RUTGERS
New Jersey Agricultural Experiment Station

VECTOR SURVEILLANCE IN NEW JERSEY
EEE and WNV
CDC WEEK 25: June 15 to June 21, 2008

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Supported by funding from the NJ State Mosquito Control Commission.

Culiseta melanura and Eastern Equine Encephalitis

Coastal Resting Boxes						Inland Resting Boxes					
Sites	Mean From Previous Years	No. Per Box For This Collection	Total Collected to Date*	Total Pools Submitted to Date	EEE Isolations To Date	Sites	Mean From Previous Years	No. Per Box For This Collection	Total Collected to Date*	Total Pools Submitted to Date	EEE Isolations To Date
Green Bank (Burlington Co.)	2.7	< 0.1	14	9	0	Waterford (Camden Co.)	1.3	0	0	0	0
Corbin City (Atlantic Co.)	1.3	0.3	73	15	0	Centerton (Salem Co.)	1.7	0.1	50	12	0
Dennisville (Cape May Co.)	5.3	0.5	315	15	0	Turkey Swamp (Monmouth Co.)	0.7	0.1	24	8	0

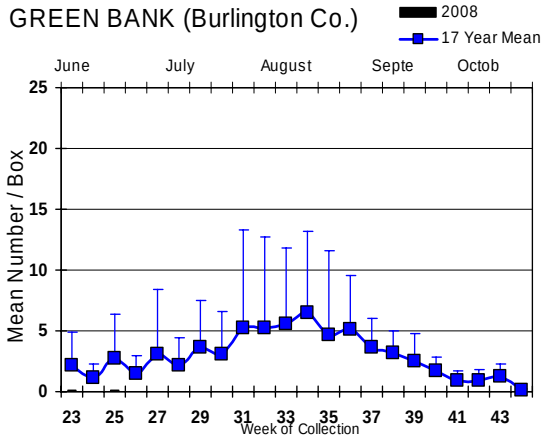
*Including trial run last week in May.

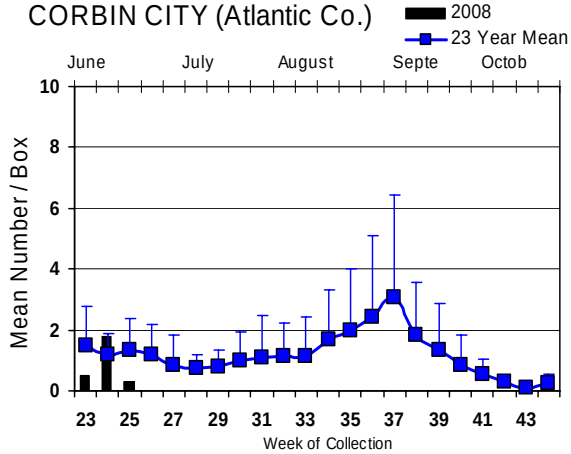
Remarks: *Culiseta melanura* populations have remained low at all resting box monitoring sites. No mosquitoes have been detected at the inland Waterford to this point in time. The Centerton, Corbin City and Turkey Swamp sites have significantly smaller population abundance than historical data trends have shown. The month of May was a cooler-than-average month with slightly higher than average rainfall amounts. However, the previous month of April proved to be a warm month with minimally rainfall. Often, *Cs. melanura* was on the wing prior to the advent of these reports and may have peaked earlier than these reports record. Lowered initial populations contribute less toward the generation involved with amplification/transmission of EEE (the second generation of the season). While it is reasonable to assume that this equates with a lowered risk of transmission, records of transmission occurring during low *Culiseta melanura* populations (e.g., 2006 in New Jersey) suggests that more study is needed.

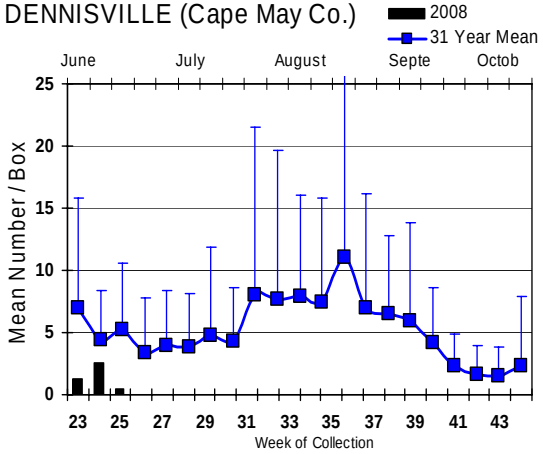
To date, 59 pools from 476 mosquitoes have been sent for EEE testing from the resting box collections. No positives have been detected from these pools or from pools submitted by the counties.

Culiseta melanura Population Graphs

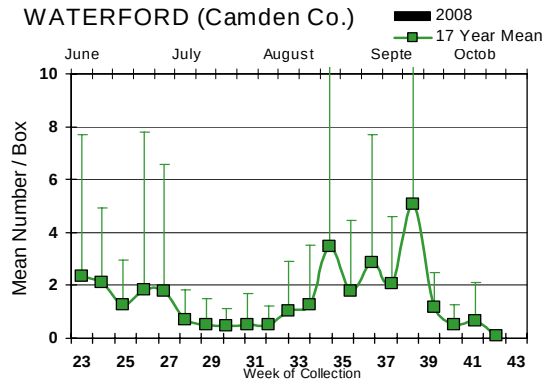
Coastal

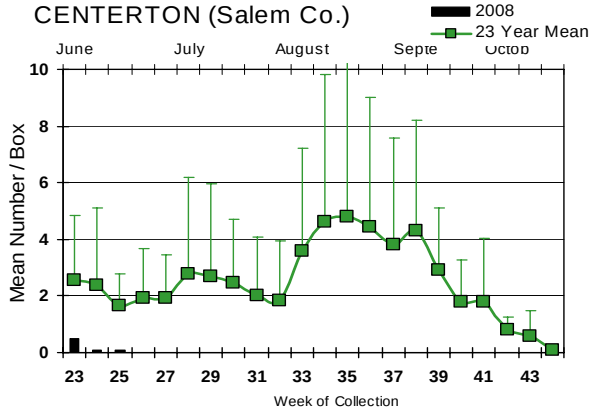


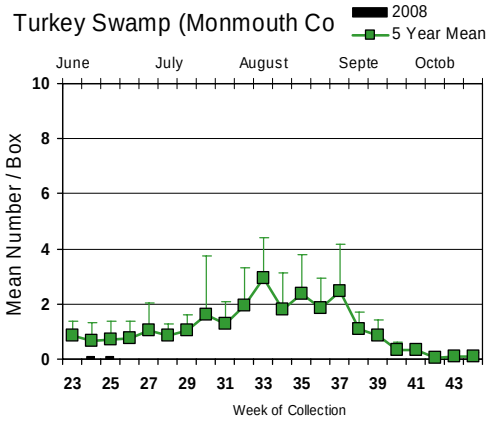




Inland







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.

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

- equine: 2(AL), 38(FL), 10(GA)
- mosquito: 4(FL)
- sentinel: 3(AL), 45(FL, 25 wild)
- human:

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	
Alaska					
Arizona		2	9		1
Arkansas					
California	133/160	33/41	2		1
Colorado					
Connecticut		1			
Delaware					
Florida	2 live		2	1	
Georgia					
Hawaii					
Idaho					
Illinois		2/5			
Indiana		2			
Iowa					
Kansas					
Kentucky					
Louisiana		251			
Maine					
Maryland					
Mass.					
Michigan	*				
Minnesota					
Mississippi					4/5
Missouri					
Montana					
Nebraska					

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Nevada					
New Hampshire					
New Jersey					
New Mexico					
New York					
North Carolina					
North Dakota					1
Ohio					
Oklahoma					1
Oregon					
Pennsylvania		1/2			
Rhode Island					
South Carolina	2				
South Dakota					
Tennessee		4/5			1
Texas		5/11			2
Utah	1	7/11			
Vermont					
Virginia					
Washington					
West Virginia					
Wisconsin					
Wyoming					

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 23 June 2008

Species	Pools	Mosquitoes	Positives	MFIR
Aedes abserratus	2	18		
Aedes albopictus	5	15		
Aedes canadensis canadensis	17	566		
Aedes cantator	4	75		
Aedes cinereus	1	3		
Aedes grossbecki	1	1		
Aedes japonicus	12	25		
Aedes sollicitans	1	18		
Aedes sticticus	1	3		
Aedes thibaulti	3	14		
Aedes triseriatus	3	3		
Aedes vexans	11	126		
Anopheles bradleyi	8	29		
Anopheles punctipennis	13	58		

Anopheles quadrimaculatus	5	227		
Coquillettidia perturbans	2	4		
Culex erraticus	2	4		
Culex pipiens	19	125		
Culex restuans	63	1654		
Culex salinarius	19	57		
Culex sp.	41	1941		
Culex territans	2	6		
Culiseta inornata	1	3		
Culiseta melanura	76	783		
Orthopodomyia signifera	1	9		
Psorophora ciliata	1	1		
Psorophora ferox	1	1		
Uranotaenia sapphirina	1	2		
Grand Total	316	5771		

Remarks: Submitted pools (316) comprised of 5771 individual mosquitoes continue to be negative for the presence of West Nile virus. Submissions are from 28 different species and are from 12 counties.

WN virus activity has been reported in nearby states (PA and CT). To date, New Jersey reports no positive mosquitoes, but samples submitted to the end of June represent only samples tested from the EEE program resting boxes and submissions from the southern counties. Full statewide testing begins July 1.

Humans and Livestock: No cases have been reported. At this point in time, there have been 33 dead birds submitted for West Nile virus testing, none positive.

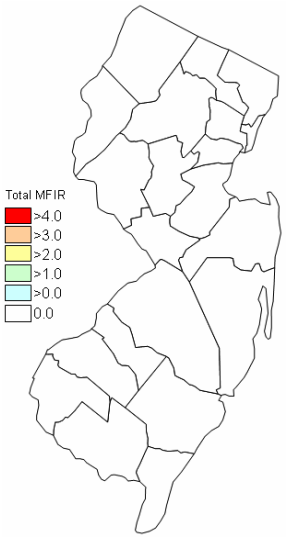
2008 Positive Mosquito pools to date / Total Mosquito Pools Submitted	This time last year
0 / 316	0 / 248

WNV Results by County through 23 June 2008

County	Species	Pools	Mosquitoes	Positives
Atlantic		**37**	**625**	**0**
	Aedes albopictus	1	3	
	Aedes thibaulti	1	4	
	Aedes triseriatus	1	1	
	Anopheles bradleyi	2	2	
	Culex restuans	3	38	
	Culex sp.	10	489	
	Culex territans	1	4	
	Culiseta melanura	18	84	
Bergen		**21**	**178**	**0**
	Aedes vexans	2	5	
	Coquillettidia perturbans	2	51	
	Culex pipiens	7	53	
	Culex restuans	6	28	
	Culex salinarius	4	41	
Burlington		**41**	**345**	**0**
	Aedes canadensis canadensis	2	20	
	Aedes cantator	2	67	

	Aedes cinereus	1	3	
	Aedes grossbecki	1	1	
	Aedes sollicitans	1	18	
	Aedes sticticus	1	3	
	Aedes triseriatus	2	2	
	Aedes vexans	5	110	
	Anopheles bradleyi	1	2	
	Anopheles punctipennis	1	2	
	Coquillettidia perturbans	2	4	
	Culex pipiens	1	10	
	Culex sp.	4	42	
	Culex territans	1	2	
	Culiseta inornata	1	3	
	Culiseta melanura	11	43	
	Orthopodomyia signifera	1	9	
	Psorophora ciliata	1	1	
	Psorophora ferox	1	1	
	Uranotaenia sapphirina	1	2	
Camden		**36**	**826**	**0**
	Aedes albopictus	4	9	
	Aedes japonicus	4	11	
	Aedes vexans	2	39	
	Anopheles punctipennis	2	13	
	Culex pipiens	5	162	
	Culex restuans	11	421	
	Culex salinarius	2	13	
	Culex sp.	4	156	
	Culiseta melanura	1	1	
	Orthopodomyia signifera	1	1	
Cape_May		**54**	**1179**	**0**
	Aedes cantator	3	9	
	Aedes japonicus	3	8	
	Anopheles bradleyi	3	23	
	Anopheles punctipennis	3	24	
	Anopheles quadrimaculatus	3	225	
	Culex erraticus	2	4	
	Culex pipiens	2	9	
	Culex restuans	13	395	
	Culex salinarius	3	17	
	Culex sp.	1	12	
	Culiseta melanura	18	453	
Gloucester		**76**	**1686**	**0**
	Aedes abserratus	2	18	
	Aedes canadensis canadensis	12	474	
	Aedes japonicus	6	8	
	Aedes thibaulti	2	10	
	Aedes vexans	4	14	
	Anopheles bradleyi	2	2	
	Anopheles punctipennis	4	12	
	Culex pipiens	8	16	
	Culex restuans	24	1080	
	Culex salinarius	8	22	

	Culiseta melanura	4	30	
Middlesex		**6**	**90**	**0**
	Culex pipiens	3	60	
	Culex restuans	3	30	
Monmouth		**41**	**206**	**0**
	Aedes canadensis canadensis	2	2	
	Aedes cantator	2	3	
	Aedes japonicus	1	1	
	Aedes vexans	2	2	
	Anopheles punctipennis	2	3	
	Coquillettidia perturbans	1	1	
	Culex pipiens	8	39	
	Culex restuans	11	126	
	Culex salinarius	4	5	
	Culiseta melanura	8	24	
Ocean		**35**	**1407**	**0**
	Aedes albopictus	3	11	
	Aedes canadensis canadensis	1	70	
	Aedes japonicus	2	6	
	Culex restuans	4	9	
	Culex salinarius	2	10	
	Culex sp.	22	1242	
	Culiseta melanura	1	59	
Salem		**21**	**104**	**0**
	Anopheles punctipennis	3	18	
	Anopheles quadrimaculatus	2	2	
	Culex restuans	1	1	
	Culiseta melanura	15	83	
Grand Total		**316**	**5771**	**0**



Activity this week.

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 equal the number of RAMP tests done.

RAMP Results for 23 June 2008

County	Species	Mosquitoes	Pools	Positives	PHEL (submitted/+/-)
Monmouth		**671**	**75**		
	Aedes albopictus	11	4		
	Aedes canadensis	38	8		
	Aedes cantator	13	3		
	Aedes japonicus	42	11		
	Aedes sollicitans	1	1		
	Aedes triseriatus	6	3		
	Aedes trivittatus	1	1		
	Anopheles punctipennis	2	2		
	Coquillettidia perturbans	1	1		
	Culex spp.	467	28		
	Culex pipiens	88	12		
	Culiseta melanura	1	1		
Warren		**1392**	**31**		
	Culex restuans	4	1		
	Culex spp.	1388	30	**2**	**9/0/2**