

Culiseta melanura and Eastern Equine Encephalitis

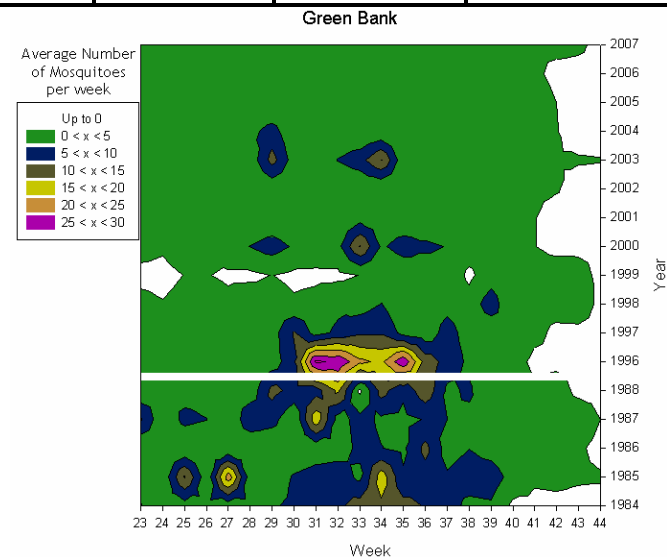
SITE	Inland / Coastal	Historic Mean	Current Weekly Mean	Total Collected to Date	Total Pools Submitted	EEE Isolations	MFIR
Green Bank (Burlington County)	Coastal	3.7	0	34	15		
Corbin City (Atlantic County)	Coastal	0.8	0.4	108	28		
Dennisville (Cape May County)	Coastal	4.7	0.2	352	25		
Waterford (Camden County)	Inland	0.5	0	0	0		
Centerton (Salem County)	Inland	2.7	0.3	187	25		
Turkey Swamp (Monmouth County)	Inland	1.0	2.5	80	21		
Glassboro (Gloucester County)	Inland	no history	0.1	7	4		

*Including trial run last week in May.

Remarks: While eastern equine encephalitis continues to elude detection in New Jersey, southern states have had a jump on their normal season, and the detection of a human case has occurred in Alabama. *Culiseta melanura* at the New Jersey resting box sites show little indication that mosquito abundances will reach historical averages at this point in the season. Contour graph is for the Green Bank monitoring site. Green Bank tends to have some mosquitoes present most of the time, although, as with Dennisville and Waterford, periods of high *Cs. melanura* populations were well in the past. Green Bank, however, has first signaled virus activity in New Jersey despite low population levels. Note the discontinuous period between 1988 and 1996.

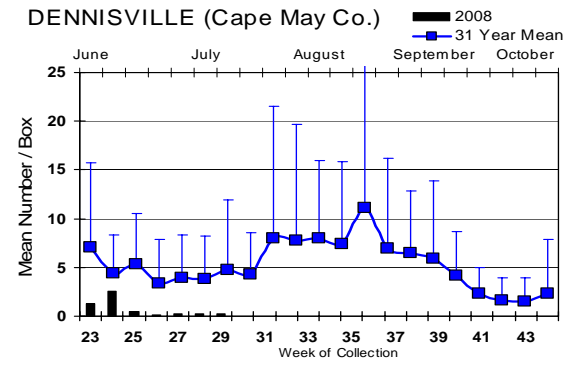
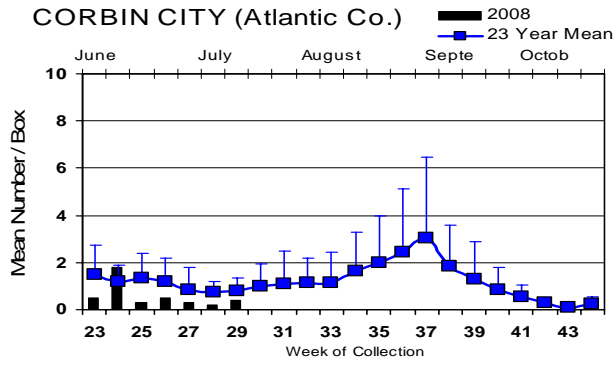
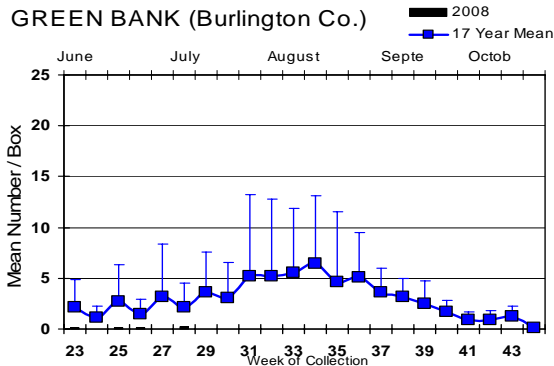
To date, 118 pools from 768 *Cs. melanura* mosquitoes have been sent for EEE testing from the resting box collections. No positives have been detected from these pools or from pools submitted by the counties. An additional* 144 pools of 1375 individual mosquitoes from 26 species other than *Cs. melanura* have also been tested and all pools were found to be negative. These species include: *Aedes albopictus*, *Ae. canadensis canadensis*, *Ae. cantator*, *Ae. cinereus*, *Ae. communis*, *Ae. grossbecki*, *Ae. japonicus*, *Ae. sollicitans*, *Ae. sticticus*, *Ae. triseriatus*, *Ae. vexans*, *Anopheles bradleyi*, *An. crucians*, *An. punctipennis*, *An. quadrimaculatus*, *Coquillettidia perturbans*, *Culex erraticus*, *Cx. pipiens*, *Cx. restuans*, *Cx., salinarius*, *Mixed Culex*, *Cx. territans*, *Culiseta inornata*, *Orthopodomyia signifera*, *Psorophora ciliata*, *Ps., ferox*, and *Uranotaenia sapphirina*.

*Erratum: Previous week included *melanura* pools.

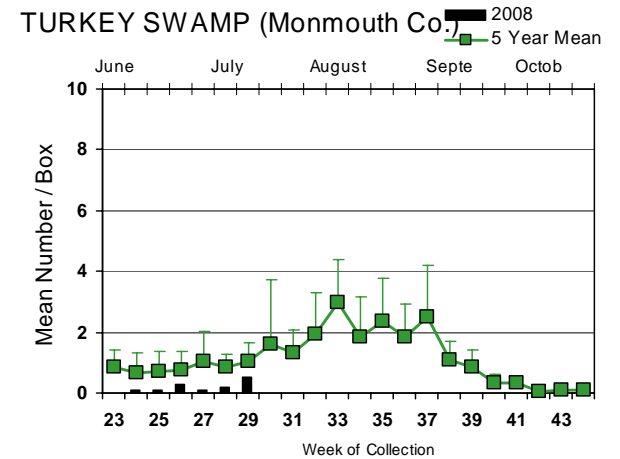
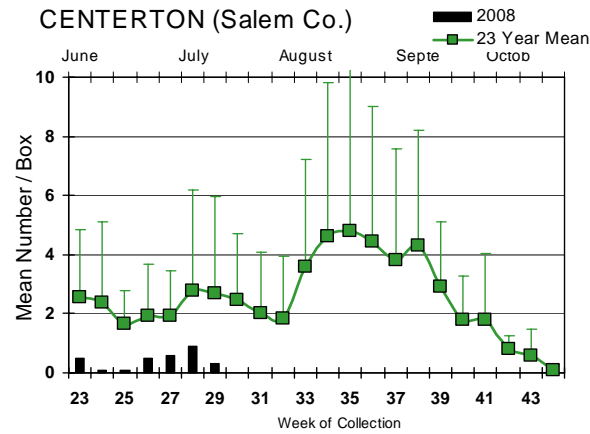
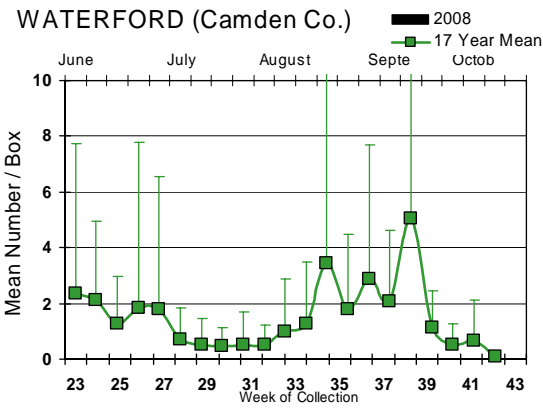


Culiseta melanura Population Graphs

Coastal



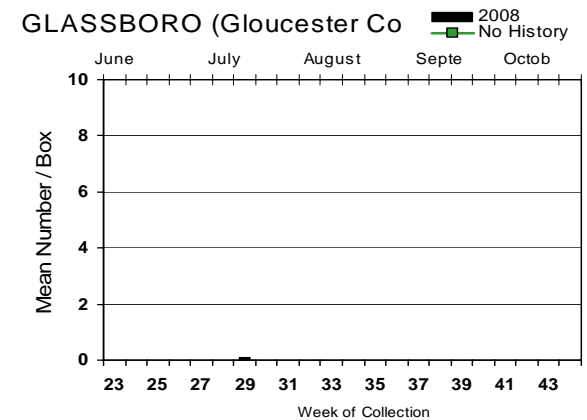
Inland



Figures: Inland and coastal resting box sites showing current weekly population levels (in bars) against historical trends (lines with standard deviation). The number of years for historical population levels varies by site.

An additional inland resting box site has been added. This site is located near Glassboro, in Gloucester County. The location is in a wildlife management area, with box location in a mixed forest swamp (Red Maple/White Pine).

Culiseta melanura abundances continue to track well below their respective historical averages. *Cs. melanura* has not been detected at the Waterford site to date this season. After several months of positive and negative temperature departures as well as a very wet February (<http://climate.rutgers.edu/stateclim/>), *Cs. melanura* populations have not been able to exploit the warmer times. This may have resulted in a lower second generation population that would begin emerging now. As this second generation would contribute significantly toward the amplification/transmission phase of the EEE cycle, a reduced population would suggest that EEE potential would be limited this year.



EEE in US (2008 cumulative cases): (Red = new reported cases occurring)

- equine: 2(AL), 55(FL), 10(GA) 1(LA) 1(MS)
- mosquito: 4(FL)
- sentinel: 3(AL), 50(FL, 34 wild)
- human: 1(AL)

West Nile Virus

West Nile in US (2008 cumulative cases): Single black values indicate no change from previous week. Black values / red values equals previous week/**New totals**.

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Alabama				1	1
Alaska					
Arizona		3	10		1
Arkansas				1	2
California	322/435	155/292	6/8	2	3/6
Colorado					2
Connecticut		3/6			1
Delaware					
Florida	2 live		2	1	
Georgia					
Hawaii					
Idaho		2 counties			
Illinois	2	36/41			1
Indiana		2			
Iowa					
Kansas					
Kentucky					
Louisiana		273		1	2/5
Maine					
Maryland					
Mass.		3/4			
Michigan	1				
Minnesota					
Mississippi					9
Missouri		86			
Montana					
Nebraska					

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Nevada					
New Hampshire					
New Jersey		30			
New Mexico		2		1	
New York	6	2/22			
North Carolina					
North Dakota				1	5
Ohio		1			
Oklahoma					2/3
Oregon					
Pennsylvania	1	21/32			
Rhode Island					
South Carolina	2				
South Dakota	1	3			1
Tennessee		15/27			1
Texas		23/24			6
Utah	2	21			1
Vermont					
Virginia		6			
Washington		1			
West Virginia	2	3		1/2	
Wisconsin	2			1	
Wyoming		2			1

Protocol: New Jersey Department of Health and Senior Services tests mosquito pools using RT-PCR Taqman techniques.

Mosquito Species Submitted for West Nile Virus Testing through 21 July 2008

Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	1	9		
<i>Aedes albopictus</i>	106	834		
<i>Aedes atlanticus</i>	1	4		
<i>Aedes canadensis canadensis</i>	47	1212		
<i>Aedes cantator</i>	24	356		
<i>Aedes cinereus</i>	1	3		
<i>Aedes communis</i>	1	1		
<i>Aedes grossbecki</i>	3	4		
<i>Aedes japonicus</i>	101	564		
<i>Aedes sollicitans</i>	11	157		
<i>Aedes sticticus</i>	5	85		
<i>Aedes taeniorhynchus</i>	6	47		
<i>Aedes thibaulti</i>	5	13		
<i>Aedes triseriatus</i>	55	182		

<i>Aedes vexans</i>	59	1160		
<i>Anopheles barberi</i>	1	1		
<i>Anopheles bradleyi</i>	21	525		
<i>Anopheles crucians</i>	3	4		
<i>Anopheles punctipennis</i>	52	304		
<i>Anopheles quadrimaculatus</i>	28	623		
<i>Coquillettidia perturbans</i>	45	478		
<i>Culex erraticus</i>	7	21		
<i>Culex pipiens</i>	180	5065	3	0.592
<i>Culex restuans</i>	143	2639		
<i>Culex salinarius</i>	65	1424		
<i>Culex spp.</i>	699	30328	27	0.890
<i>Culex territans</i>	11	19		
<i>Culiseta inornata</i>	1	3		
<i>Culiseta melanura</i>	144	971		
<i>Orthopodomyia signifera</i>	5	13		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	1	2		
<i>Psorophora ferox</i>	8	95		
<i>Psorophora howardii</i>	1	4		
<i>Uranotaenia sapphirina</i>	2	3		
Grand Total	1844	47154	30	0.636

Remarks: Submitted pools (1,844) comprised of 47,154 individual mosquitoes produced 30 positive pools from eight different counties. Involvement continues through the suburban corridor and metro areas and now down the suburbanized coastal zone. Involvement of *Culex pipiens* and mixed *Culex* pools are expected at this time as the West Nile virus goes through amplification within avian hosts. Submissions are from 33 different species and are from all 21 counties.

Humans, Horses and Wild Birds: To date, there have been 65 dead birds submitted for West Nile virus testing with two positives (an unidentified hawk in Union County and an American Crow in Ocean County). Both of these birds were collected on the 17th of July 2008. Last year, there had been 86 birds submitted for testing with two positive birds up to this date. The first positive bird was collected on the 14th of July, 2007.

2008 Positive Mosquito pools to date / Total Mosquito Pools Submitted	This time last year
30 / 1,901	15 / 1,501

WNV Results by County through 21 July 2008

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		112	2309	5	2.165
	<i>Aedes albopictus</i>	5	131		
	<i>Aedes canadensis canadensis</i>	3	12		
	<i>Aedes cantator</i>	2	16		
	<i>Aedes japonicus</i>	2	3		
	<i>Aedes sollicitans</i>	1	9		
	<i>Aedes taeniorhynchus</i>	3	30		
	<i>Aedes thibaulti</i>	4	8		
	<i>Aedes triseriatus</i>	3	12		
	<i>Aedes vexans</i>	3	40		
	<i>Anopheles bradleyi</i>	4	9		
	<i>Anopheles punctipennis</i>	1	1		
	<i>Coquillettidia perturbans</i>	2	23		

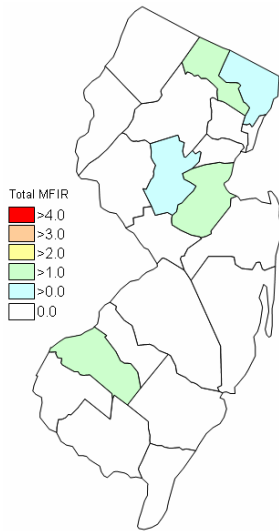
	<i>Culex restuans</i>	3	33		
	<i>Culex salinarius</i>	1	1		
	<i>Culex sp.</i>	41	1851	5	2.701
	<i>Culex territans</i>	3	6		
	<i>Culiseta melanura</i>	30	112		
	<i>Psorophora ferox</i>	1	12		
Bergen		200	6712	7	1.043
	<i>Aedes albopictus</i>	9	55		
	<i>Aedes canadensis canadensis</i>	1	6		
	<i>Aedes japonicus</i>	15	114		
	<i>Aedes triseriatus</i>	9	31		
	<i>Aedes vexans</i>	8	76		
	<i>Anopheles barberi</i>	1	1		
	<i>Anopheles punctipennis</i>	4	31		
	<i>Coquillettidia perturbans</i>	12	146		
	<i>Culex pipiens</i>	41	1306	1	0.766
	<i>Culex restuans</i>	24	305		
	<i>Culex salinarius</i>	22	704		
	<i>Culex spp.</i>	53	3936	6	1.524
	<i>Culex territans</i>	1	1		
Burlington		176	1735	0	
	<i>Aedes albopictus</i>	8	29		
	<i>Aedes canadensis canadensis</i>	21	598		
	<i>Aedes cantator</i>	4	148		
	<i>Aedes cinereus</i>	1	3		
	<i>Aedes grossbecki</i>	1	1		
	<i>Aedes japonicus</i>	7	18		
	<i>Aedes sollicitans</i>	1	18		
	<i>Aedes sticticus</i>	2	5		
	<i>Aedes triseriatus</i>	8	29		
	<i>Aedes vexans</i>	20	182		
	<i>Anopheles bradleyi</i>	1	2		
	<i>Anopheles crucians</i>	3	4		
	<i>Anopheles punctipennis</i>	10	25		
	<i>Anopheles quadrimaculatus</i>	2	4		
	<i>Coquillettidia perturbans</i>	17	227		
	<i>Culex erraticus</i>	1	1		
	<i>Culex pipiens</i>	2	18		
	<i>Culex restuans</i>	4	27		
	<i>Culex salinarius</i>	1	1		
	<i>Culex sp.</i>	23	238		
	<i>Culex territans</i>	3	6		
	<i>Culiseta inornata</i>	1	3		
	<i>Culiseta melanura</i>	27	130		
	<i>Orthopodomyia signifera</i>	3	11		
	<i>Psorophora ciliata</i>	1	1		
	<i>Psorophora ferox</i>	2	3		
	<i>Uranotaenia sapphirina</i>	2	3		
Camden		68	1241	0	
	<i>Aedes albopictus</i>	8	84		
	<i>Aedes canadensis canadensis</i>	1	19		
	<i>Aedes cantator</i>	1	22		
	<i>Aedes japonicus</i>	7	20		

<i>Aedes triseriatus</i>	1	1		
<i>Aedes vexans</i>	3	43		
<i>Anopheles punctipennis</i>	5	19		
<i>Anopheles quadrimaculatus</i>	2	2		
<i>Coquillettidia perturbans</i>	2	14		
<i>Culex pipiens</i>	5	162		
<i>Culex restuans</i>	15	438		
<i>Culex salinarius</i>	3	14		
<i>Culex sp.</i>	13	401		
<i>Culiseta melanura</i>	1	1		
<i>Orthopodomyia signifera</i>	1	1		
Cape_May	162	3455	0	
<i>Aedes canadensis canadensis</i>	4	71		
<i>Aedes cantator</i>	8	82		
<i>Aedes japonicus</i>	5	13		
<i>Aedes sollicitans</i>	3	81		
<i>Aedes taeniorhynchus</i>	2	8		
<i>Aedes triseriatus</i>	1	1		
<i>Aedes vexans</i>	2	13		
<i>Anopheles bradleyi</i>	12	419		
<i>Anopheles punctipennis</i>	5	100		
<i>Anopheles quadrimaculatus</i>	9	478		
<i>Coquillettidia perturbans</i>	3	27		
<i>Culex erraticus</i>	2	7		
<i>Culex pipiens</i>	26	569		
<i>Culex restuans</i>	37	779		
<i>Culex salinarius</i>	11	425		
<i>Culex sp.</i>	4	21		
<i>Culex territans</i>	1	2		
<i>Culiseta melanura</i>	27	359		
Cumberland	43	615		
<i>Aedes albopictus</i>	6	10		
<i>Aedes japonicus</i>	5	5		
<i>Aedes triseriatus</i>	3	3		
<i>Culex erraticus</i>	3	11		
<i>Culex spp.</i>	26	586		
Essex	56	1101		
<i>Aedes albopictus</i>	11	90		
<i>Aedes japonicus</i>	5	29		
<i>Aedes triseriatus</i>	4	7		
<i>Anopheles quadrimaculatus</i>	2	9		
<i>Culex spp.</i>	34	966		
Gloucester	132	3588	2	0.557
<i>Aedes abserratus</i>	1	9		
<i>Aedes albopictus</i>	4	37		
<i>Aedes canadensis canadensis</i>	6	237		
<i>Aedes communis</i>	1	1		
<i>Aedes japonicus</i>	8	51		
<i>Aedes thibaulti</i>	1	5		

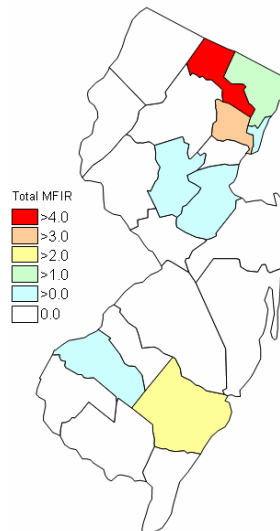
<i>Aedes triseriatus</i>	1	5		
<i>Aedes vexans</i>	2	7		
<i>Anopheles bradleyi</i>	1	1		
<i>Anopheles punctipennis</i>	7	20		
<i>Culex pipiens</i>	4	8	2	0.761
<i>Culex restuans</i>	72	2627		
<i>Culex salinarius</i>	12	540		
<i>Culiseta melanura</i>	4	11		
Hudson	40	1951	1	0.513
<i>Culex spp.</i>	40	1951	1	0.513
Hunterdon	50	2500	0	
<i>Culex spp.</i>	50	2500		
Mercer	21	194	0	
<i>Aedes albopictus</i>	10	59		
<i>Aedes japonicus</i>	3	6		
<i>Aedes triseriatus</i>	3	9		
<i>Culex pipiens</i>	2	104		
<i>Culex restuans</i>	2	14		
<i>Culex spp.</i>	1	2		
Middlesex	71	1686	2	0.866
<i>Aedes albopictus</i>	5	32		
<i>Aedes japonicus</i>	5	23		
<i>Aedes triseriatus</i>	2	7		
<i>Culex pipiens</i>	6	78		
<i>Culex restuans</i>	5	59		
<i>Culex spp.</i>	69	2111	2	0.947
Monmouth	150	1577	0	
<i>Aedes albopictus</i>	12	31		
<i>Aedes canadensis canadensis</i>	3	18		
<i>Aedes cantator</i>	4	5		
<i>Aedes japonicus</i>	4	5		
<i>Aedes sollicitans</i>	4	27		
<i>Aedes taeniorhynchus</i>	1	9		
<i>Aedes triseriatus</i>	3	7		
<i>Aedes vexans</i>	7	91		
<i>Anopheles punctipennis</i>	5	8		
<i>Coquillettidia perturbans</i>	3	4		
<i>Culex pipiens</i>	19	102		
<i>Culex restuans</i>	20	162		
<i>Culex salinarius</i>	7	10		
<i>Culex spp.</i>	35	1016		
<i>Culex territans</i>	2	2		
<i>Culiseta melanura</i>	21	80		
Morris	45	2140	0	
<i>Aedes japonicus</i>	1	6		
<i>Culex spp.</i>	44	2134		
Ocean	119	2604	0	

<i>Aedes albopictus</i>	21	233		
<i>Aedes canadensis canadensis</i>	3	72		
<i>Aedes cantator</i>	1	9		
<i>Aedes japonicus</i>	9	19		
<i>Aedes sollicitans</i>	1	21		
<i>Aedes triseriatus</i>	3	15		
<i>Aedes vexans</i>	4	26		
<i>Anopheles punctipennis</i>	1	4		
<i>Coquillettidia perturbans</i>	1	3		
<i>Culex pipiens</i>	4	75		
<i>Culex restuans</i>	12	159		
<i>Culex salinarius</i>	10	89		
<i>Culex sp.</i>	43	1805		
<i>Culiseta melanura</i>	5	65		
<i>Psorophora ferox</i>	1	9		
Passaic	31	1333	8	6.002
<i>Aedes japonicus</i>	2	28		
<i>Culex spp.</i>	29	1305	8	6.130
Salem	105	1848	0	
<i>Aedes albopictus</i>	2	9		
<i>Aedes atlanticus</i>	1	4		
<i>Aedes canadensis canadensis</i>	5	179		
<i>Aedes cantator</i>	4	74		
<i>Aedes grossbecki</i>	2	3		
<i>Aedes japonicus</i>	3	9		
<i>Aedes sollicitans</i>	1	1		
<i>Aedes sticticus</i>	3	80		
<i>Aedes triseriatus</i>	5	16		
<i>Aedes vexans</i>	9	675		
<i>Anopheles bradleyi</i>	3	94		
<i>Anopheles punctipennis</i>	11	92		
<i>Anopheles quadrimaculatus</i>	8	121		
<i>Coquillettidia perturbans</i>	3	26		
<i>Culex erraticus</i>	1	2		
<i>Culex pipiens</i>	1	2		
<i>Culex restuans</i>	3	8		
<i>Culex salinarius</i>	6	169		
<i>Culex spp.</i>	2	10		
<i>Culex territans</i>	1	2		
<i>Culiseta melanura</i>	25	195		
<i>Psorophora columbiae</i>	1	2		
<i>Psorophora ferox</i>	4	71		
<i>Psorophora howardii</i>	1	4		
Somerset	63	1606	1	0.623
<i>Aedes albopictus</i>	2	4		
<i>Aedes japonicus</i>	14	149		
<i>Aedes triseriatus</i>	9	39		
<i>Anopheles punctipennis</i>	2	2		
<i>Anopheles quadrimaculatus</i>	1	1		
<i>Culex pipiens</i>	2	22		
<i>Culex restuans</i>	2	19		

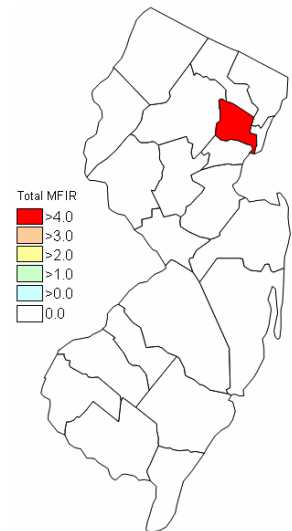
<i>Culex spp.</i>	30	1369	1	0.730
<i>Orthopodomyia signifera</i>	1	1		
Sussex	90	3919		
<i>Aedes japonicus</i>	3	16		
<i>Coquillettidia perturbans</i>	2	8		
<i>Culex restuans</i>	4	96		
<i>Culex spp.</i>	81	3799		
Union	28	1140	0	
<i>Aedes albopictus</i>	3	30		
<i>Aedes japonicus</i>	1	1		
<i>Aedes vexans</i>	1	7		
<i>Anopheles punctipennis</i>	1	2		
<i>Culex spp.</i>	22	1100		
Warren	61	3276	0	
<i>Aedes japonicus</i>	2	49		
<i>Culex spp.</i>	59	3227		
Grand Total	1844	47154	30	0.636



Cumulative activity to last week



Cumulative activity to this week



Current Week Activity 7/13 to 7/21)

RAMP (Rapid Analyte Measurement Platform). More than half of the counties in New Jersey are incorporating the use of RAMP results in their vector surveillance programs. Counties participate with the PHEL Lab in monitoring the efficacy and sensitivity of the RAMP results by sending in samples to be confirmed. Note that not all samples sent in by the counties to PHEL equal the number of RAMP tests done.

RAMP Results for 21 July 2008

County	Species	Pools	Mosquitoes	Positives	PHEL (not submitted/ submitted/+/-)
Monmouth		75	671		
	<i>Aedes albopictus</i>	4	11		
	<i>Aedes canadensis</i>	8	38		
	<i>Aedes cantator</i>	3	13		
	<i>Aedes japonicus</i>	11	42		
	<i>Aedes sollicitans</i>	1	1		
	<i>Aedes triseriatus</i>	3	6		
	<i>Aedes trivittatus</i>	1	1		
	<i>Anopheles punctipennis</i>	2	2		
	<i>Coquillettidia perturbans</i>	1	1		
	<i>Culex spp.</i>	28	467		
	<i>Culex pipiens</i>	12	88		
	<i>Culiseta melanura</i>	1	1		
Warren		42	1758		
	<i>Culex restuans</i>	1	4		
	<i>Culex spp.</i>	39	1754	2	33/9/0/9