NEW JERSEY STATE SURVEILLANCE

Weekly Report for Week 31, 27 July – 02 August, 2003

Submitted by Lisa Reed and Wayne Crans
Mosquito Research and Control Unit
Rutgers University, New Brunswick, NJ 08901

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 boarders.

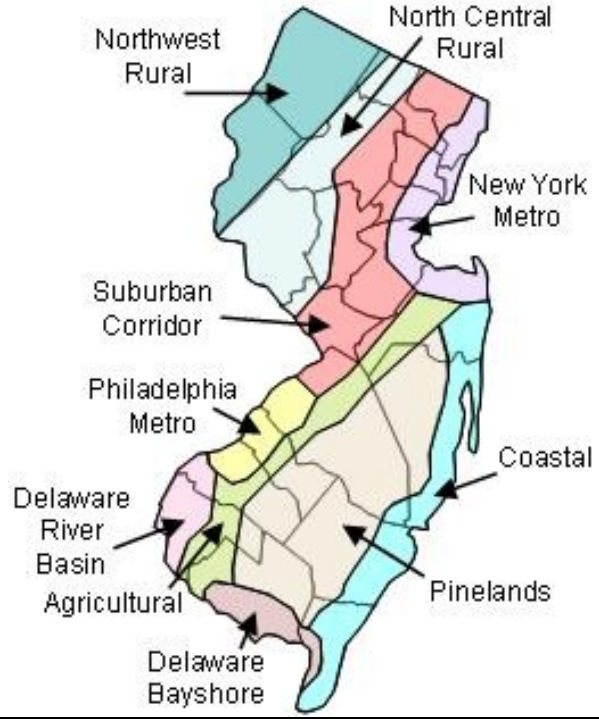


Figure 1b. Trap lat-long locations.

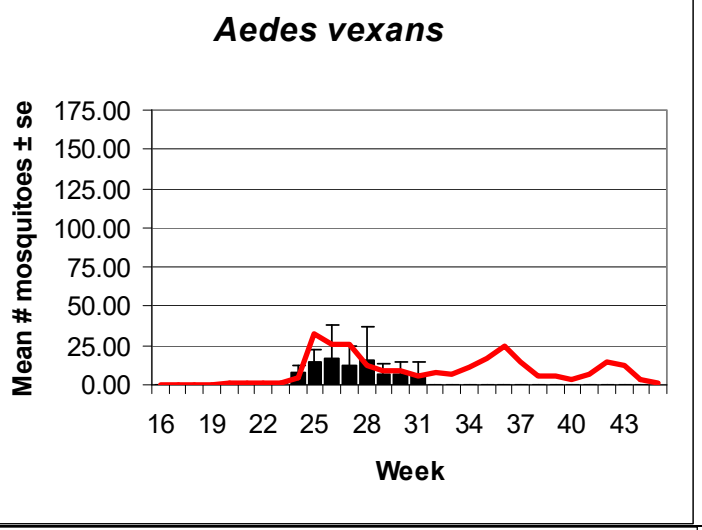
Summary table

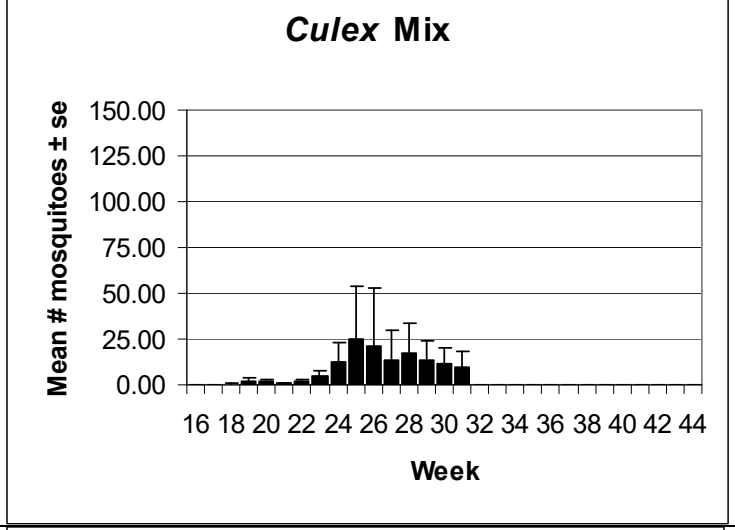
	Aedes vexans		*Culex complex*		*Coquillettidia perturbans*		*Ochlerotatus sollicitans*	
Region	This Week	Average*	This Week	Average*	This Week	Average*	This Week	Average*
Agricultural	**6.86**	**7.57**	**9.76**		**0.26**		**0.02**	**5.93**
Coastal	**6.51**	**5.64**	**9.00**	**10.64**	**0.19**		**37.94**	**145.93**
Delaware Bayshore	**0.76**		**28.95**		**0.43**		**3.98**	
Delaware River Basin	**11.57**	**62.97**	**10.25**	**83.00**	**0.04**		**0.57**	**2.50**
New York Metro	**3.30**	**9.86**	**8.97**	**15.71**	**0.16**		**0.90**	**0.94**
North Central Rural	**0.49**		**2.10**		**0.27**		**0.00**	
Northwest Rural	**5.57**		**13.43**		**0.10**		**0.00**	
Philadelphia Metro	**12.63**		**6.52**		**0.17**		**0.00**	
Pinelands	**2.36**	**4.57**	**11.51**	**8.62**	**0.39**		**0.05**	
Suburban Corridor	**2.63**	**27.20**	**5.08**	**7.51**	**2.05**		**0.19**	

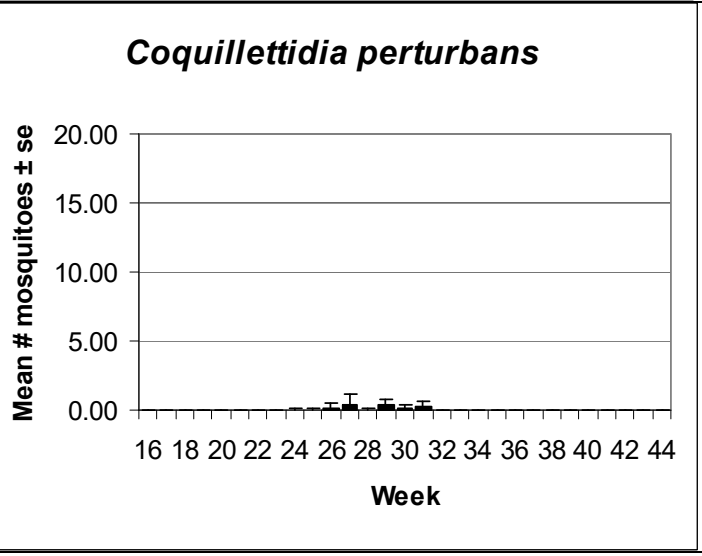
- Complete data not yet available.

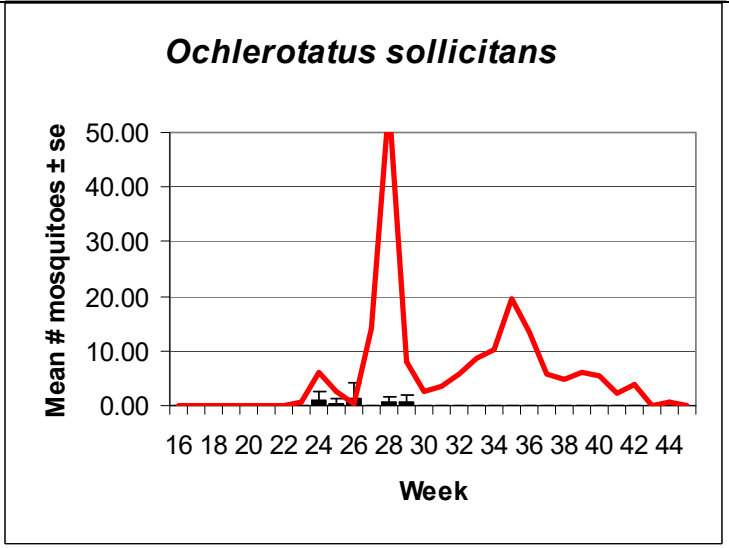
Please Note: Historical data is being entered and not yet complete. These values and graphics will change as more data is entered.

Agricultural

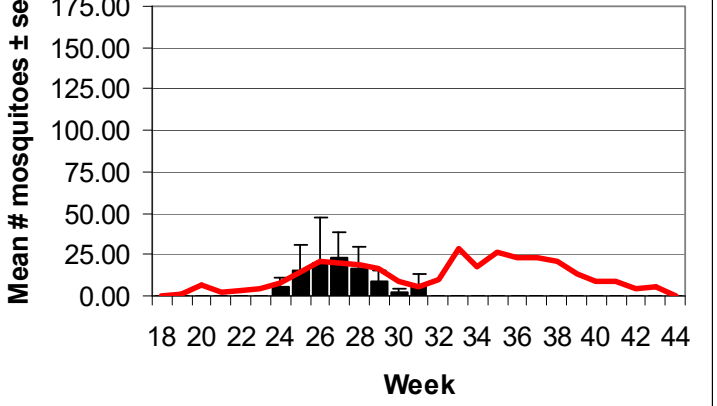


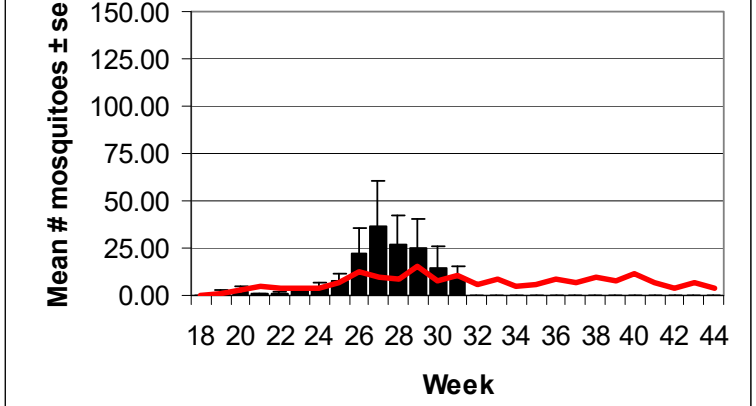


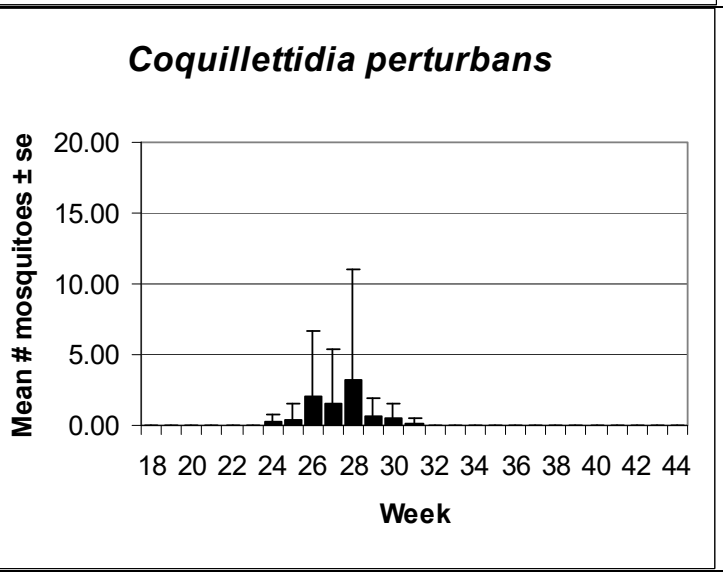


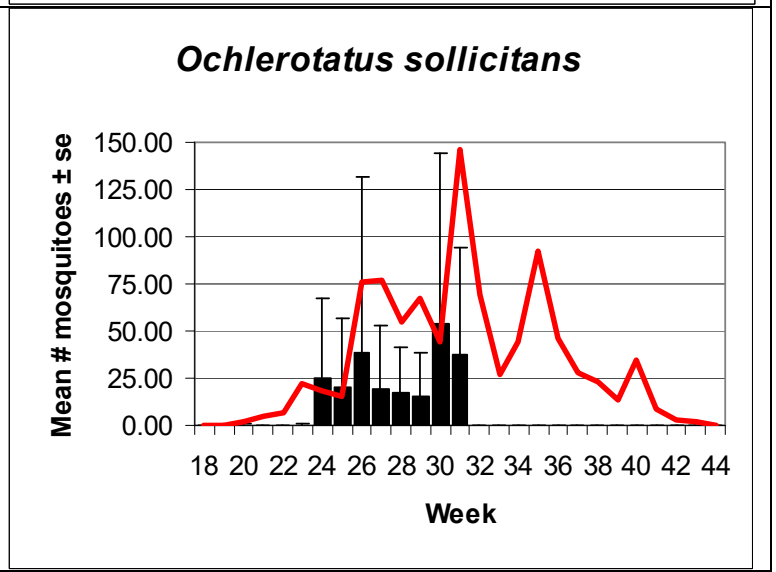


Coastal


Aedes vexans
Mean # mosquitoes ± se
175.00
150.00
125.00
100.00
75.00
50.00
25.00
0.00
18 20 22 24 26 28 30 32 34 36 38 40 42 44
Week


Culex Mix
Mean # mosquitoes ± se
150.00
125.00
100.00
75.00
50.00
25.00
0.00
18 20 22 24 26 28 30 32 34 36 38 40 42 44
Week


Coquillettidia perturbans
Mean # mosquitoes ± se
20.00
15.00
10.00
5.00
0.00
18 20 22 24 26 28 30 32 34 36 38 40 42 44
Week


Ochlerotatus sollicitans
Mean # mosquitoes ± se
150.00
125.00
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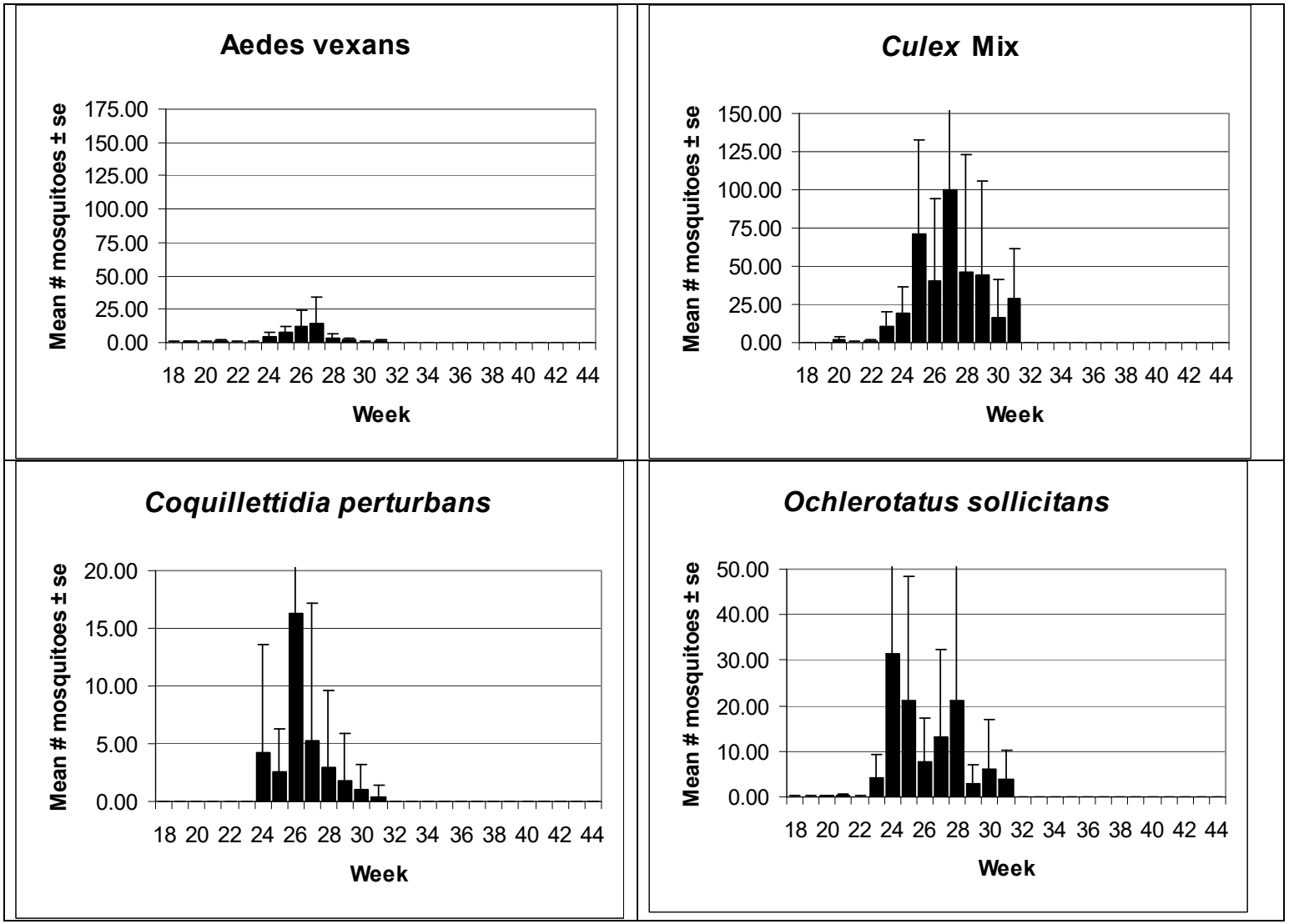
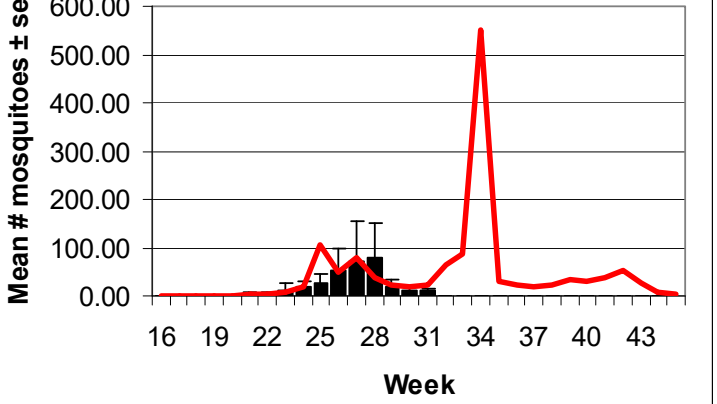
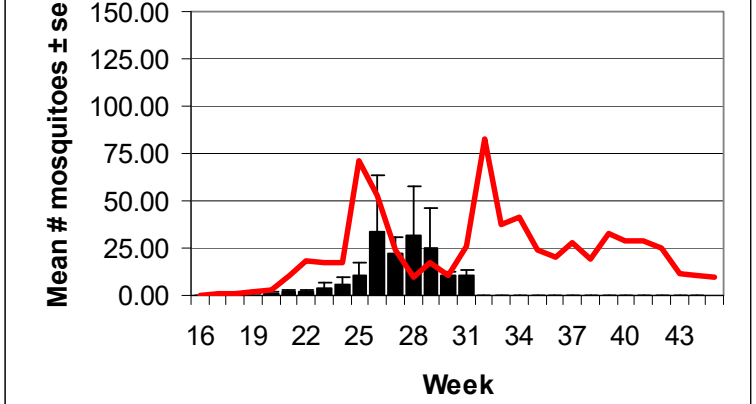
18 20 22 24 26 28 30 32 34 36 38 40 42 44
Week

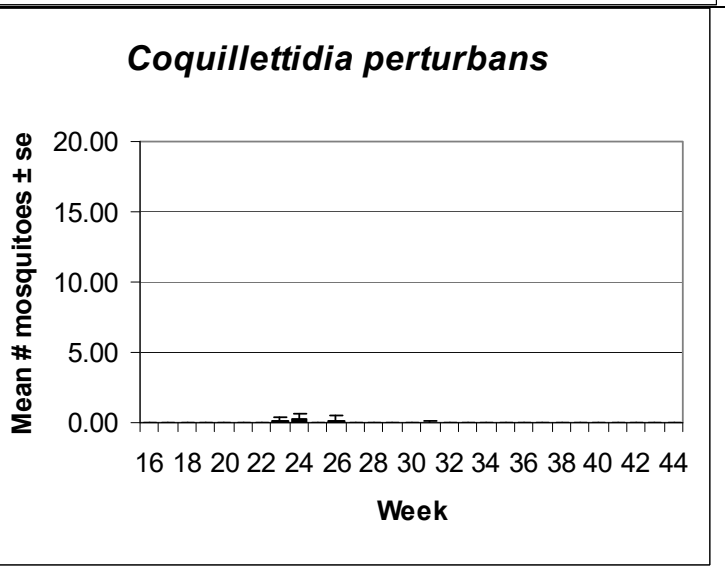
Delaware Bayshore

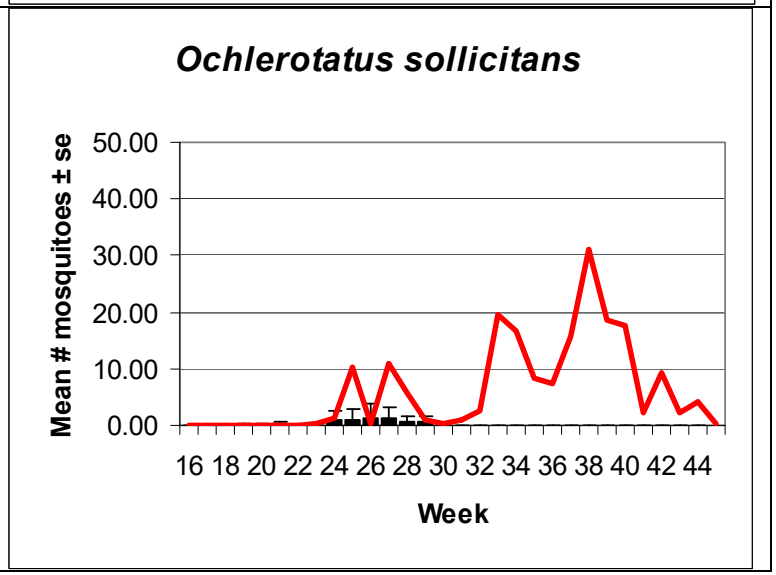


Delaware River Basin

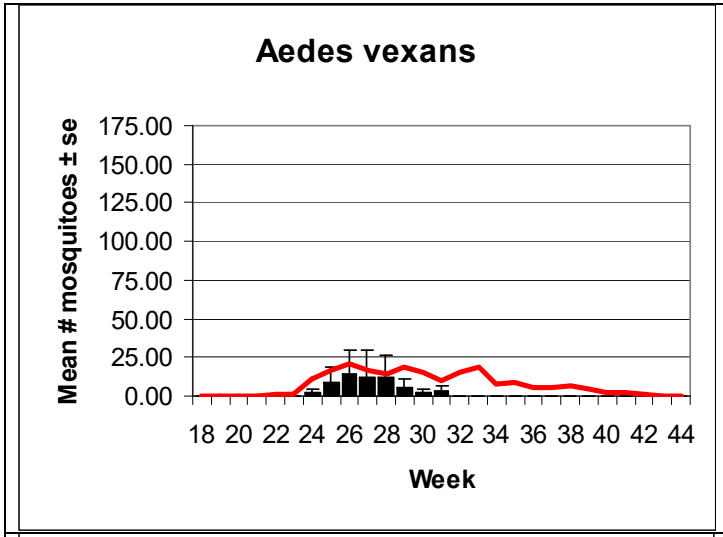


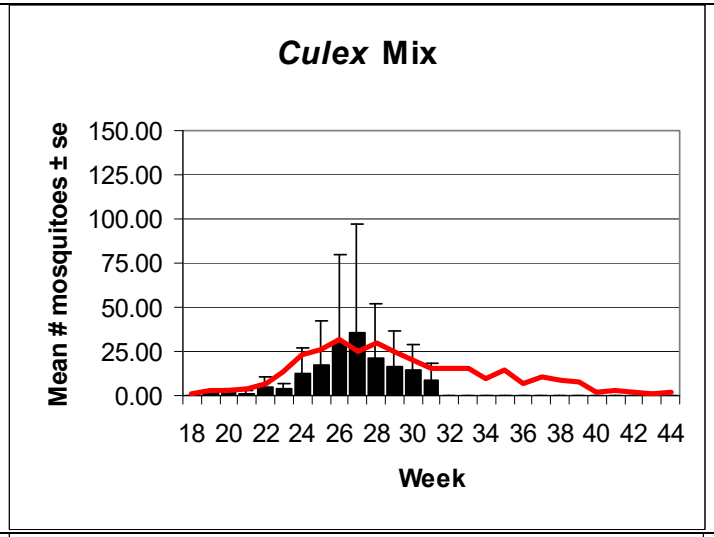


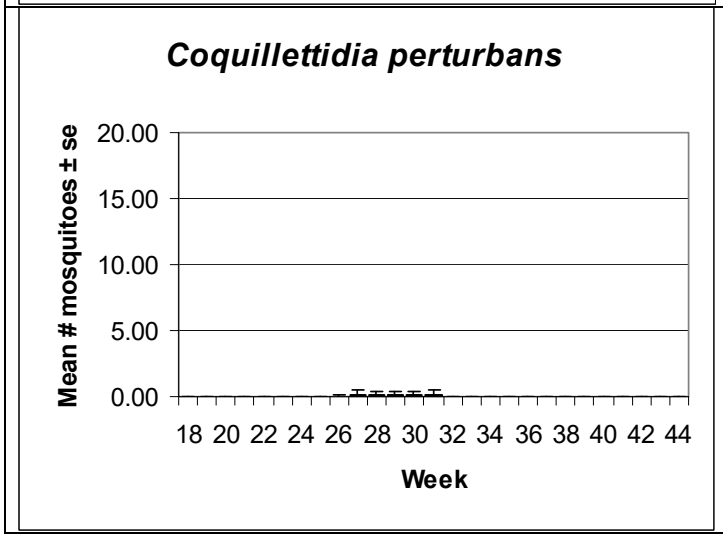


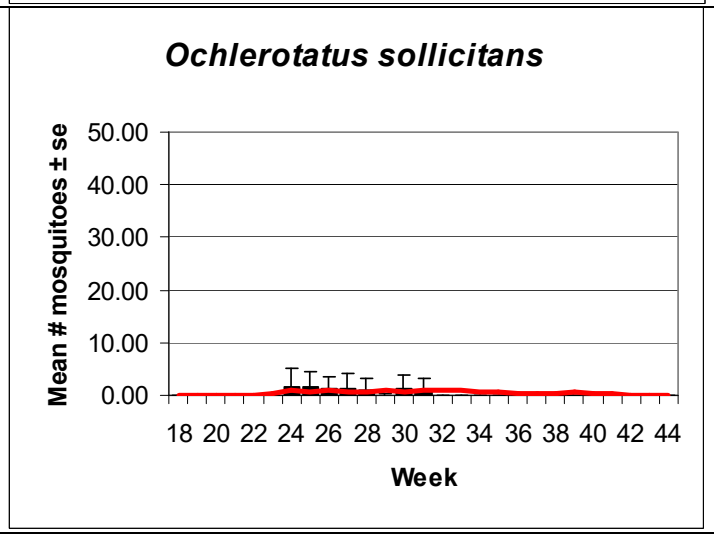


New York Metro









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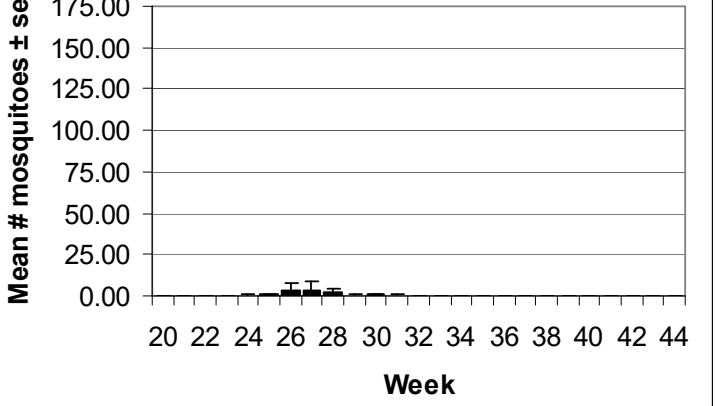
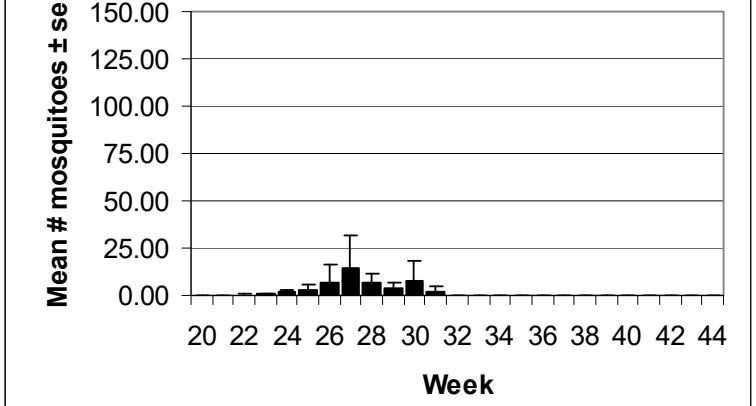
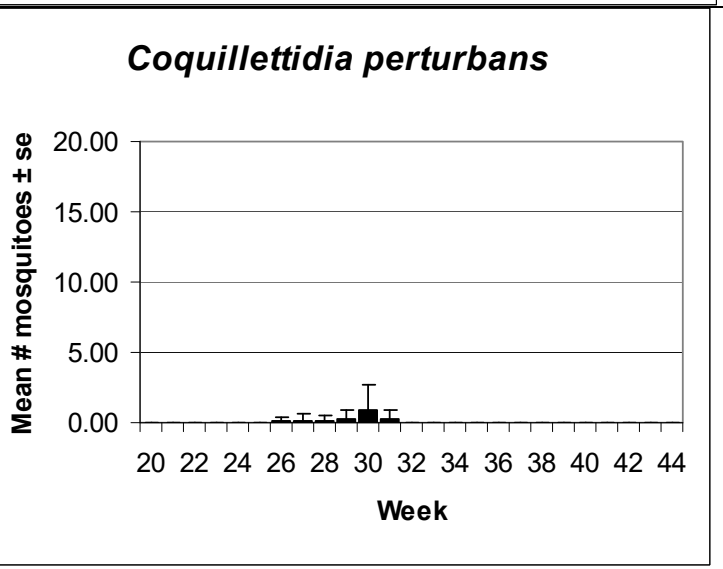
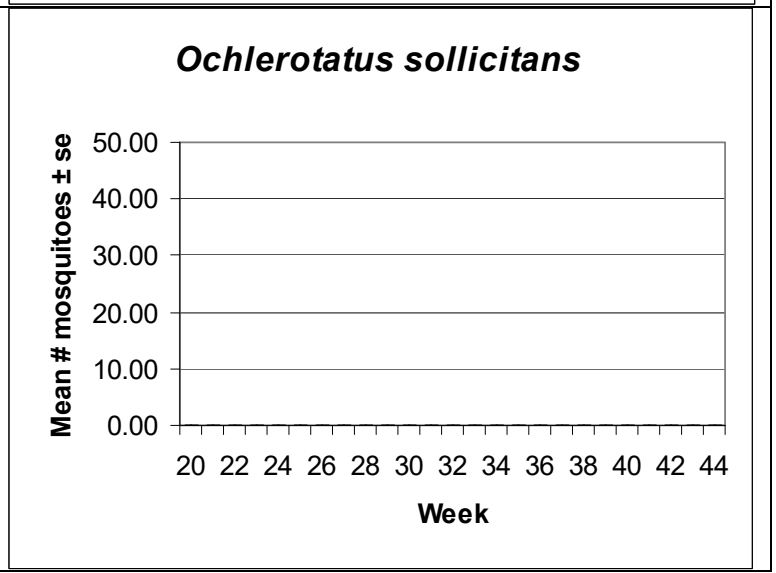
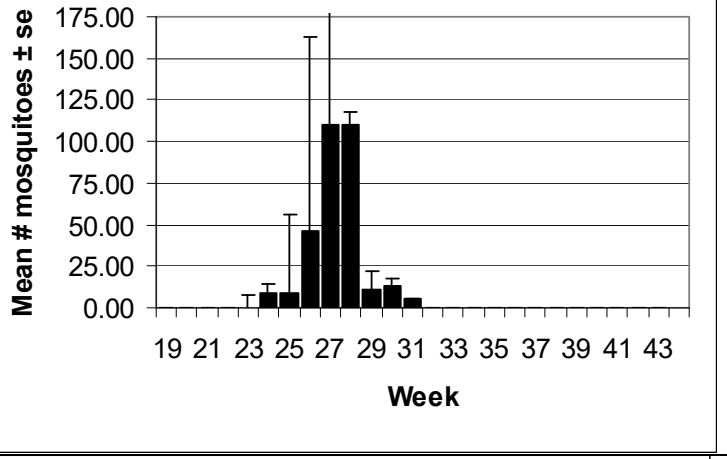


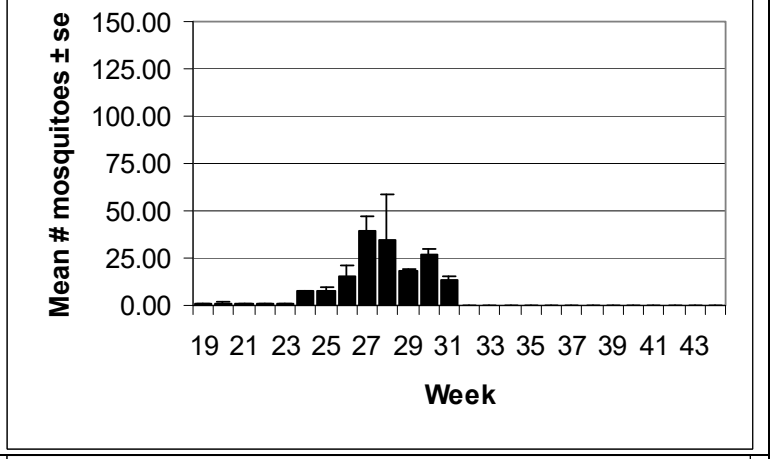


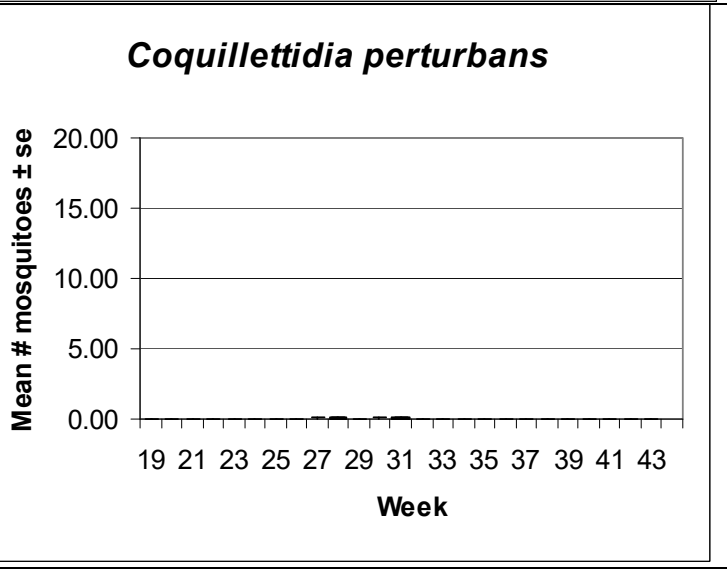


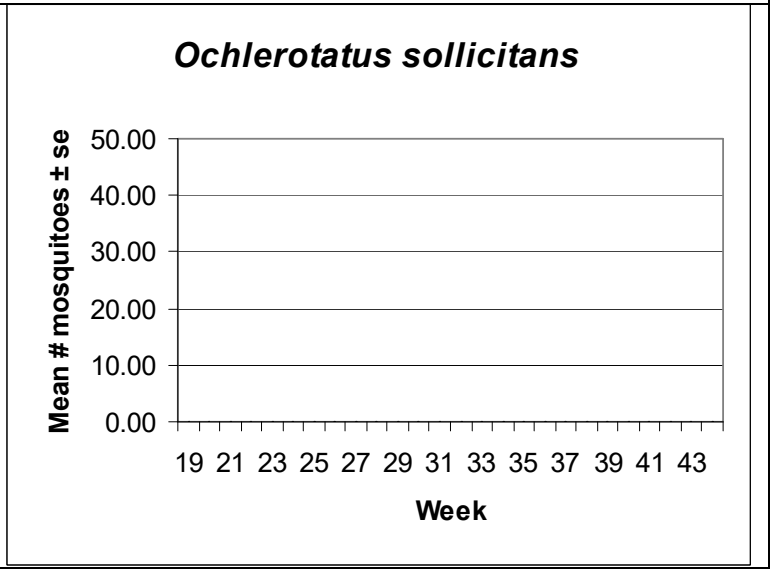


Northwestern Rural

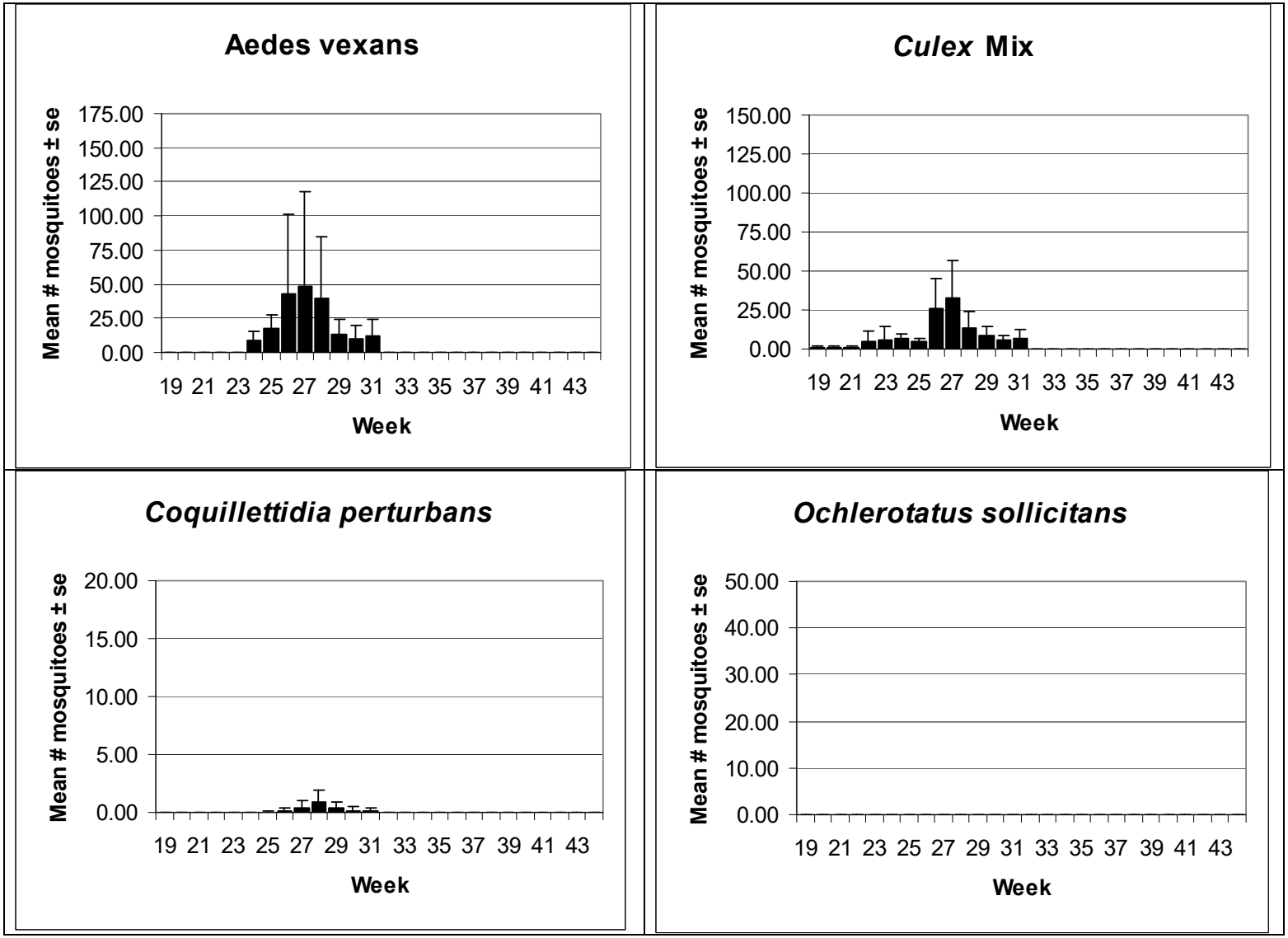




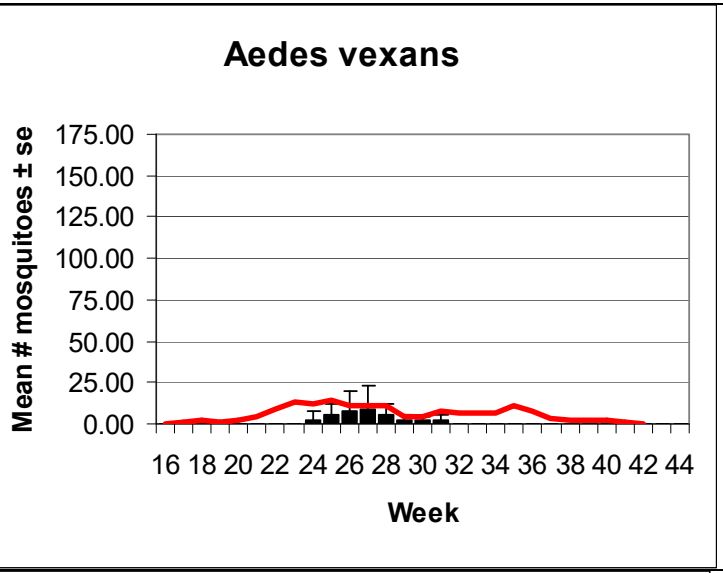




Philadelphia Metro



Pinelands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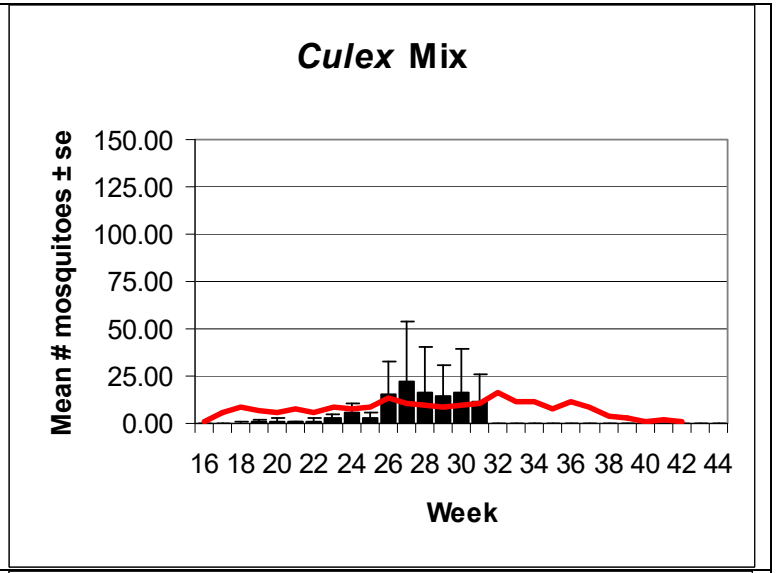
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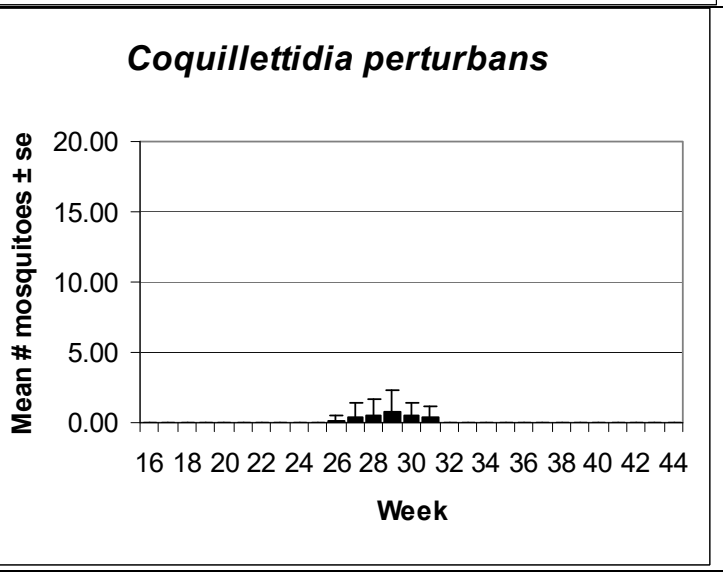
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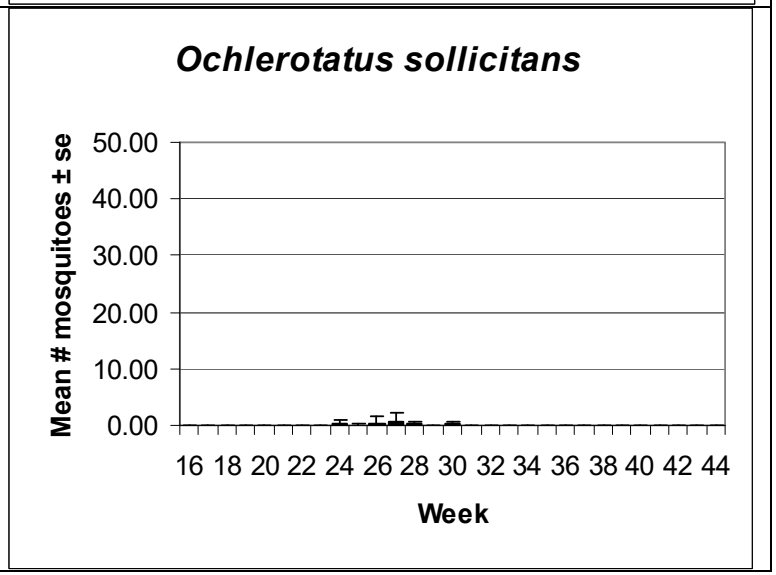
Week


Ochlerotatus sollicitans
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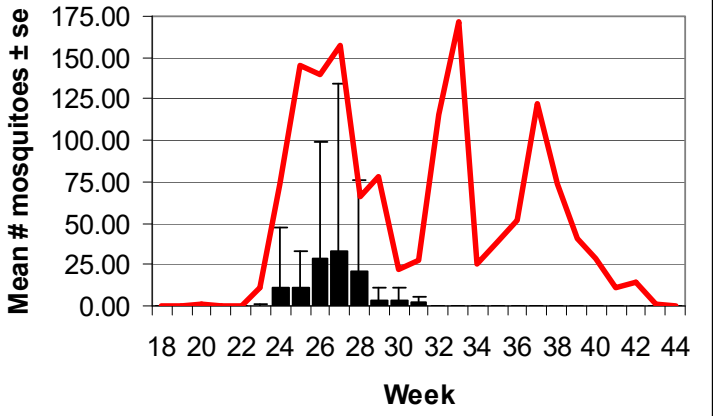
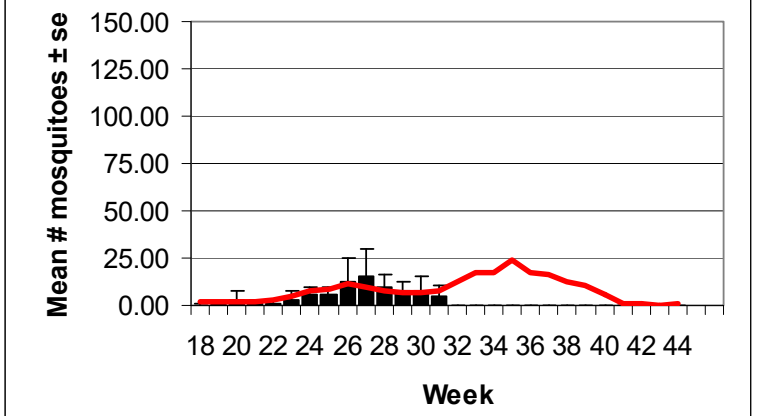
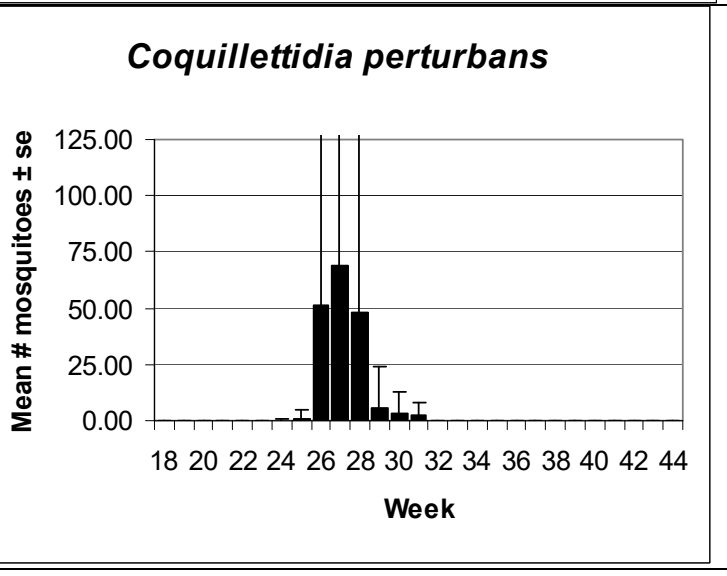
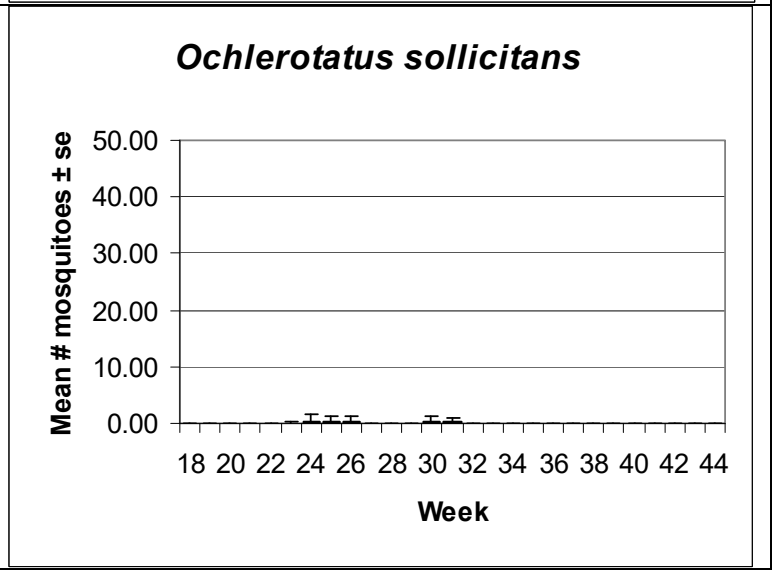
50.00
40.00
30.00
20.00
10.00
0.00
16 18 20 22 24 26 28 30 32 34 36 38 40 42 44
Week

Suburban Corridor



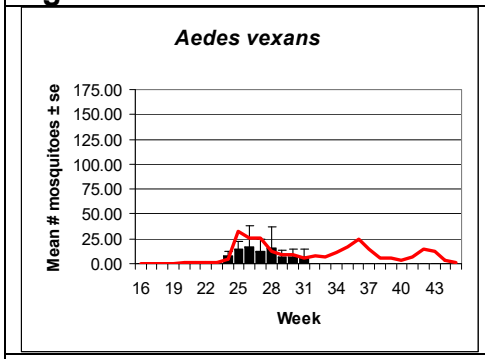




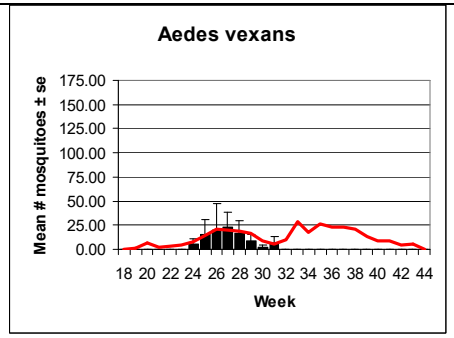


Aedes vexans

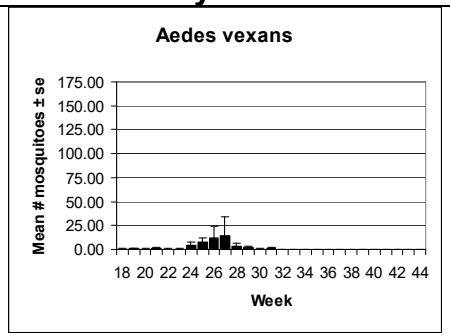
Agricultural



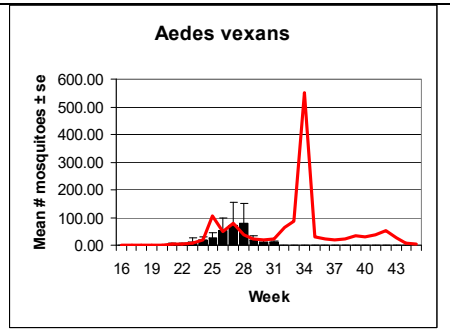
Coastal



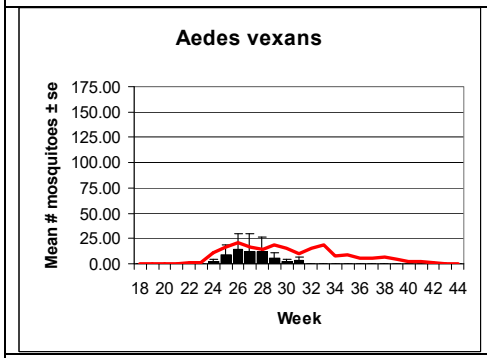
Delaware Bayshore



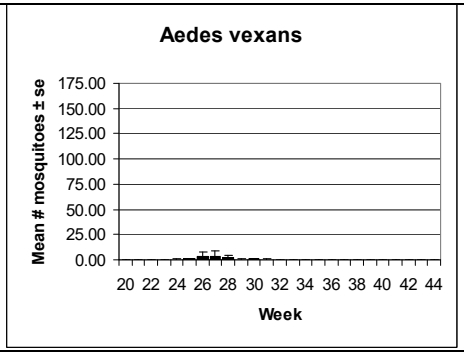
Delaware River Basin



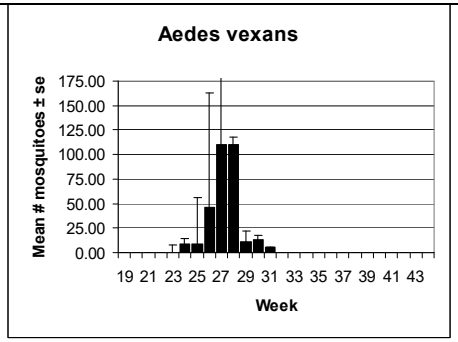
New York Metro



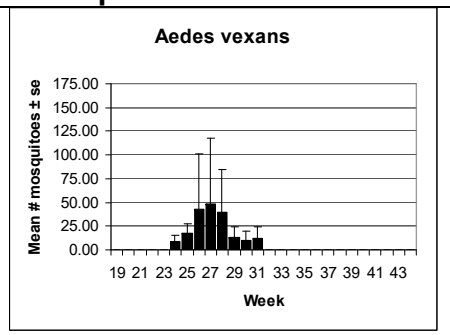
North Central Rural



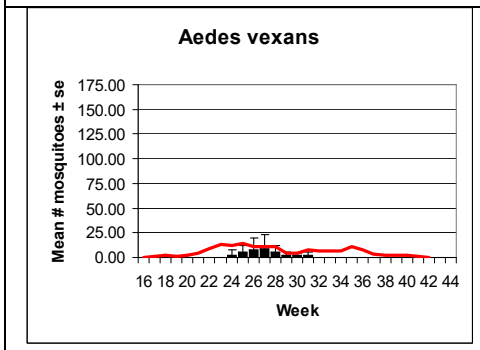
Northwestern Rural



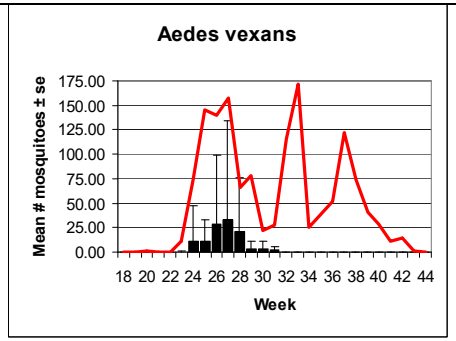
Philadelphia Metro



Pinelands



Suburban Corridor

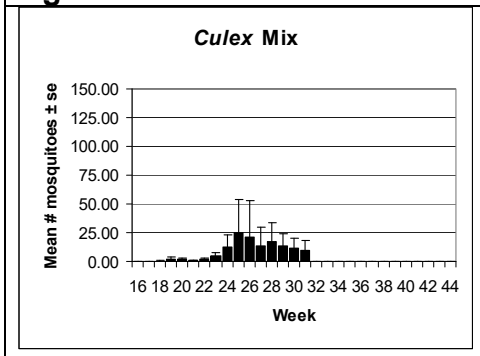


Comments

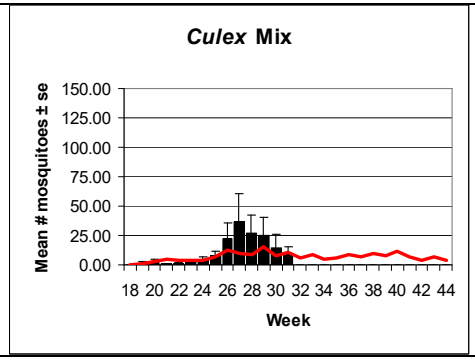
Ae. vexans – State Surveillance light trap data indicate that *Ae. vexans* numbers remain low at this point in time in all regions of the state. Historical data show that this year's *Ae. vexans* numbers are running at average levels in most of the regions where we have long-term data. The Suburban Corridor region represents a dramatic exception where historical data show a July brood that traditionally produces considerably more mosquitoes than the traps have been collecting this year. Current rainfall patterns indicate that another surge of floodwater mosquitoes can be expected over the next week or two in areas of the state where the ground has dried sufficiently to cure eggs from mosquitoes that oviposited in July.

Culex Complex

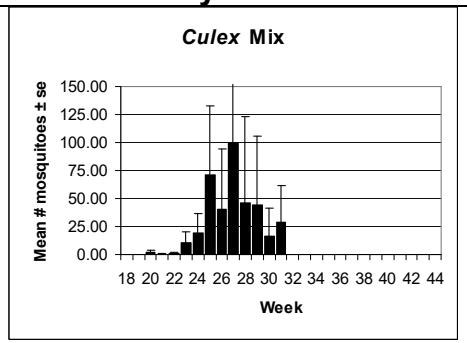
Agricultural



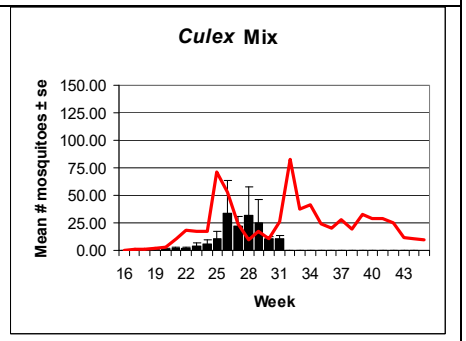
Coastal



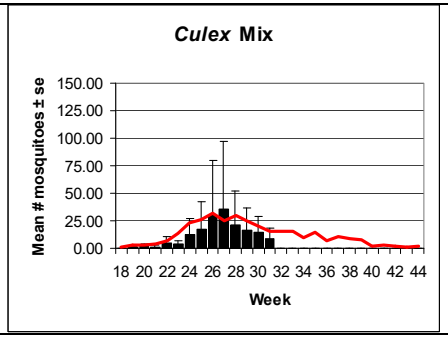
Delaware Bayshore



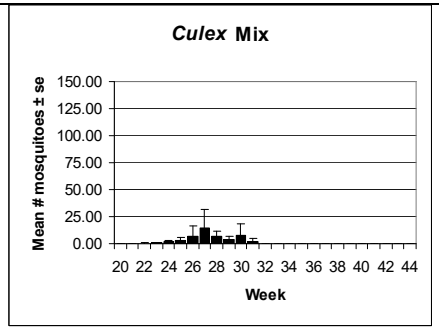
Delaware River Basin



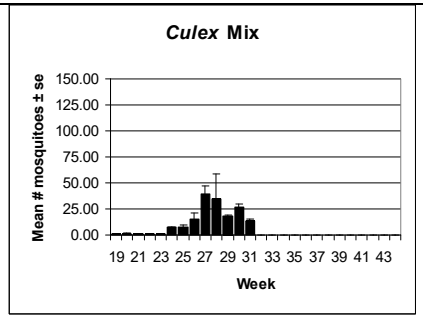
New York Metro



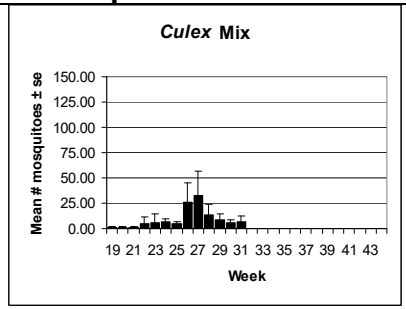
North Central Rural



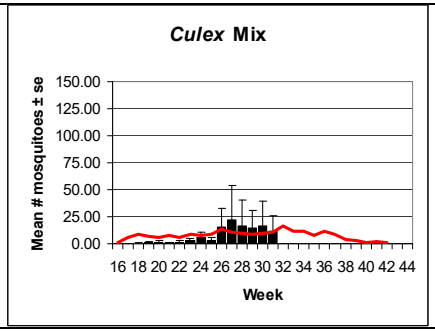
Northwestern Rural



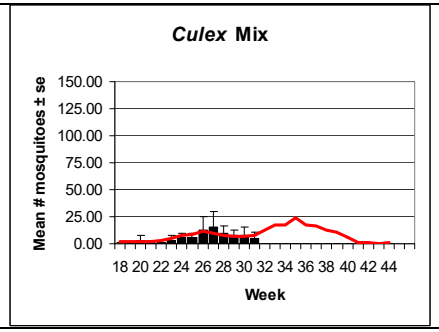
Philadelphia Metro



Pinelands



Suburban Corridor

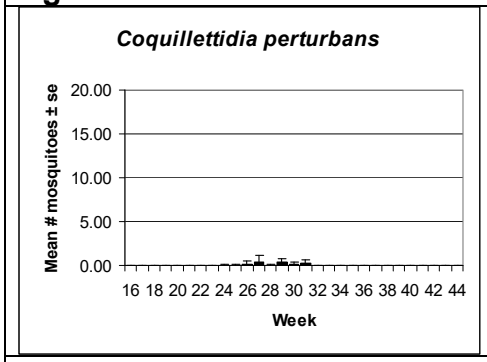


Comments

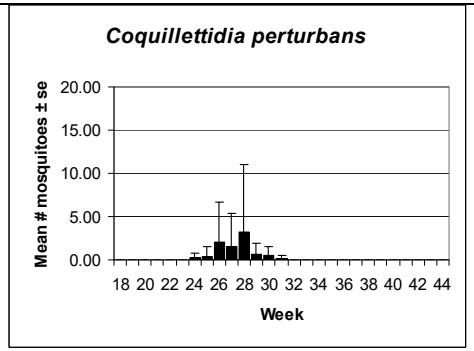
***Culex* Complex** – *Culex* populations remain static in most of the geographic regions being monitored by this program. Long term data indicate that this year's *Culex* are at or somewhat above the 5 year mean. *Culex* numbers should increase in most regions over the next month as the complex produce numbers that culminate in the overwintering generation.

Coquillettidia perturbans

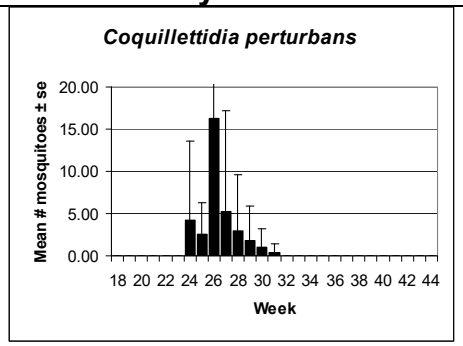
Agricultural



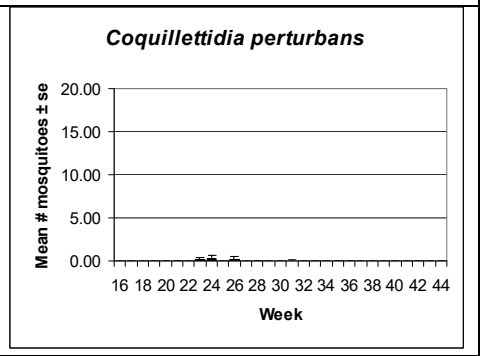
Coastal



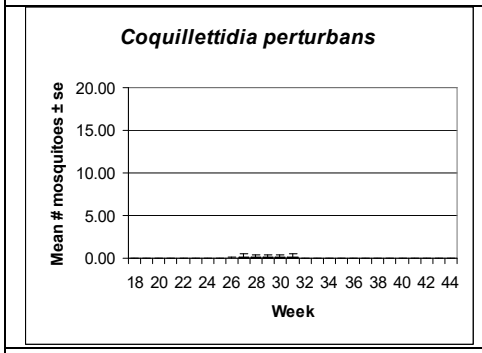
Delaware Bayshore



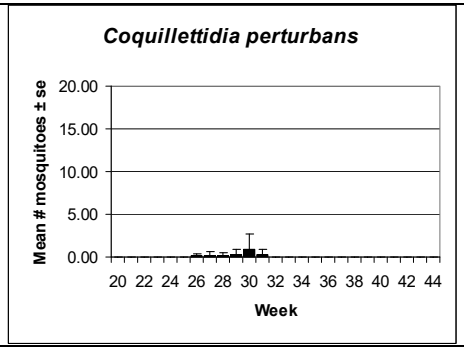
Delaware River Basin



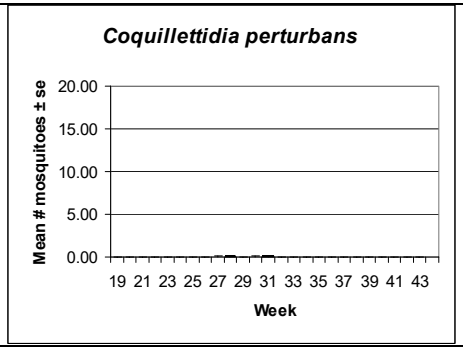
New York Metro



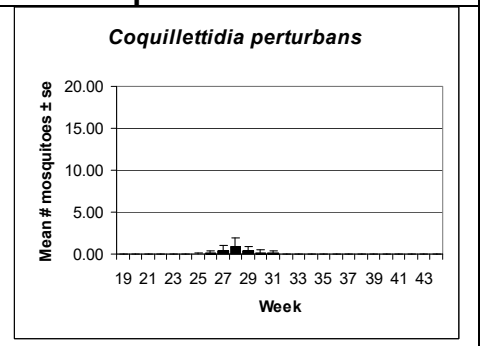
North Central Rural



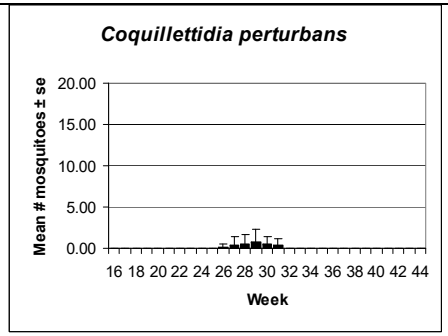
Northwestern Rural



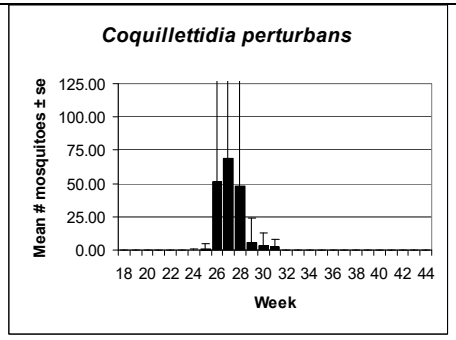
Philadelphia Metro



Pinelands



Suburban Corridor

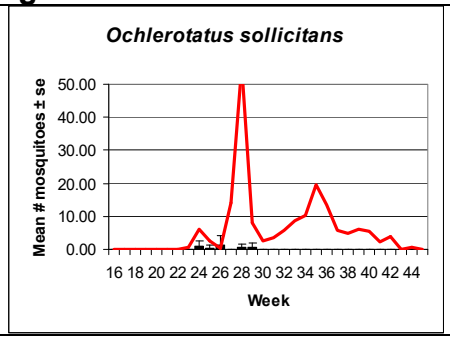


Comments

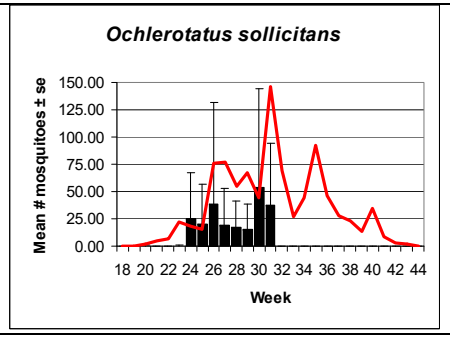
Cq. perturbans – The data set for *Cq. perturbans* suggest that a single instar made up the bulk of this year's overwintering population. Peak populations entered light traps in early July. This probably represents larvae that overwintered as late 3rd or early 4th instar. Small numbers of *Cq. perturbans* will probably continue to emerge as the summer progresses but it is doubtful that we will see a significant peak this late in the season. *Cq. perturbans* that emerge in August usually represent larvae that overwintered in the 2nd instar. Early instar *Cq. perturbans* larvae make up a relatively small proportion of the overwintering population and the August emergence is usually the smallest of the mosquito season.

Ochlerotatus sollicitans

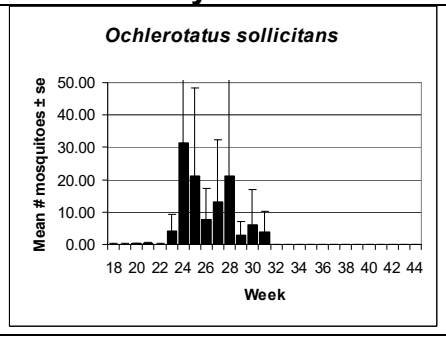
Agricultural



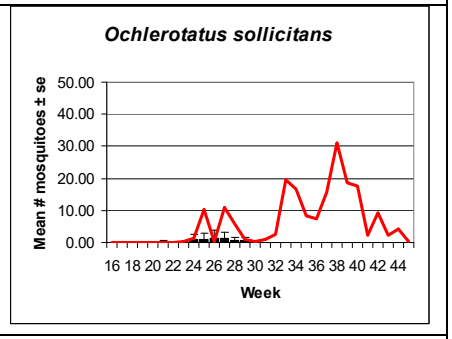
Coastal



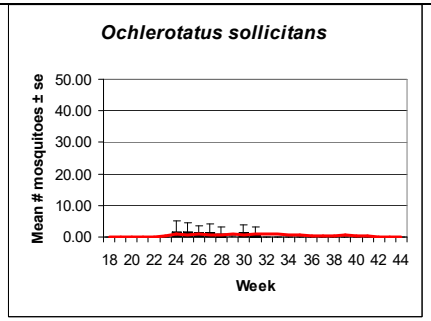
Delaware Bayshore



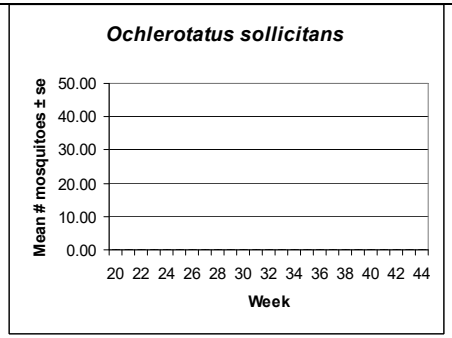
Delaware River Basin



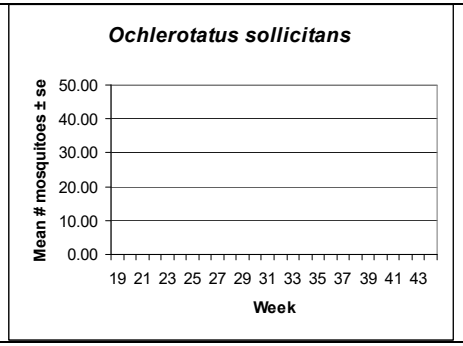
New York Metro



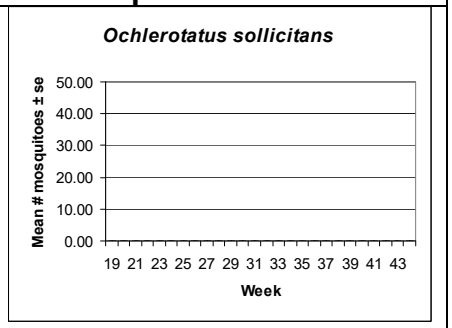
North Central Rural



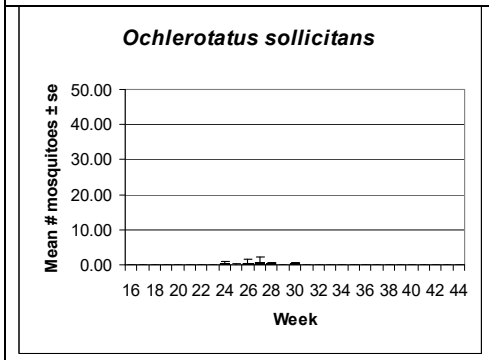
Northwestern Rural



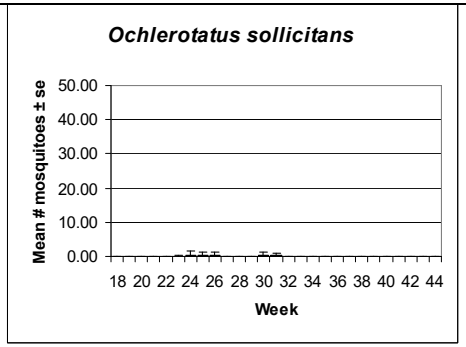
Philadelphia Metro



Pinelands



Suburban Corridor

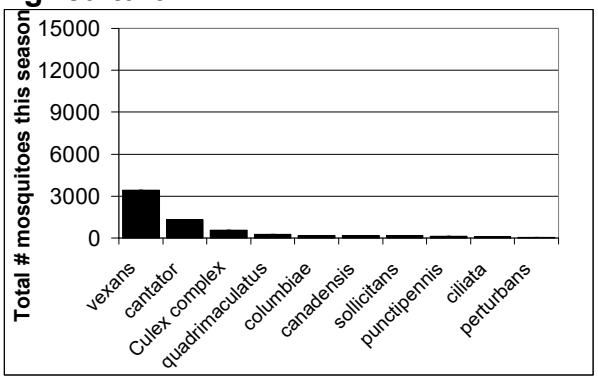


Comments

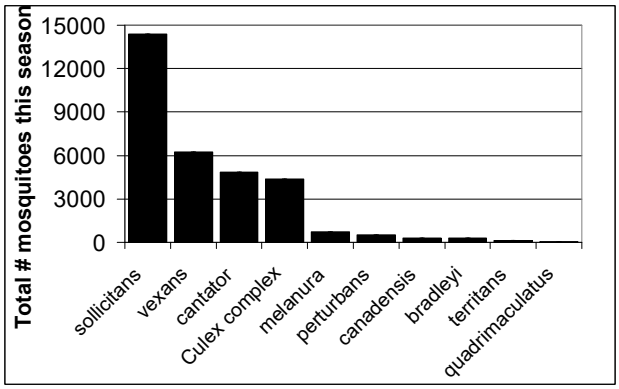
Oc. sollicitans – *Oc. sollicitans* populations remain below the 5 year mean in areas where historical data have been entered. Neither of the first two broods of the 2003 season have approached the 5 year mean for this species. Long term data for the Agricultural Region indicate that salt marsh mosquitoes traditionally move inland to cause nuisance miles from the coast. That trend has not occurred this year, suggesting smaller broods and less pressure to disperse from coastal breeding habitat.

Top Ten species per Region

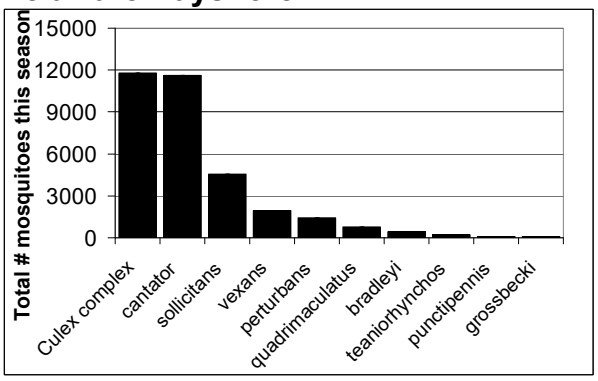
Agricultural



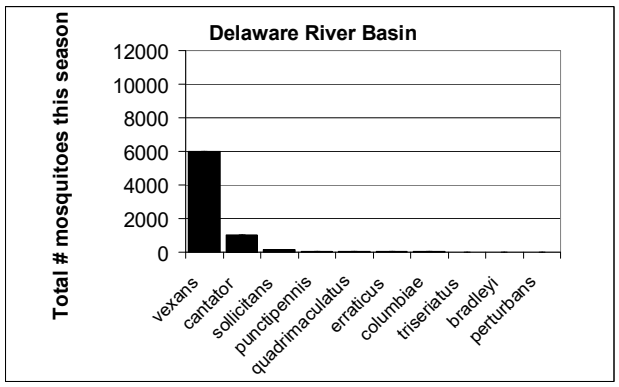
Coastal



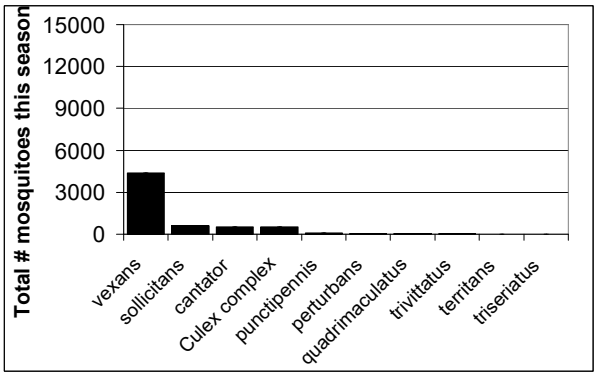
Delaware Bayshore



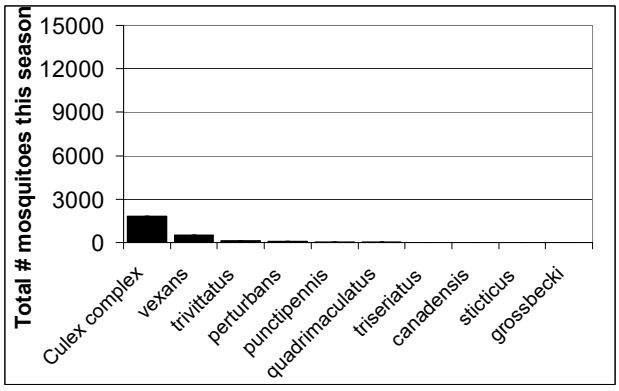
Delaware River Basin



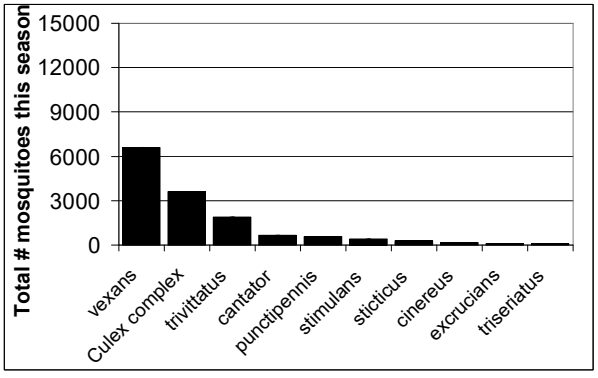
New York Metro



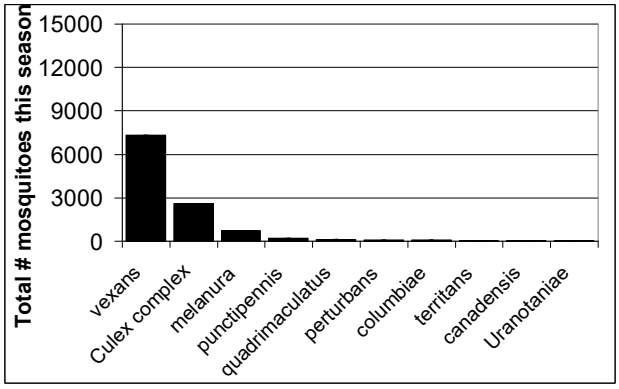
North Central Rural



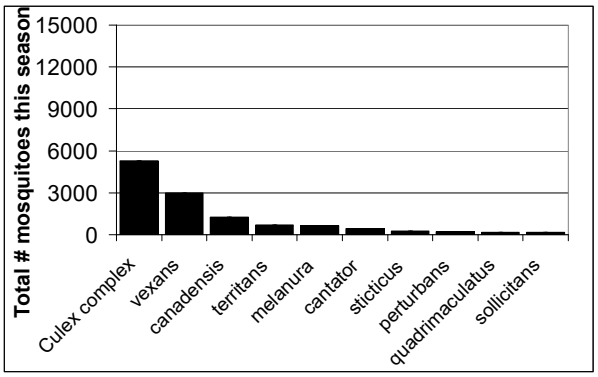
Northwestern Rural



Philadelphia Metro



Pinelands



Suburban Corridor