornata</i>	1	2		
<i>Culiseta melanura</i>	110	3272		
<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		
Camden	274	7155	20	2.795
<i>Aedes albopictus</i>	31	154	2	12.987
<i>Aedes japonicus</i>	41	105	1	9.524
<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>	171	6669	17	2.549
<i>Culex territans</i>	1	1		
<i>Culiseta melanura</i>	6	92		
<i>Orthopodomyia signifera</i>	3	3		

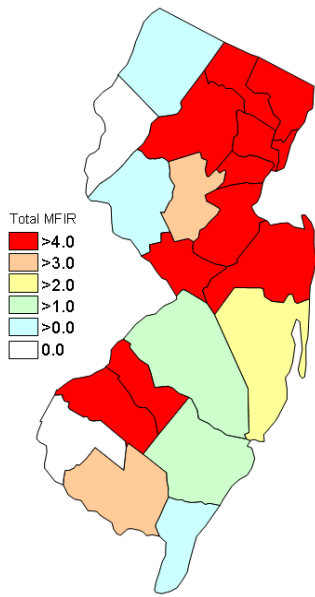
Cape May	2244	37064	13	0.351
<i>Aedes albopictus</i>	134	506		
<i>Aedes canadensis canadensis</i>	8	96		
<i>Aedes cantator</i>	8	24		
<i>Aedes japonicus</i>	196	720		
<i>Aedes sollicitans</i>	10	111		
<i>Aedes taeniorhynchus</i>	4	21		
<i>Aedes triseriatus</i>	45	150		
<i>Aedes vexans</i>	4	6		
<i>Anopheles 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>	105	5855		
<i>Culex pipiens</i>	495	8406	6	0.714
<i>Culex restuans</i>	392	4395	2	0.455
<i>Culex salinarius</i>	97	2725		
<i>Culex spp.</i>	473	9211	3	0.326
<i>Culex territans</i>	7	29		
<i>Culiseta melanura</i>	210	3487	2	0.574
<i>Psorophora ferox</i>	1	5		
Cumberland	139	2499	1	0.400
<i>Aedes albopictus</i>	12	131		
<i>Aedes atlanticus</i>	2	12		
<i>Aedes cantator</i>	1	15		
<i>Aedes japonicas</i>	20	115		
<i>Aedes triseriatus</i>	2	11		
<i>Aedes vexans</i>	2	5		
<i>Anopheles punctipennis</i>	1	1		
<i>Anopheles quadrimaculatus</i>	2	5		
<i>Culex erraticus</i>	11	102		
<i>Culex pipiens</i>	22	588	1	1.701
<i>Culex restuans</i>	6	22		
<i>Culex salinarius</i>	1	5		
<i>Culex spp.</i>	41	1345		
<i>Culex territans</i>	1	1		
<i>Culiseta melanura</i>	14	135		
<i>Psorophora ferox</i>	1	6		
Essex	280	3817	2	0.524
<i>Aedes albopictus</i>	22	130		
<i>Aedes japonicus</i>	31	170		
<i>Aedes sticticus</i>	1	1		
<i>Aedes triseriatus</i>	20	34		
<i>Aedes trivittatus</i>	4	28		
<i>Aedes vexans</i>	19	74		
<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		

Gloucester	685	13606	3	0.220
<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>	39	212		
<i>Anopheles quadrimaculatus</i>	43	194		
<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>	77	795		
<i>Psorophora ciliata</i>	2	9		
<i>Psorophora ferox</i>	1	1		
Hudson	238	11726	44	3.752
<i>Culex</i> spp.	238	11726	44	3.752
Hunterdon	362	15736	35	2.224
<i>Aedes albopictus</i>	1	45		
<i>Culex erraticus</i>	6	129		
<i>Culex</i> spp.	355	15562	35	2.249
Mercer	630	10067	20	1.987
<i>Aedes albopictus</i>	98	380		
<i>Aedes japonicus</i>	102	279		
<i>Aedes triseriatus</i>	17	30		
<i>Culex erraticus</i>	4	4		
<i>Culex pipiens</i>	119	1237	6	4.850
<i>Culex restuans</i>	139	1908		
<i>Culex salinarius</i>	8	38		
<i>Culex</i> spp.	143	6191	14	2.261
Middlesex	329	13833	13	0.940
<i>Aedes albopictus</i>	11	87		
<i>Aedes japonicus</i>	29	357		
<i>Aedes triseriatus</i>	1	6		
<i>Culex</i> spp.	288	13383	13	0.971
Monmouth	725	6378	2	0.314
<i>Aedes albopictus</i>	82	396		
<i>Aedes atlanticus</i>	4	4		
<i>Aedes canadensis canadensis</i>	38	307		

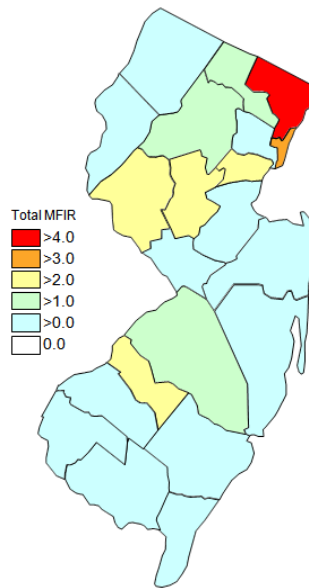
<i>Aedes cantator</i>	11	52		
<i>Aedes japonicus</i>	61	296		
<i>Aedes sollicitans</i>	2	3		
<i>Aedes thibaulti</i>	1	1		
<i>Aedes triseriatus</i>	31	140		
<i>Aedes trivittatus</i>	9	21		
<i>Aedes vexans</i>	23	119		
<i>Anopheles barberi</i>	3	3		
<i>Anopheles crucians</i>	2	4		
<i>Anopheles punctipennis</i>	35	156		
<i>Anopheles quadrimaculatus</i>	17	40		
<i>Coquillettidia perturbans</i>	6	15		
<i>Culex erraticus</i>	15	140		
<i>Culex pipiens</i>	23	62		
<i>Culex restuans</i>	30	65		
<i>Culex salinarius</i>	1	5		
<i>Culex spp.</i>	165	2980	2	0.671
<i>Culex territans</i>	14	63		
<i>Culiseta melanura</i>	136	1459		
<i>Culiseta morsitans</i>	1	1		
<i>Psorophora columbiae</i>	1	3		
<i>Psorophora ferox</i>	7	34		
<i>Uranotaenia sapphirina</i>	7	9		
Morris	215	8678	9	1.037
<i>Aedes japonicus</i>	30	421		
<i>Aedes triseriatus</i>	5	39		
<i>Anopheles punctipennis</i>	1	2		
<i>Culex spp.</i>	179	8216	9	1.095
Ocean	693	10730	6	0.559
<i>Aedes albopictus</i>	91	1204	1	0.831
<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>	82	440		
<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>	53	224	1	4.464
<i>Anopheles bradleyi</i>	13	98		
<i>Anopheles punctipennis</i>	28	54		
<i>Anopheles quadrimaculatus</i>	10	22		
<i>Coquillettidia perturbans</i>	13	25		
<i>Culex erraticus</i>	2	2		
<i>Culex pipiens</i>	4	5		
<i>Culex restuans</i>	18	25		
<i>Culex salinarius</i>	24	89		
<i>Culex spp.</i>	164	6839	4	0.585

	<i>Culiseta melanura</i>	50	229		
	<i>Psorophora columbiae</i>	2	2		
	<i>Psorophora ferox</i>	15	78		
Passaic		120	2193	4	1.824
	<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
Salem		216	5675	3	0.529
	<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>	25	418		
	<i>Culex pipiens</i>	4	48	1	20.833
	<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>	41	583		
	<i>Psorophora ciliate</i>	1	2		
	<i>Psorophora columbiae</i>	2	150		
Somerset		345	7075	16	2.261
	<i>Aedes albopictus</i>	16	48		
	<i>Aedes canadensis canadensis</i>	2	8		
	<i>Aedes japonicus</i>	44	573		
	<i>Aedes sticticus</i>	1	1		
	<i>Aedes triseriatus</i>	40	153		
	<i>Aedes trivittatus</i>	12	422		
	<i>Aedes vexans</i>	3	25		
	<i>Anopheles punctipennis</i>	13	34		
	<i>Anopheles quadrimaculatus</i>	6	10		
	<i>Coquillettidia perturbans</i>	3	4		
	<i>Culex</i> spp.	202	5779	16	2.769
	<i>Psorophora ferox</i>	3	18		
Sussex		380	9981	6	0.601
	<i>Aedes japonicus</i>	6	36		
	<i>Aedes triseriatus</i>	47	259		
	<i>Coquillettidia perturbans</i>	3	94		
	<i>Culex pipiens</i>	17	226		
	<i>Culex restuans</i>	6	190		
	<i>Culex salinarius</i>	14	51		
	<i>Culex</i> spp.	274	9080	6	0.661
	<i>Culiseta melanura</i>	12	42		

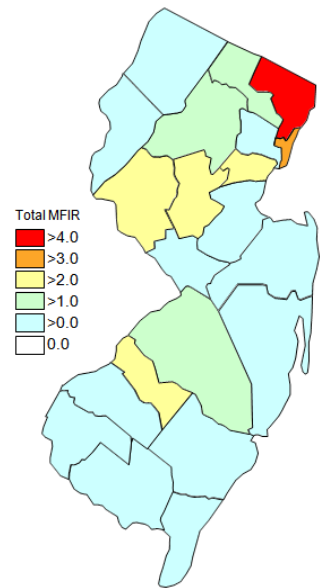
<i>Culiseta morsitans</i>		1	3		
Union		169	4552	12	2.636
	<i>Aedes albopictus</i>	24	95		
	<i>Aedes japonicus</i>	20	139		
	<i>Aedes sollicitans</i>	3	35		
	<i>Aedes triseriatus</i>	3	6		
	<i>Aedes vexans</i>	8	109		
	<i>Anopheles punctipennis</i>	2	6		
	<i>Coquillettidia perturbans</i>	1	1		
	<i>Culex spp.</i>	105	4087	12	2.936
	<i>Psorophora ferox</i>	3	74		
Warren		291	14179	1	0.071
	<i>Culex spp.</i>	291	14179	1	0.071
Grand Total		9389	221032	318	1.439



Cumulative activity in 2008



Activity this year to 22 Oct 2009



Activity last week, 2009.

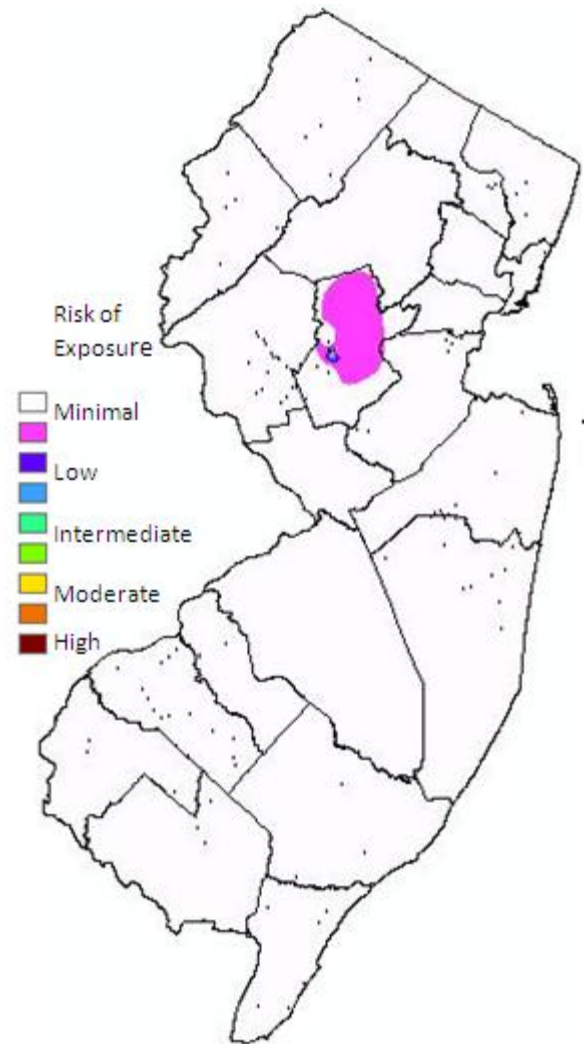
WNV Risk Assessment

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 model suggests that the degree of risk of WNV infection in humans has decreased considerably from two weeks ago. The influence of positive *Culex* mosquitoes has decreased as the season is coming to an end. While there were a few counties that did show positive *Culex*, their MFIR values were not enough to bring the risk calculated above zero. That risk is represented by the highest value on the scale (dark brown) and actually represents less than one human.

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.



Saint Louis Encephalitis (SLE) through 22 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
Burlington		473	12503		
	<i>Aedes abserratus</i>	1	1		
	<i>Aedes albopictus</i>	45	316		
	<i>Aedes atlanticus</i>	3	18		
	<i>Aedes atropalpus</i>	2	16		
	<i>Aedes canadensis canadensis</i>	17	555		
	<i>Aedes cantator</i>	6	70		
	<i>Aedes cinereus</i>	1	6		
	<i>Aedes japonicus</i>	34	173		
	<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>	26	787		
	<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>	2	4		
	<i>Culex salinarius</i>	22	591		
	<i>Culex spp.</i>	145	6272		
	<i>Culex territans</i>	2	7		
	<i>Culiseta inornata</i>	1	2		
	<i>Culiseta melanura</i>	69	2250		
	<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		
Camden		191	4887		
	<i>Aedes albopictus</i>	29	146		
	<i>Aedes japonicus</i>	29	82		
	<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>	121	4554		
	<i>Orthopodomyia signifera</i>	3	3		

Cape May	971	17311		
<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		
Essex	216	3563		
<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		
Hunterdon	66	3300		
<i>Culex spp.</i>	66	3300		
Mercer	612	9965		
<i>Aedes albopictus</i>	98	380		
<i>Aedes japonicus</i>	98	275		
<i>Aedes triseriatus</i>	17	30		
<i>Culex pipiens</i>	3	3		
<i>Culex restuans</i>	116	1226		
<i>Culex salinarius</i>	135	1865		
<i>Culex spp.</i>	6	36		
Ocean	2	3		
<i>Aedes albopictus</i>	1	1		
<i>Culex spp.</i>	1	2		
Somerset	22	557		
<i>Aedes albopictus</i>	1	4		
<i>Culex spp.</i>	21	553		
Sussex	30	187		
<i>Aedes triseriatus</i>	30	187		
Warren	15	739		
<i>Aedes triseriatus</i>	15	739		

Grand Total		2598	53015		
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Specimens submitted by the counties continue to be negative for SLE.

La Crosse Encephalitis (LAC) through 22 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
Cape May		309	1364		
	<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		
Passaic		2	17		
	<i>Aedes triseriatus</i>	2	17		
Sussex		58	394		
	<i>Aedes japonicus</i>	2	30		
	<i>Aedes triseriatus</i>	47	259		
	<i>Culex pipiens</i>	1	11		
	<i>Culex spp.</i>	8	94		
Warren		2	5		
	<i>Aedes triseriatus</i>	2	5		
Grand Total		371	1780		

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