

NEW JERSEY STATE SURVEILLANCE

Weekly Report for Week 36, 2 – 8 September, 2003

Submitted by Lisa Reed and Wayne Crans

Mosquito Research and Control Unit

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Purpose: Data from 84 New Jersey light traps contributed by county mosquito control agencies are used to calculate trends in mosquito populations for species of nuisance or health concerns.

Calculations are based on regional distributions, with emphasis on mosquito habitat and land use. Trends will allow a statewide evaluation of changing mosquito populations, in response to control and/or changes in habitat.

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Figure 1a: Map of ten regions selected for the New Jersey Surveillance Program overlaid with county borders.



Figure 1b. Trap lat-long locations.



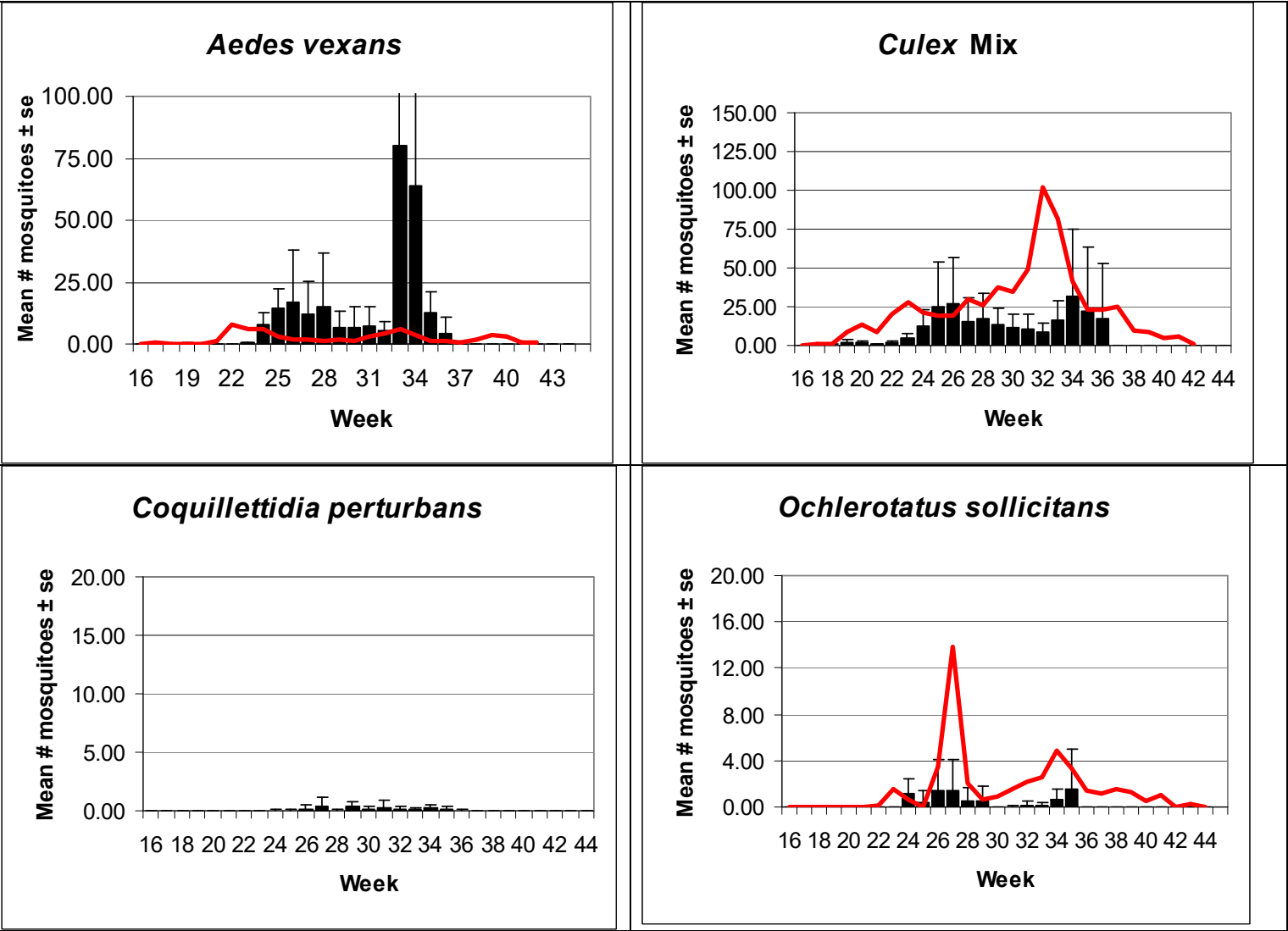
Summary table

	<i>Aedes vexans</i>		<i>Culex complex</i>		<i>Coquillettidia perturbans</i>		<i>Ochlerotatus sollicitans</i>	
Region	This Week	Average*	This Week	Average*	This Week	Average*	This Week	Average*
Agricultural	4.43	3.50	17.57	41.40	0.02		0.00	1.46
Coastal	2.29	4.60	1.17	3.56	0.00		14.90	12.26
Delaware Bayshore	0.00		0.00		0.00		0.00	
Delaware River Basin	22.98	4.97	15.79	6.93	0.00		0.00	3.89
New York Metro	6.31	1.63	4.83	2.42	0.00		0.00	0.10
North Central Rural	0.39		0.57		0.00		0.00	
Northwest Rural	30.52		9.95		0.19		0.00	
Philadelphia Metro	4.20		0.31		0.02		0.00	
Pinelands	3.01	1.37	1.91	2.32	0.08		0.09	
Suburban Corridor	4.61	10.53	2.58	3.49	0.25		0.00	

- Complete data not yet available.

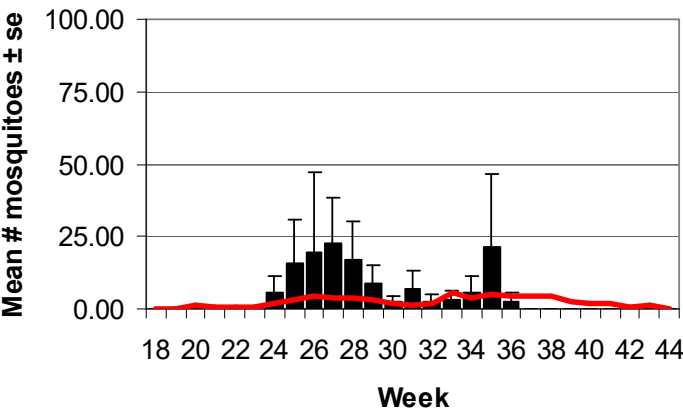
Please Note: Historical data is being entered and not yet complete. These values and graphics will change as more data is entered.

Agricultural

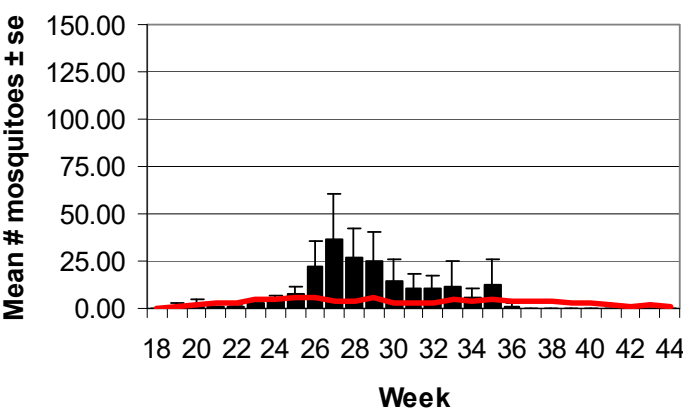


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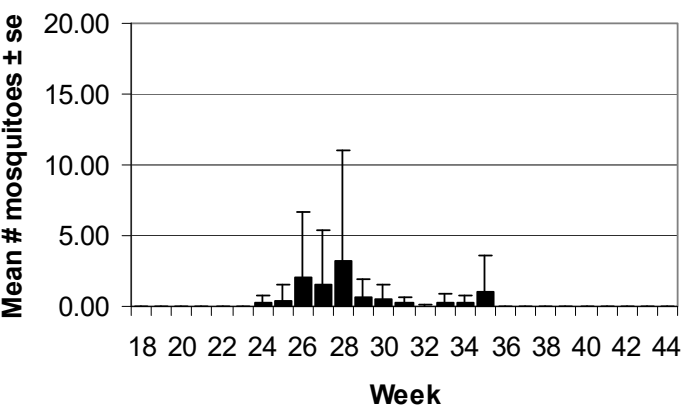
Aedes vexans



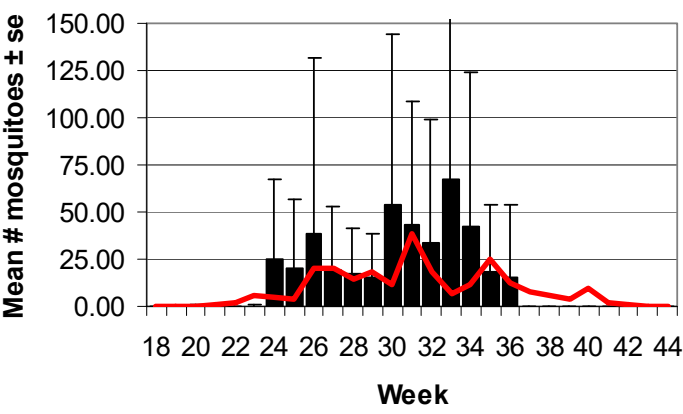
Culex Mix



Coquillettidia perturbans

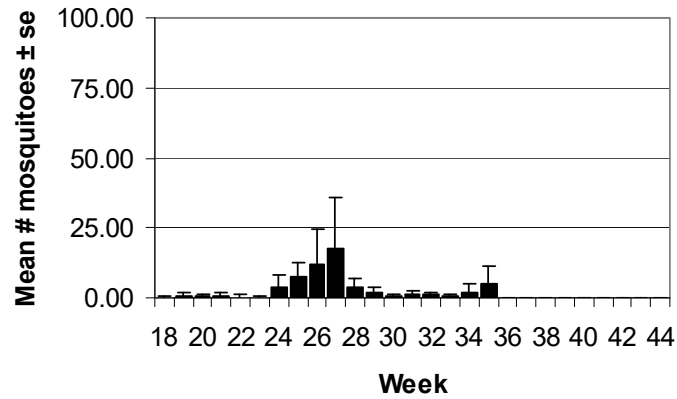


Ochlerotatus sollicitans

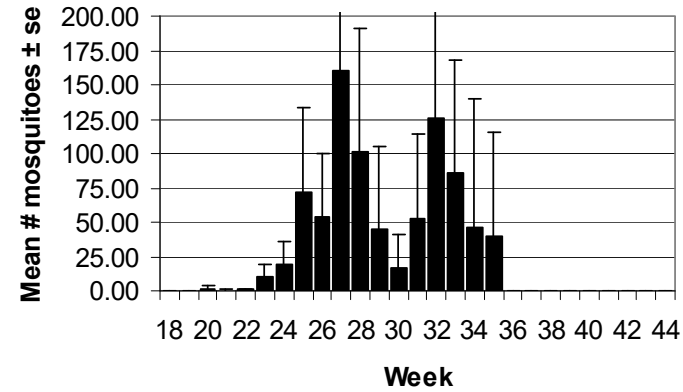


Delaware Bayshore

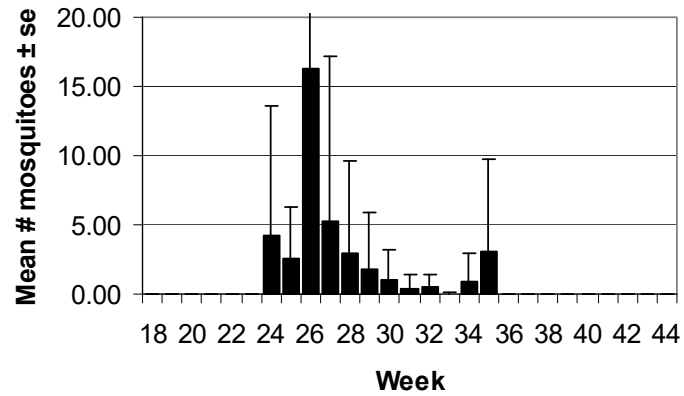
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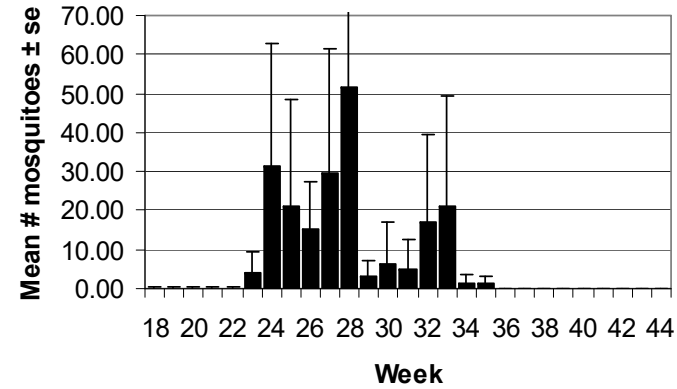
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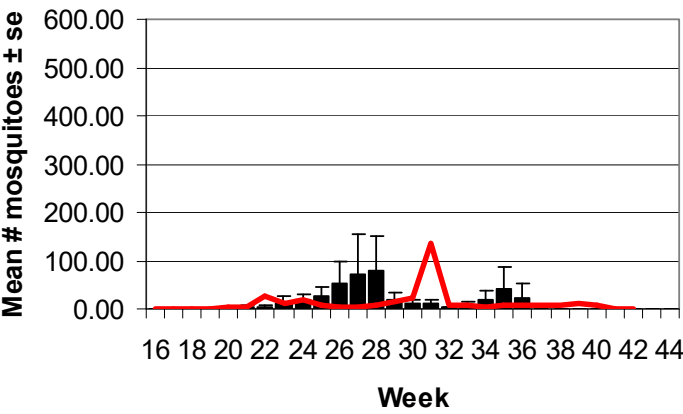


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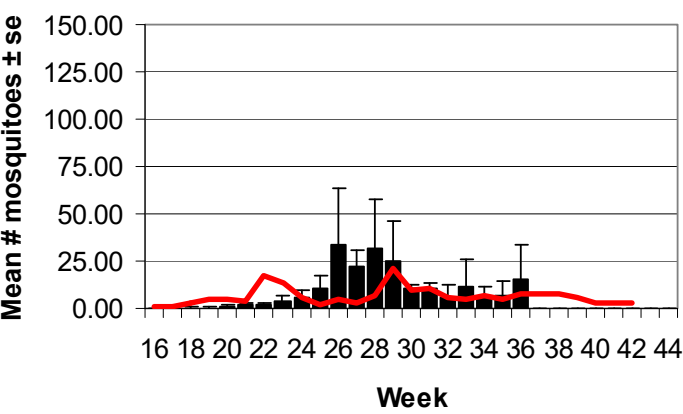


Delaware River Basin

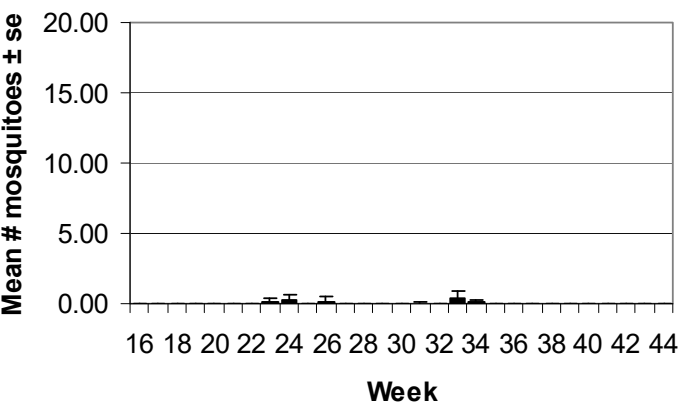
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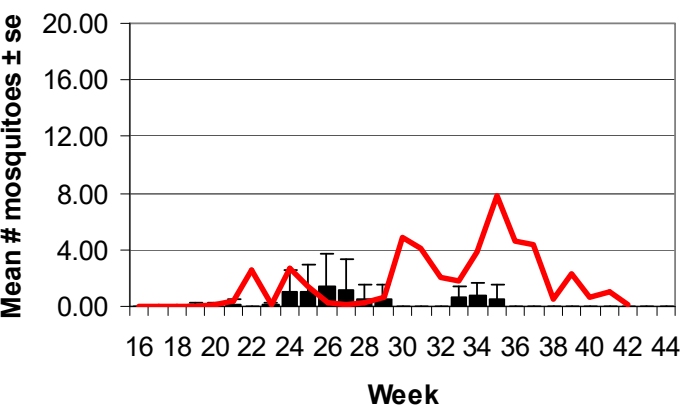
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Coquillettidia perturbans

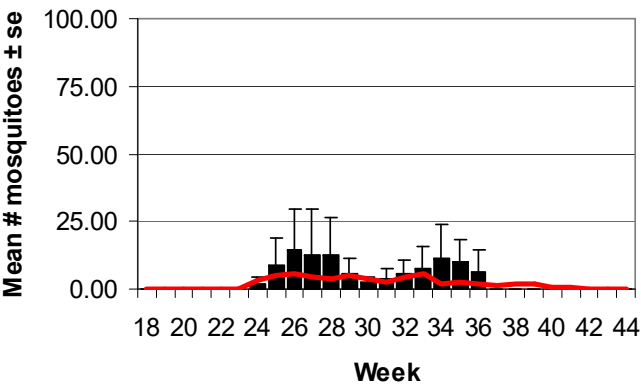


Ochlerotatus sollicitans

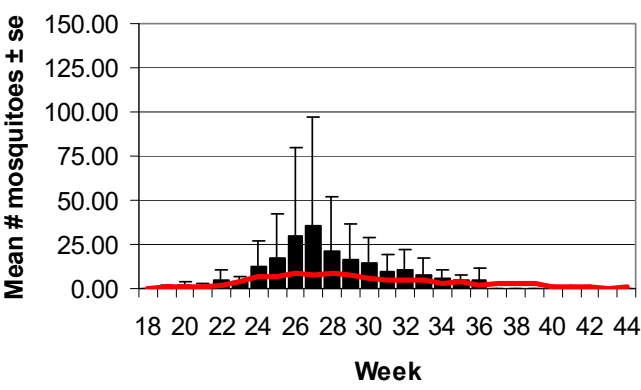


New York Metro

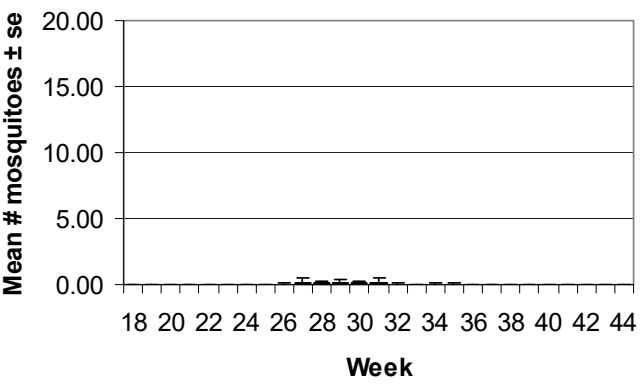
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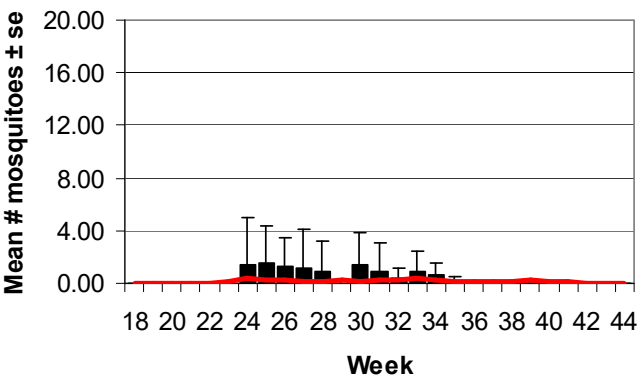
Culex Mix



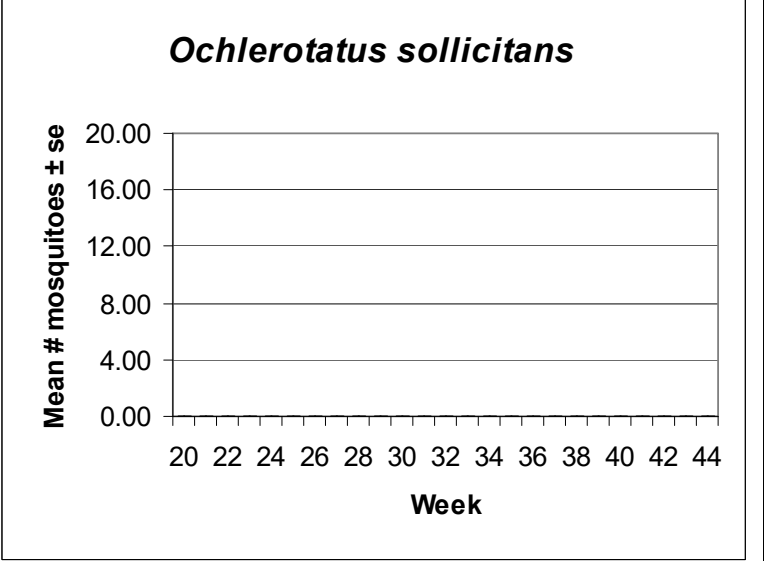
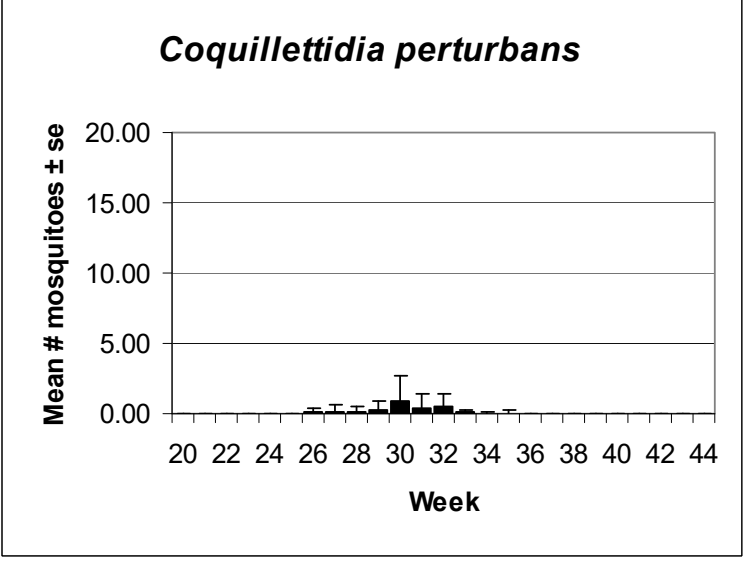
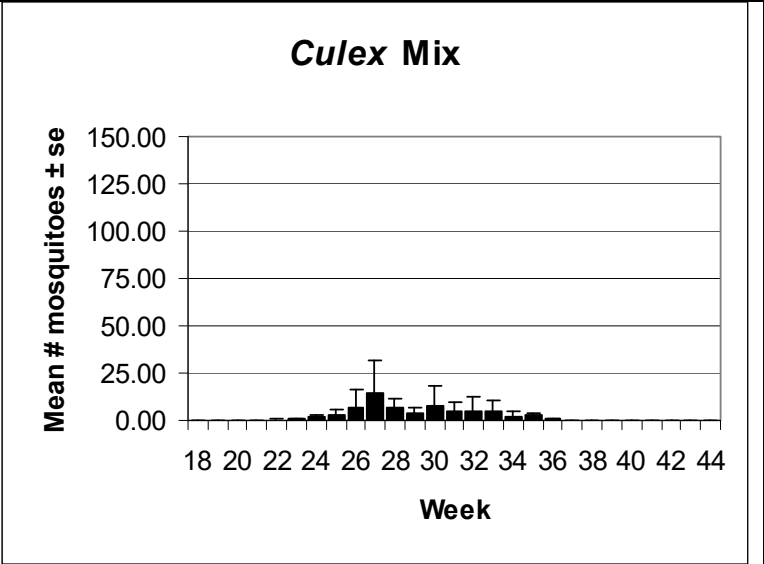
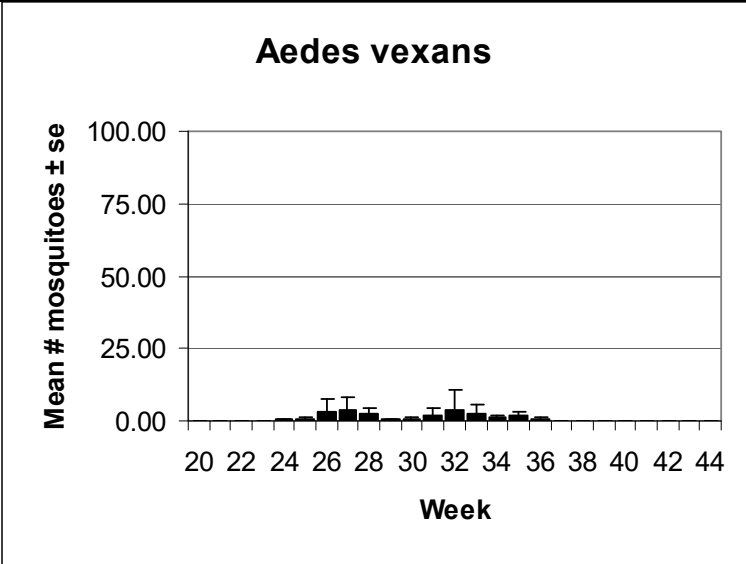
Coquilleltidia perturbans



Ochlerotatus sollicitans

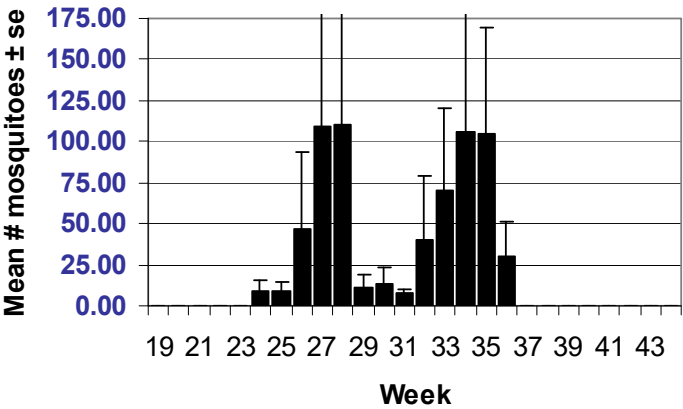


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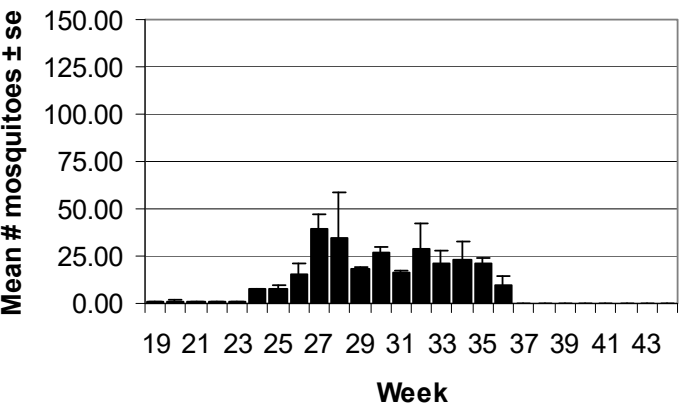


Northwestern Rural

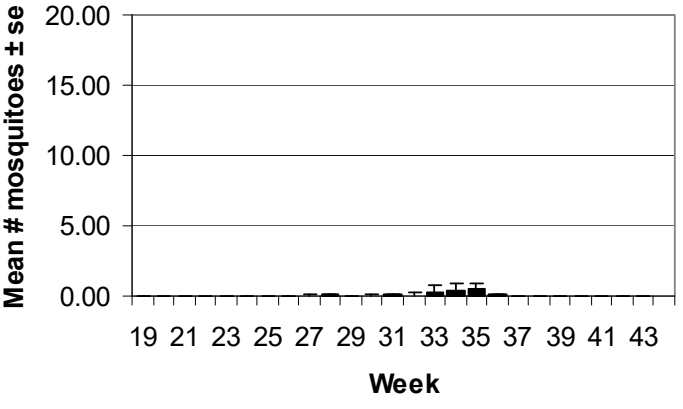
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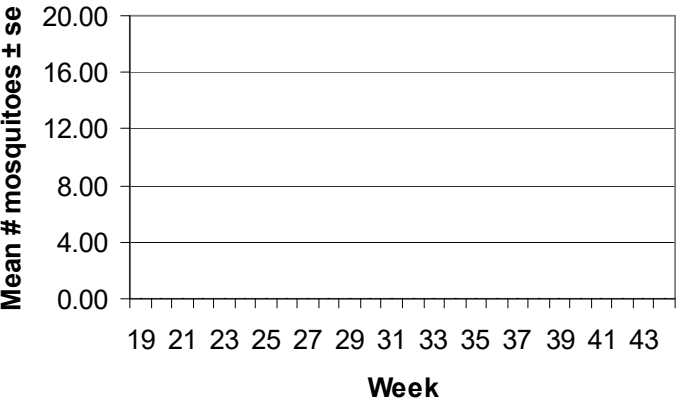
Culex Mix



Coquillettidia perturbans

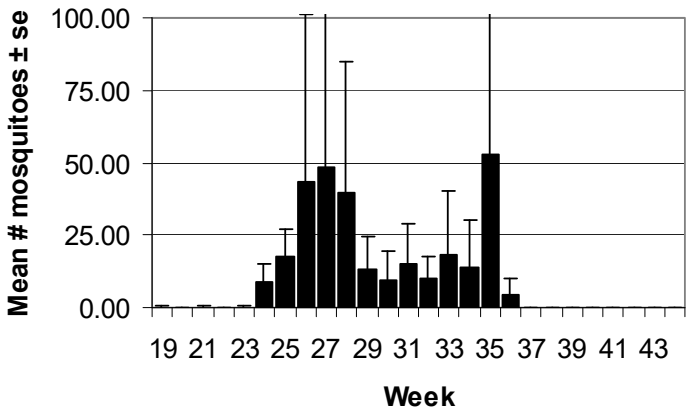


Ochlerotatus sollicitans

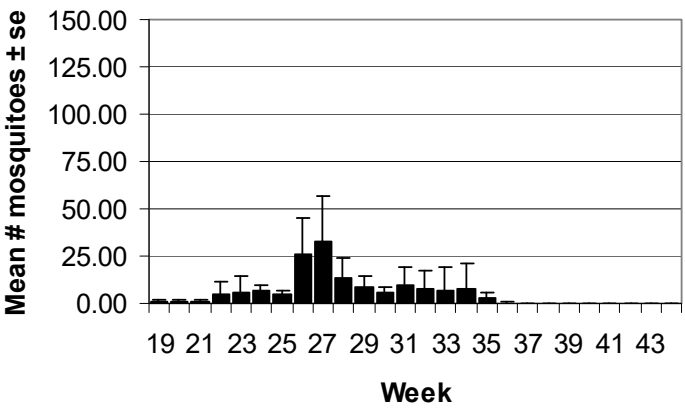


Philadelphia Metro

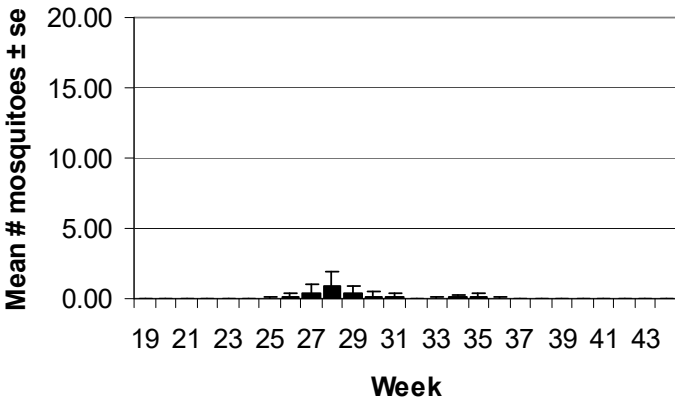
Aedes vexans



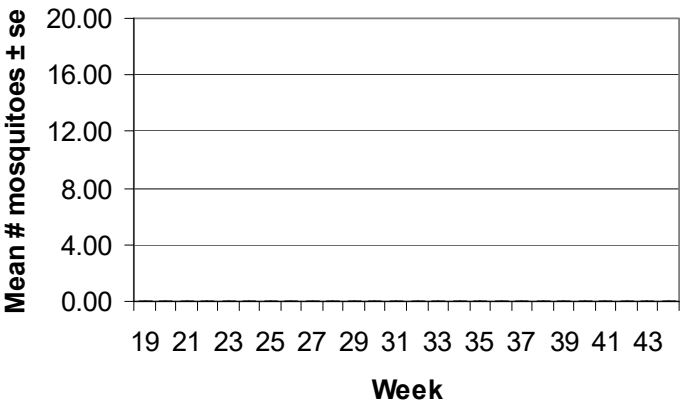
Culex Mix



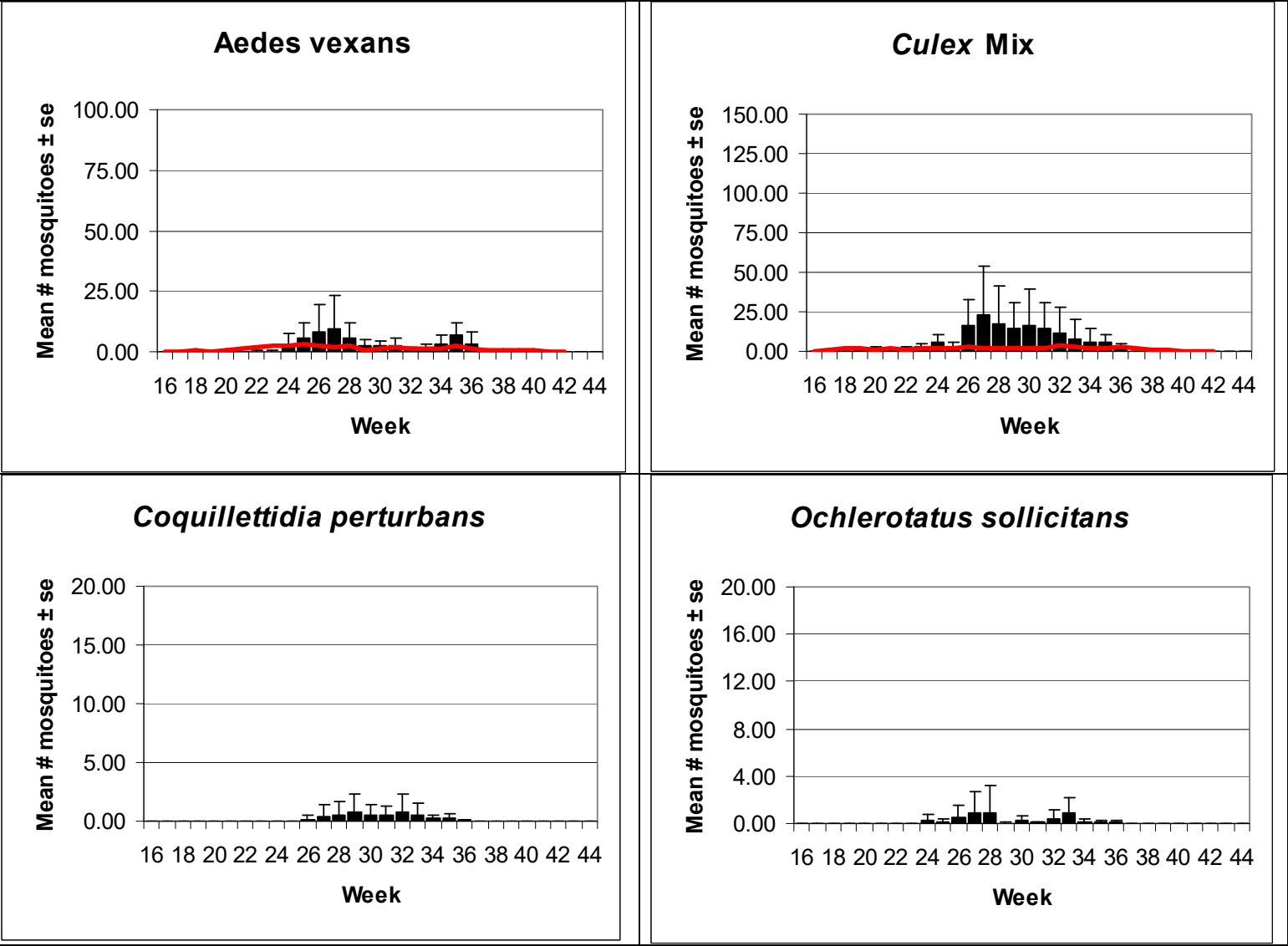
Coquillettidia perturbans



Ochlerotatus sollicitans

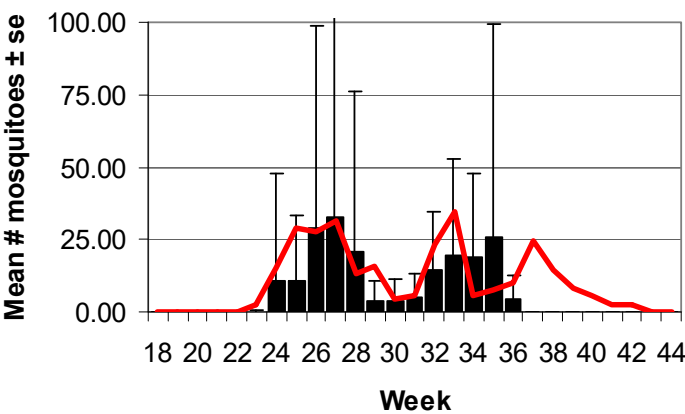


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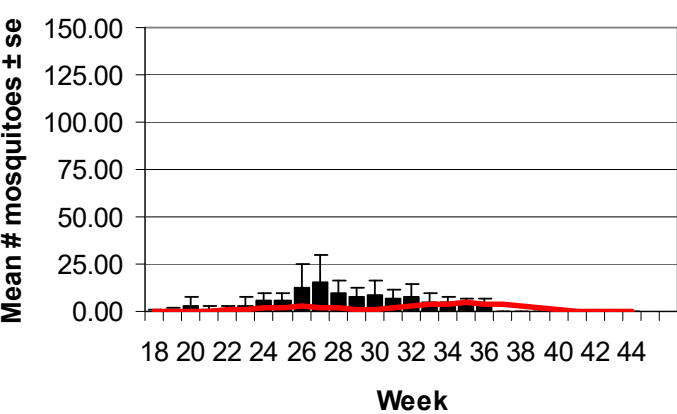


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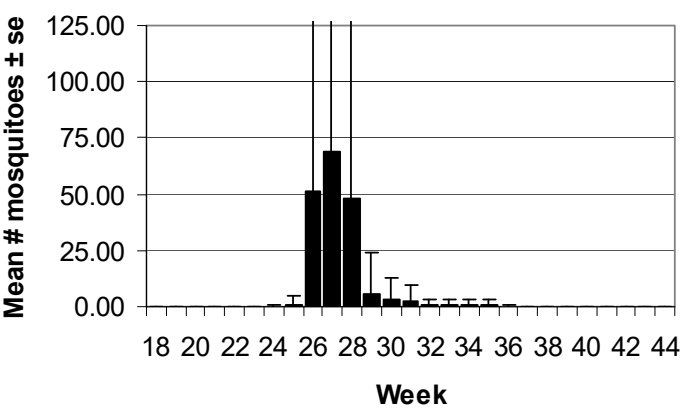
Aedes vexans



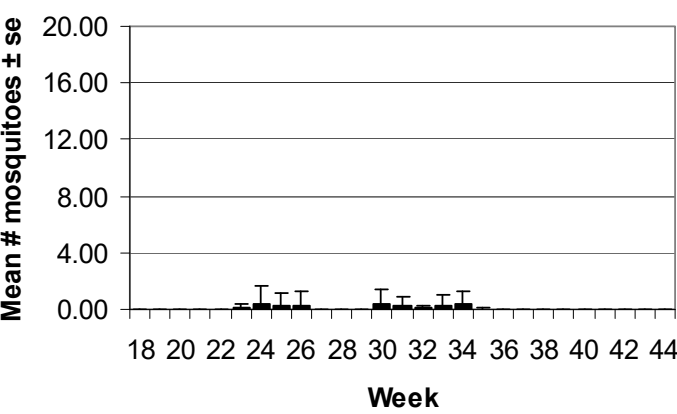
Culex Mix



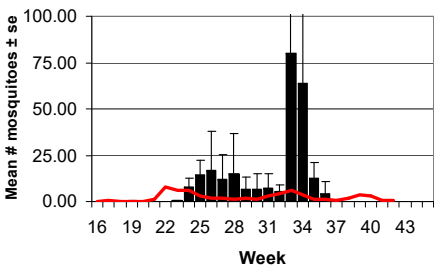
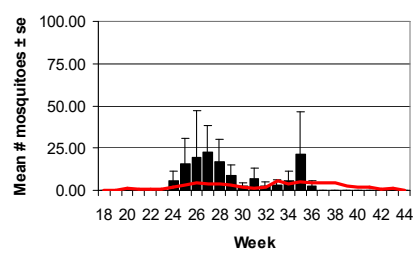
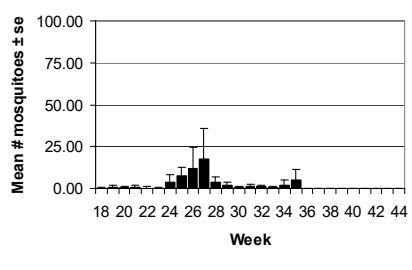
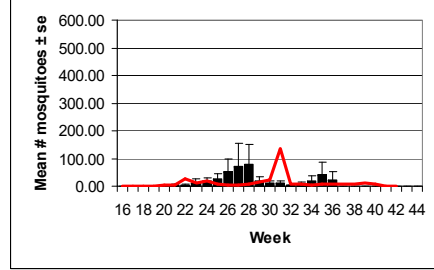
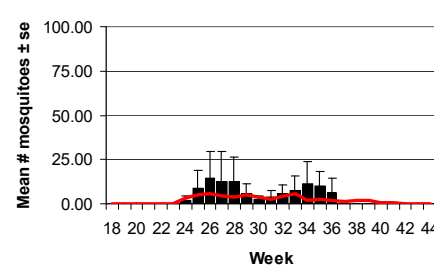
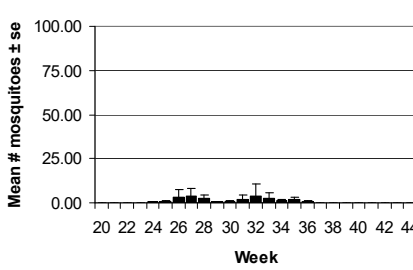
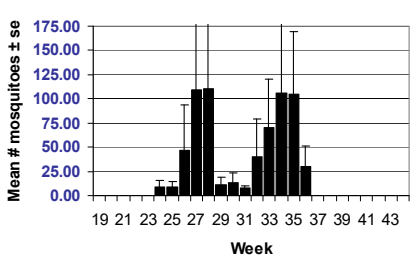
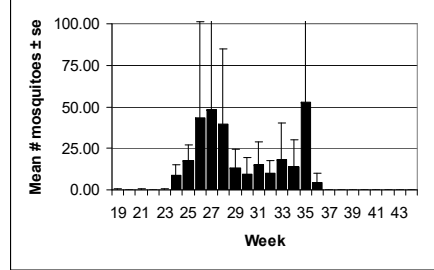
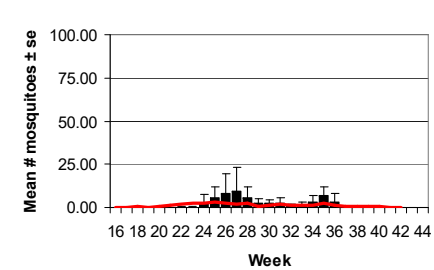
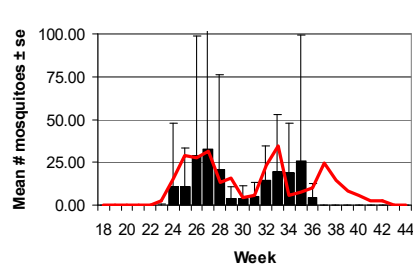
Coquillettidia perturbans



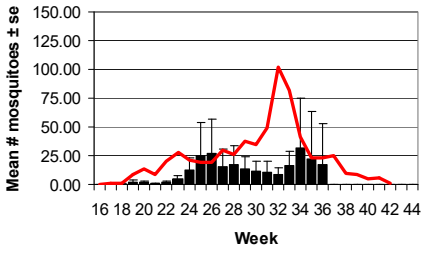
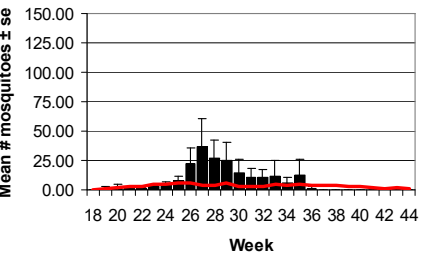
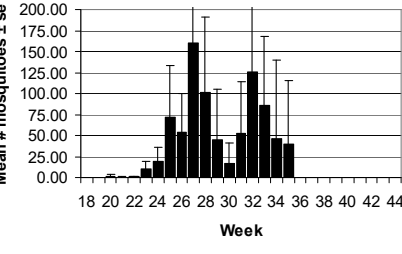
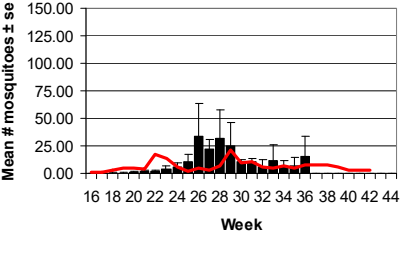
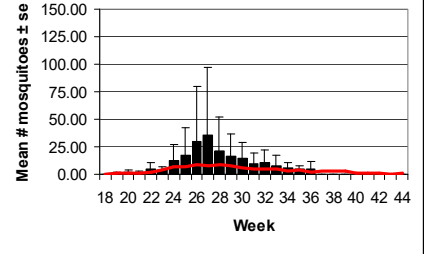
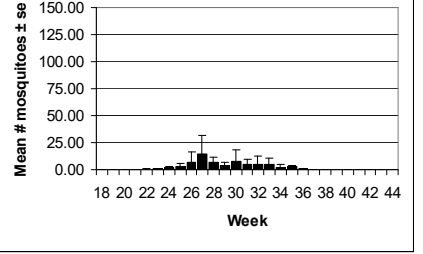
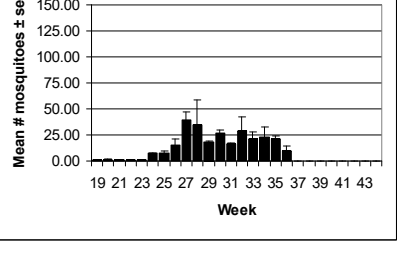
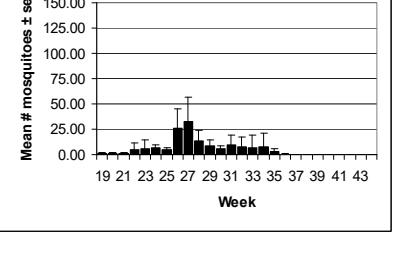
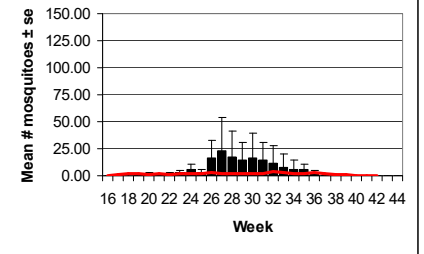
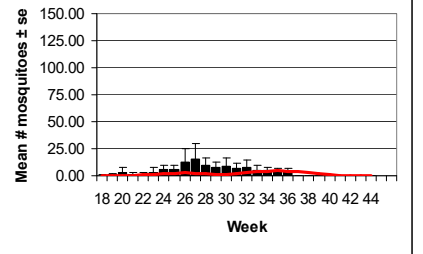
Ochlerotatus sollicitans



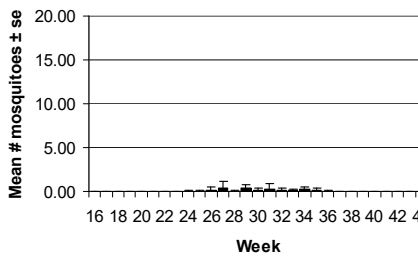
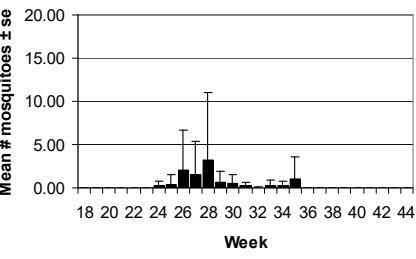
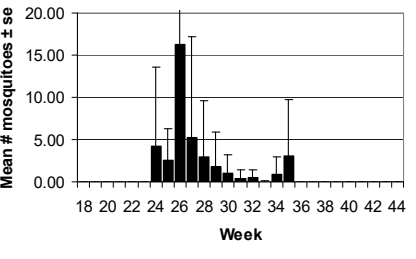
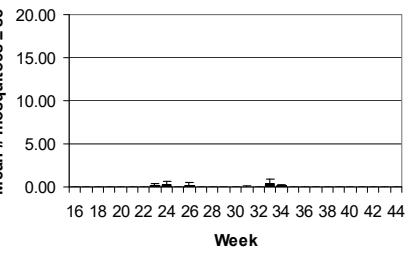
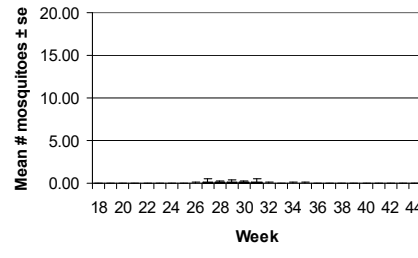
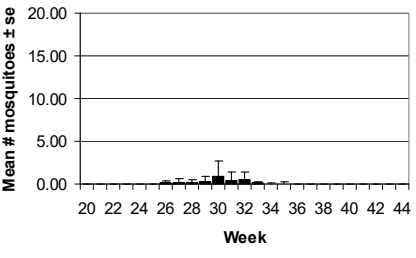
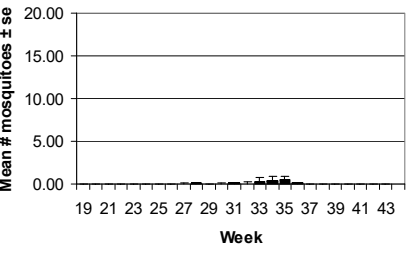
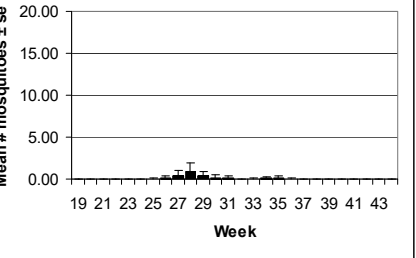
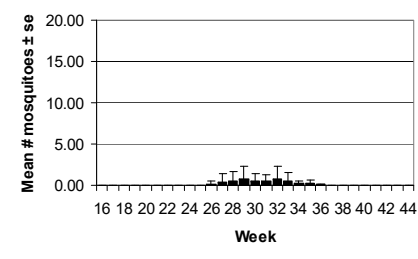
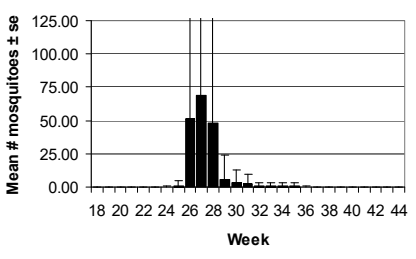
Aedes vexans

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
<i>Aedes vexans</i> 	<i>Aedes vexans</i> 	<i>Aedes vexans</i> 	<i>Aedes vexans</i> 
New York Metro	North Central Rural	Northwestern Rural	Philadelphia Metro
<i>Aedes vexans</i> 	<i>Aedes vexans</i> 	<i>Aedes vexans</i> 	<i>Aedes vexans</i> 
Pinelands	Suburban Corridor	Comments	
<i>Aedes vexans</i> 	<i>Aedes vexans</i> 	<i>Ae. vexans</i> – <i>Ae. vexans</i> populations continue to decline in all geographic regions monitored by this program. The Northwestern Rural Region, which produced the highest numbers in the state, appears to be the only one where nuisance levels still exist. This year's data set clearly show that 2 major broods of <i>Ae. vexans</i> emerged during the course of the season and that the emergences were synchronous on a state-wide basis.	

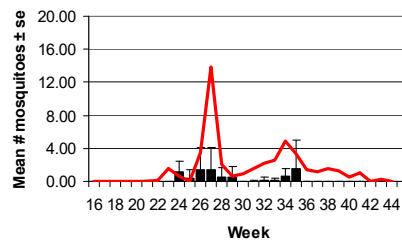
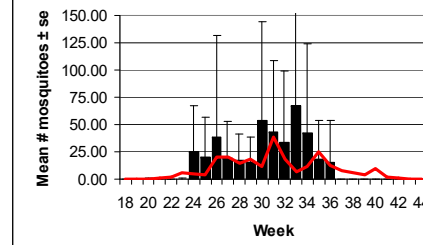
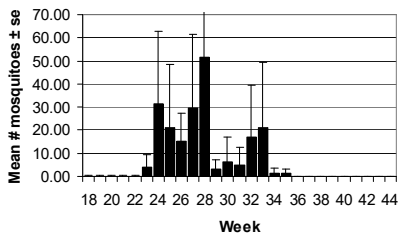
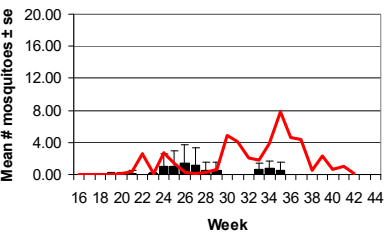
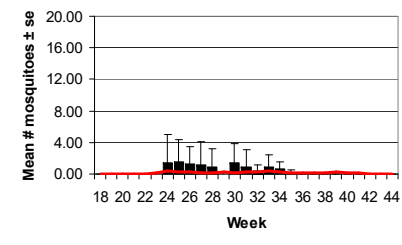
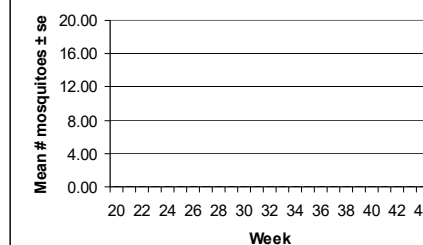
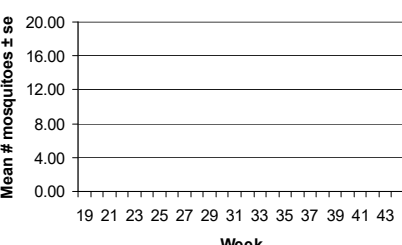
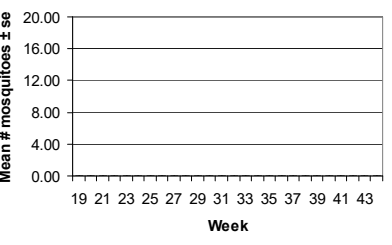
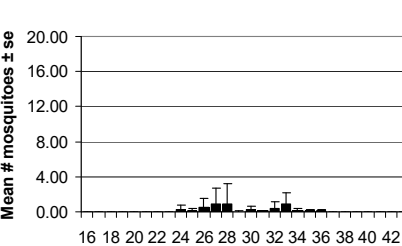
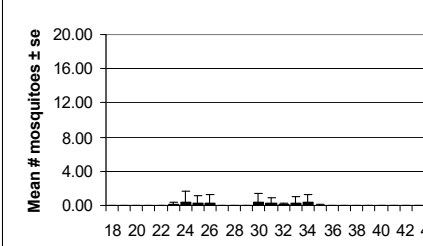
Culex Complex

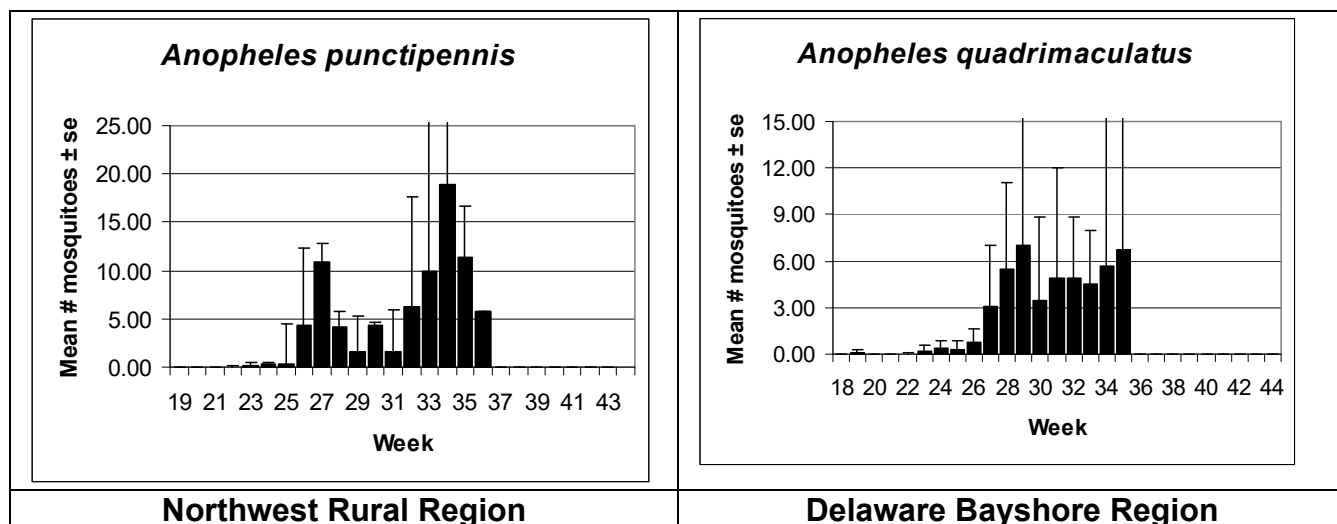
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
Culex Mix 	Culex Mix 	Culex Mix 	Culex Mix 
New York Metro	North Central Rural	Northwestern Rural	Philadelphia Metro
Culex Mix 	Culex Mix 	Culex Mix 	Culex Mix 
Pinelands	Suburban Corridor	Comments	
Culex Mix 	Culex Mix 	Culex Complex –<i>Culex</i> populations persist in all regions of the state but show a declining trend as the season advances. This year's dataset indicate that <i>Culex</i> peaked near week 27 in virtually every region of the state. Populations in the Delaware Bayshore Region differ from other areas of the state by their higher numbers and bimodal population curve. <i>Culex salinarius</i> traditionally accounts for the majority of <i>Culex</i> in the Delaware Bayshore Region and the population peaks probably reflect the dynamics of available breeding habitat.	

Coquillettidia perturbans

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
<i>Coquillettidia perturbans</i> 	<i>Coquillettidia perturbans</i> 	<i>Coquillettidia perturbans</i> 	<i>Coquillettidia perturbans</i> 
New York Metro	North Central Rural	Northwestern Rural	Philadelphia Metro
<i>Coquillettidia perturbans</i> 	<i>Coquillettidia perturbans</i> 	<i>Coquillettidia perturbans</i> 	<i>Coquillettidia perturbans</i> 
Pinelands	Suburban Corridor	Comments	
<i>Coquillettidia perturbans</i> 	<i>Coquillettidia perturbans</i> 	<i>Cq. perturbans</i> – State Surveillance light trap data show that <i>Cq. perturbans</i> populations have all but disappeared. A very minor emergence is evident in several regions being monitored by this program but <i>Cq. perturbans</i> nuisance was an early summer phenomenon this year.	

Ochlerotatus sollicitans

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
<i>Ochlerotatus sollicitans</i> 	<i>Ochlerotatus sollicitans</i> 	<i>Ochlerotatus sollicitans</i> 	<i>Ochlerotatus sollicitans</i> 
New York Metro	North Central Rural	Northwestern Rural	Philadelphia Metro
<i>Ochlerotatus sollicitans</i> 	<i>Ochlerotatus sollicitans</i> 	<i>Ochlerotatus sollicitans</i> 	<i>Ochlerotatus sollicitans</i> 
Pinelands	Suburban Corridor	Comments	
<i>Ochlerotatus sollicitans</i> 	<i>Ochlerotatus sollicitans</i> 	<i>Oc. sollicitans</i> – The August brood of <i>Oc. sollicitans</i> continues to decline in coastal regions. Specimens that are still on the wing have already fed, at least once, and should be treated as potential disease vectors. Light trap data for many of the floodwater species becomes less reliable as the season advances. Most of the crepuscular feeders shift their host-seeking behavior forward into daylight hours as night time temperatures drop.	



Anopheles punctipennis*/*Anopheles quadrimaculatus – Light trap data from the Northwest Rural Region show 2 population peaks for *An. punctipennis*. This is an opportunistic species which utilizes rainpools, like a floodwater mosquito, whenever they are available. The population graph for *An. quadrimaculatus* from the Delaware Bayshore Region depict a more typical Anopheline population curve. As a result, *An. punctipennis* often mimics the life cycle of a multivoltine Aedine while *An. quadrimaculatus* follows the pattern of a multivoltine *Culex*.

(Note the different Y-axis scale.)