NEW JERSEY STATEWIDE SURVEILLANCE

Week 39 Report for 21 September to 27 September, 2004

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.

This is New Jersey Agricultural Experiment Station publication No. PT-08-40500-41-04 supported by Hatch funds and funding from the NJ State Mosquito Control Commission. Prepared by Lisa M. Reed and Wayne J. Crans.

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

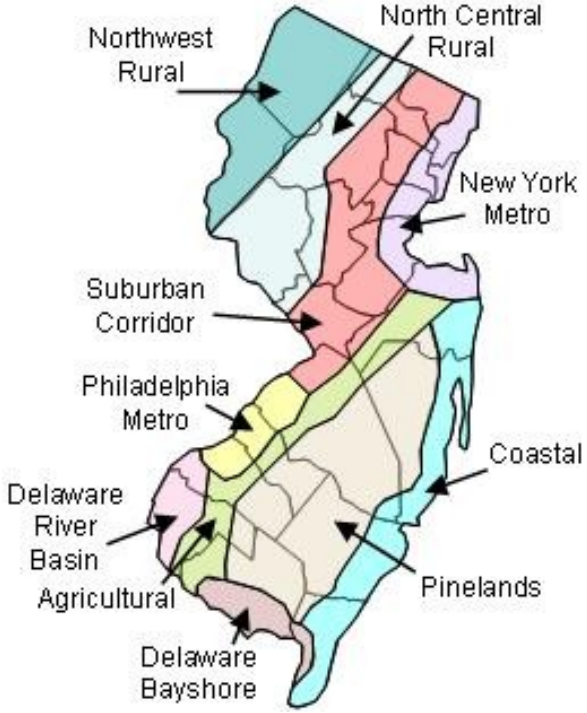


Figure 1b. Trap lat-long locations.

Summary table

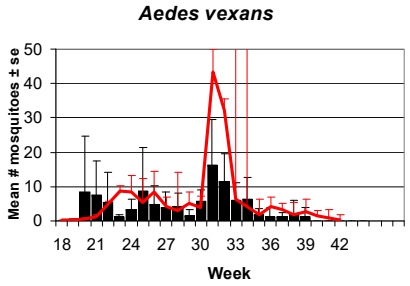
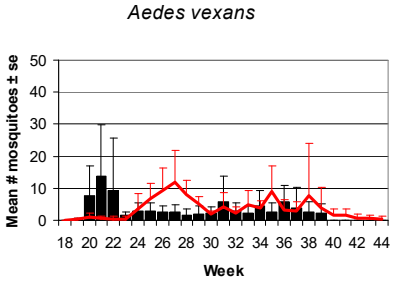
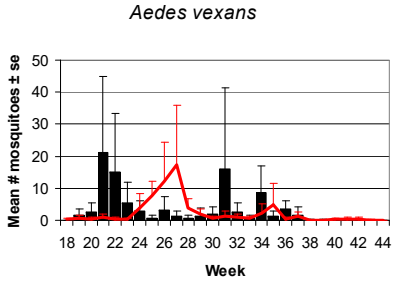
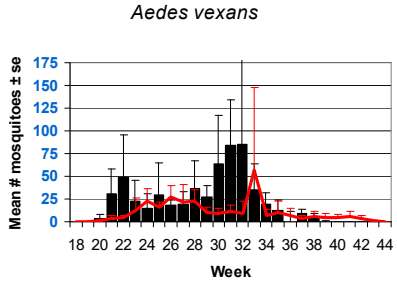
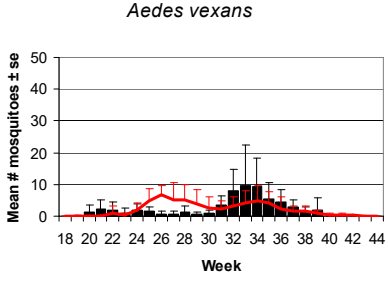
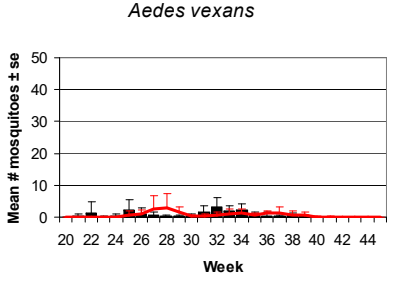
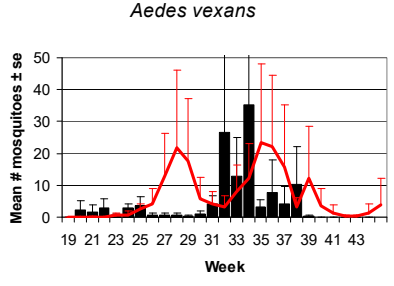
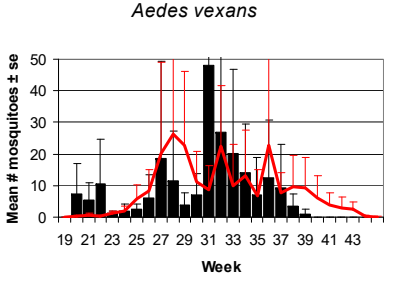
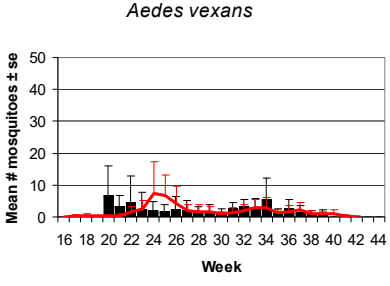
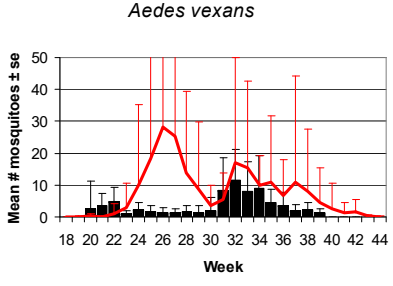
	Aedes vexans		*Culex complex*		*Coquillettidia perturbans*		*Ochlerotatus sollicitans*	
Region	This Week	Average*	This Week	Average*	This Week	Average*	This Week	Average*
Agricultural	**4.40**	**3.16**	**7.81**	**12.22**	**0.19**	**0.56**	**2.21**	**0.30**
Coastal	**0.59**	**1.83**	**1.59**	**12.92**	**1.10**	**0.44**	**29.68**	**36.75**
Delaware Bayshore	**0.79**	**0.55**	**17.98**	**70.29**	**3.14**	**1.00**	**12.57**	**6.12**
Delaware River Basin	**38.61**	**9.13**	**2.36**	**9.18**	**0.21**	**0.09**	**0.00**	**0.09**
New York Metro	**0.17**	**2.49**	**0.50**	**8.51**	**0.00**	**0.42**	**0.11**	**0.82**
North Central Rural	**0.43**	**0.46**	**0.31**	**5.07**	**0.00**	**0.24**	**0.00**	**0**
Northwest Rural	**0.24**	**4.15**	**0.67**	**9.91**	**0.00**	**0.31**	**0.00**	**0**
Philadelphia Metro	**6.97**	**8.52**	**0.02**	**3.87**	**0.31**	**0.18**	**0.03**	**0**
Pinelands	**1.08**	**1.58**	**0.82**	**7.13**	**0.69**	**0.64**	**0.17**	**0.20**
Suburban Corridor	**1.75**	**3.54**	**1.05**	**6.60**	**0.45**	**2.83**	**0.00**	**0.10**

- Complete data not yet available.

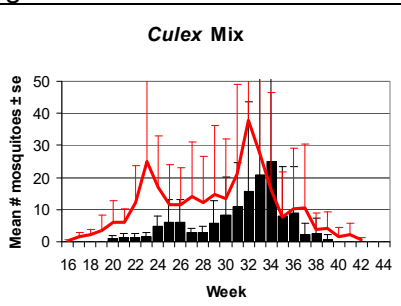
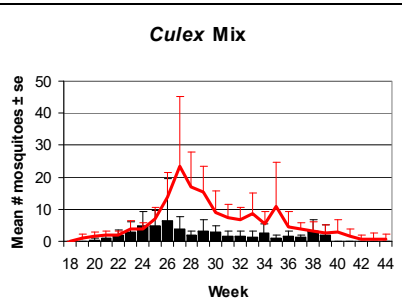
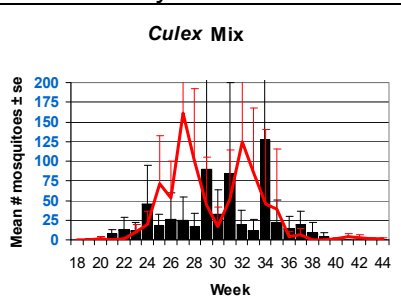
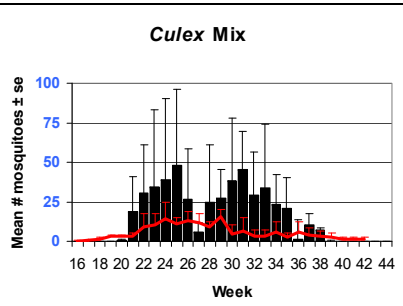
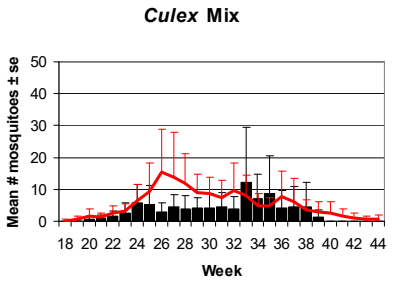
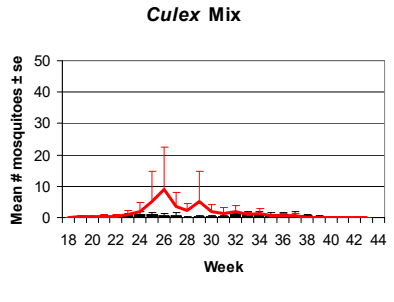
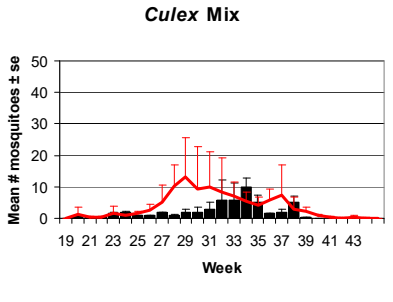
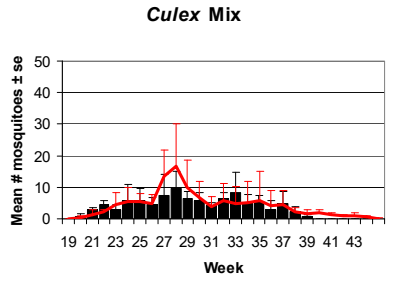
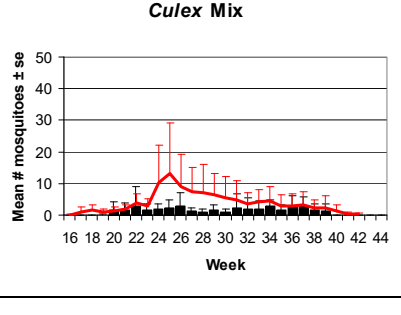
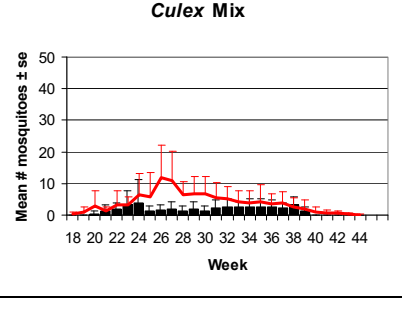
Additional Species: *Ochlerotatus japonicus*. *Anopheles bradleyi* is also featured.

15 Counties reporting.

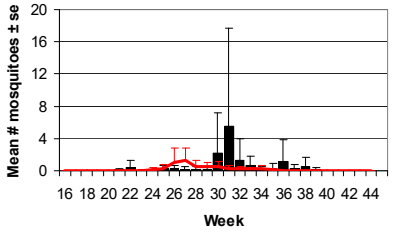
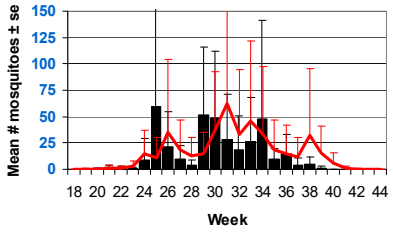
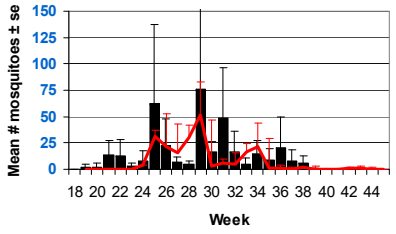
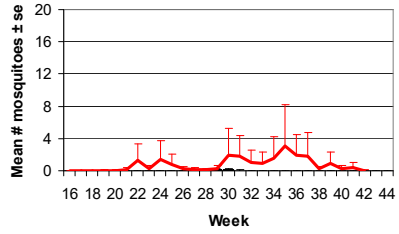
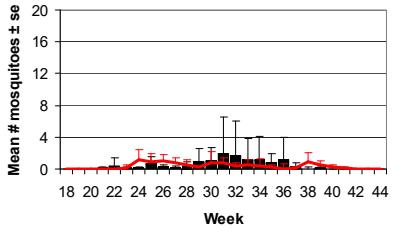
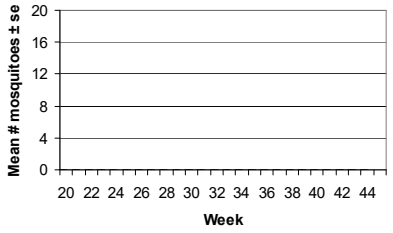
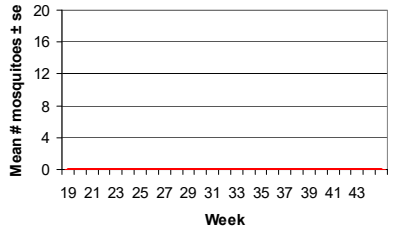
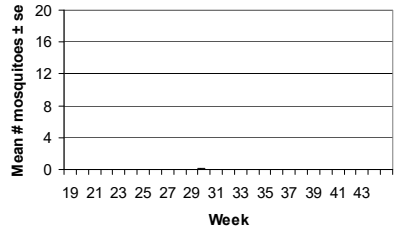
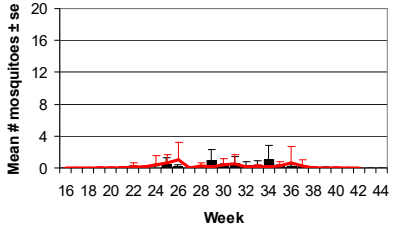
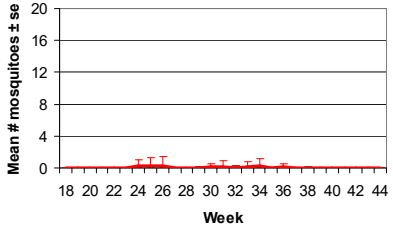
Aedes vexans - Fresh Floodwater Species

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		As the effects of yet another hurricane pass through New Jersey, larval habitats of this floodwater species continue to be recharged. Maps from the USGS indicate that stream levels along the Delaware as compared to historical data remains high. However, despite the considerable amount of rainfall experienced by the state, current trends in *Aedes vexans* populations appear to be well within historical levels for this time of year. Unless an unusually warm Indian Summer should occur, populations are expected to decline through to the end of the season.	

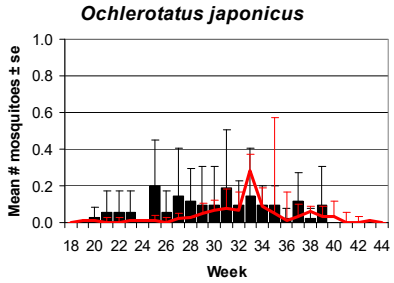
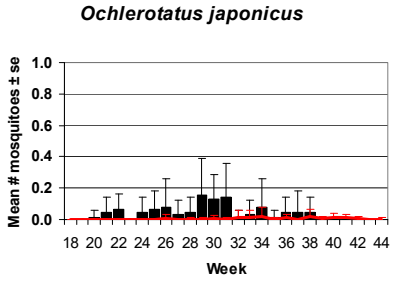
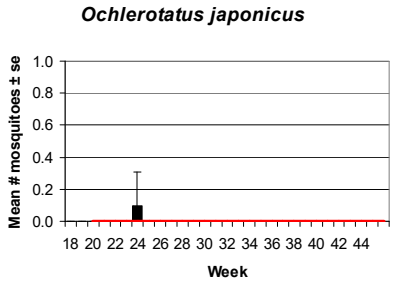
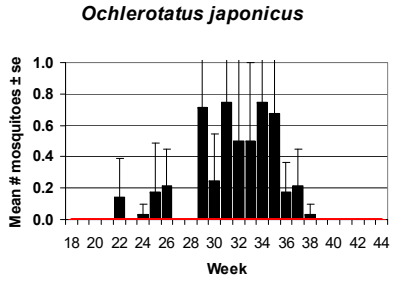
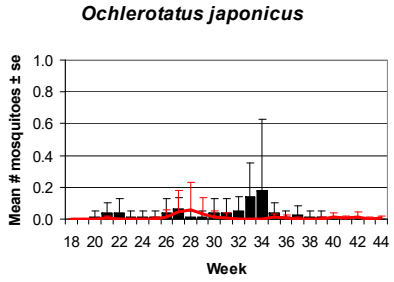
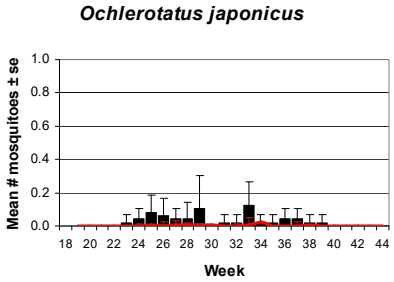
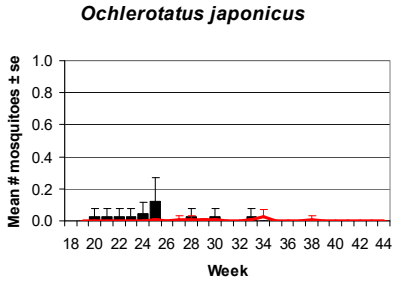
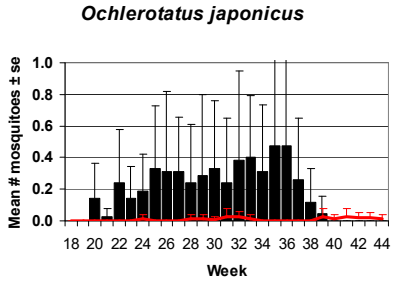
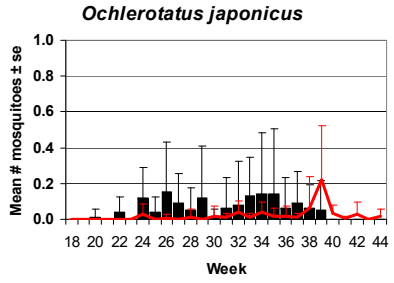
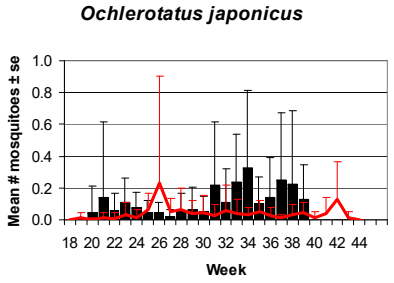
Culex Complex - Multivoltine *Culex* Species

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		As with *Ae. vexans*, *Culex* populations are declining through out the state. Adult females are searching for the moist interiors where they will overwinter. These bird feeders are likely to be loosing interest in their typical host, instead turning to high carbohydrate sources such as nectar. This suggests that they may miss certain avian migrants that pass through late in the season.	

Ochlerotatus sollicitans - Salt Marsh Floodwater Species

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		Populations of this saltwater breeder have declined to or below historical levels in the two regions of primary importance. *Ochlerotatus sollicitans* has likely experienced their final emergence of the season. Note that migrants were trapped for a longer period in the Agricultural region as compared to historical trends.	

Ochlerotatus japonicus – Multivoltine Aedine

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		New rules continue to be established by *Ochlerotatus japonicus.* Given the cold-hardy nature of this species, and the continued re-charging of their container larval habitats throughout the season, it should be of interest to observe how long into the season this highly efficient vector of West Nile persists, particularly in the Agricultural region where WN cases show up through November.	

***Anopheles bradleyi* in the Delaware Bayshore, Coastal, and Pinelands regions**. *An. bradleyi,* a multivoltine anopheline, is a brackish-water species that can carry *Dirofilaria immitis*, the dog heartworm. Populations recently experienced a significant late-season increase in the Delaware Bayshore, and peaks in the Coastal region appear to be slightly later than historical data would suggest. The peak observed in the Pinelands is the result of migrants from permanent coastal waters (both fresh and salt), but has been both later and lower than historical averages. Note the large error bars, which suggest considerable yearly variations in trends.

Delaware Bayshore	Coastal	Pinelands