NEW JERSEY ADULT MOSQUITO SURVEILLANCE
Report for 31 August to 6 September 2014, CDC Week 36
Prepared by Lisa M. Reed, Scott Crans and Mark Robson
Center for Vector Biology

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**Summary Table – Week 36**

<table>
<thead>
<tr>
<th>Region</th>
<th>Aedes vexans This Week</th>
<th>Aedes vexans Average*</th>
<th>Aedes vexans Increase</th>
<th>Culex Mix This Week</th>
<th>Culex Mix Average*</th>
<th>Culex Mix Increase</th>
<th>Coquillettidia perturbans This Week</th>
<th>Coquillettidia perturbans Average*</th>
<th>Coquillettidia perturbans Increase</th>
<th>Aedes sollicitans This Week</th>
<th>Aedes sollicitans Average*</th>
<th>Aedes sollicitans Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural</td>
<td>1.50</td>
<td>2.60</td>
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<td>0.03</td>
<td>4.06</td>
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<td>Suburban Corridor</td>
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<td>1.11</td>
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<td>2.15</td>
<td>0</td>
<td>0.00</td>
<td>0.02</td>
<td>0</td>
</tr>
</tbody>
</table>

* Averages represent data from, at most, the previous 5 years. Increase is a scale of current values from historical values where no difference or a decrease is represented by 0 (blue), up to 50% greater difference by 1 (green), up to 100% greater difference by 2 (yellow), up to 150% greater difference by 3 (orange) and greater than 150% increase by 4 (red). White cells in the increase column denote increases from an historic zero and thus no value can be appropriately given. nd=no data reported.

State Summary: Culex Mix populations were mildly increased in the New York Metro region as was Aedes sollicitans. Coquillettidia perturbans were higher in the Delaware Bayshore, New York Metro and the North Central Rural regions. Data is continuing to come in for the current week, so interpretations should be viewed with that in mind.
The three figures show the interpolation of average maximum (°F) and minimum temperature (°F) and total precipitation (inches) for 30 days prior to 5 September 2014 in New Jersey. Data points are from about 36 weather stations maintained through the New Jersey Weather & Climate Network and the State Climatologist. Interpolation between points was performed using ArcMap 10.1.
The Species Graphs: The species graph pages include a graph with two plots for each of the ten regions defined on the first page (Agricultural, Coastal, Delaware Bayshore, Delaware River, New York Metro, North-Central, Northwestern, Philadelphia Metro, Pinelands, and Suburban Corridor). Below is an example of one graph from one species within one region. The bar plot show the average number of mosquitoes per trap within the region (weekly means) and line plots show the historical trend as the average number of mosquitoes from the previous 5 years (5-year average). In general, historical data are running means from the previous 5 years, but on occasion, will include data from fewer years. Adjustments are made to account for year discrepancies. Data for this week are from Cumberland, Hudson, Morris, Union and Warren counties. Data for the previous week are from Bergen, Cape May, Cumberland, Hudson, Middlesex, Morris, Ocean, Salem, Sussex, Union and Warren counties.

Weekly Means Against 5-year Average

Aedes vexans

Mean # mosquitoes ± se

0 25 50 75 100 125 150 175

18 20 22 24 26 28 30 32 34 36 38 40 42 44

MAY OCT

Week
**Aedes vexans** - Fresh Floodwater Species
Multivoltine Aedine (*Ae. vexans* Type)

<table>
<thead>
<tr>
<th>Agricultural</th>
<th>Coastal</th>
<th>Delaware Bayshore</th>
<th>Delaware River Basin</th>
</tr>
</thead>
</table>

![Graph](image1)

**New York Metro**

![Graph](image2)

**North Central Rural**

![Graph](image3)

**Northwestern Rural**

![Graph](image4)

**Philadelphia Metro**

![Graph](image5)

**Pinelands**

![Graph](image6)

**Suburban Corridor**

![Graph](image7)

**Comments**

*Aedes vexans* populations were below historical trends, although this may change as the dataset becomes more complete.
Culex Mix is composed of *Culex piriens*, *Cx. restuans* and *Cx. salinarius*. These three species (especially *piriens* and *restuans*) are often difficult to tell apart after encountering the damaging blades of the New Jersey light trap. *Culex* populations were moderately elevated in the New York Metropolitan region. At this point in time, the dataset is yet to be completed, and thus there may be more regions with higher populations.
Culiseta melanura – Miscellaneous Group
Unique (Cs. melanura Type)

Agricultural

Delaware Bayshore

Delaware River Basin

New York Metro

North Central Rural

Northwestern Rural

Philadelphia Metro

Pinelands

Suburban Corridor

Comments

_Culiseta melanura_ is the enzootic ornithophilic vector of eastern equine encephalitis. EEE has been detected in several places in southern New Jersey. Virus activity continues to increase for EEE in _Cs. melanura_ populations within southern New Jersey. Data for light traps tend to indicate higher populations than does the resting box trends (see Vector Surveillance reports for New Jersey), but the dataset is currently incomplete. Regardless of populations numbers, caution in habitat of this species is warranted due to virus activity.
Aedes sollicitans - Salt Floodwater Species
Multivoltine Aedine (Ae. sollicitans Type)

Aedes sollicitans is a salt floodwater species and responds to both lunar tidal patterns as well as rainfall. Populations in the New York Metropolitan region are above historical values, but at low numbers.

Next full moon is 8th September.
**Coquillettidia perturbans**
Monotypic (*Coquillettidia perturbans* Type)

<table>
<thead>
<tr>
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<th>Delaware River Basin</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Graph" /></td>
<td><img src="image2" alt="Graph" /></td>
<td><img src="image3" alt="Graph" /></td>
<td><img src="image4" alt="Graph" /></td>
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</table>

<table>
<thead>
<tr>
<th>New York Metro</th>
<th>North Central Rural</th>
<th>Northwestern Rural</th>
<th>Philadelphia Metro</th>
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</thead>
<tbody>
<tr>
<td><img src="image5" alt="Graph" /></td>
<td><img src="image6" alt="Graph" /></td>
<td><img src="image7" alt="Graph" /></td>
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</table>

<table>
<thead>
<tr>
<th>Pinelands</th>
<th>Suburban Corridor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image9" alt="Graph" /></td>
<td><img src="image10" alt="Graph" /></td>
<td><em>Coquillettidia perturbans</em> populations are located in cattail swamps and other wetlands with emergent vegetation, often making control of their numbers dependent on controlling water depth. This species continues to show elevated populations while generally on the wane in several regions, including the Delaware Bayshore, New York Metropolitan and North Central Rural regions. Caution in the southern portions of New Jersey should be considered when in this habitat of this species as it is a suspected bridge vector for EEE.</td>
</tr>
</tbody>
</table>
Top Ten Mosquito Species/Region -

- **Ae. albopictus**, **Ae. japonicus** (invasives)
- **Cs. melanura** or **Cx. erraticus**
- **Coq. perturbans**

Note: In early season when fewer species are caught, graphs may show less than ten species/region or 25 statewide.
Northwest Rural

Philadelphia Metropolitan