



Village of Oswego August 2016 - Status Report

Season Perspective

Weather conditions critically affect the seasonal mosquito population. Excessive rainfall periods trigger hatches of floodwater mosquitoes (*Aedes vexans*), the dominant annoyance species in northern Illinois that has a flight range of 15 to 20 miles. The other target species is the northern house mosquito (*Culex pipiens*), the primary vector of West Nile virus (WNV) that flourishes under stagnant water drought conditions.

In July and August, a series of 9 rains, totaling 7.76 inches at O'Hare, hatched floodwater mosquito populations across the Chicagoland area that increased annoyance conditions. Despite a brief cool-down, August 2016 averaged 76.6° or 3.5° above normal. This hot temperature pattern has been classic for WNV activity. There was a sharp increase in the DuPage County Model mosquito infection rate, and many WNV-positive mosquito pools were reported by Chicagoland agencies performing surveillance trapping. The DuPage Health Department increased their Personal Protection Index from LOW to MODERATE in late August, confirming the concern over WNV activity.

Late summer is still primetime for WNV transmission. Operations will continue to focus on *Culex* larval development, and truck ULV adulticide applications will be recommended to suppress the adult mosquito population.

MOSQUITO-BORNE DISEASE UPDATE

West Nile Virus (WNV)

As of August 16, 2016, a total of 42 states have reported West Nile virus infections in people, birds, or mosquitoes in 2016. Overall, 213 cases of West Nile virus disease in people have been reported to the Centers for Disease Control & Prevention (CDC). Of these, 101 (47%) were classified as neuroinvasive disease (such as meningitis or encephalitis) and 112 (53%) were classified as non-neuroinvasive disease.

To date in 2016, the Illinois Department of Public Health (IDPH) reported the following WNV information:

- 5 WNV+ human cases in downstate Illinois
- 40 counties WNV+ for mosquito, bird, horse or humans
- 20 WNV+ positive birds
- 1,819 WNV+ mosquito samples



| County | American Crow | Blue Jay | Other Birds | Mosquito Batches | Horse |
|--------------|---------------|----------|-------------|------------------|----------|
| COOK | 0 | 1 | 0 | 1418 | 0 |
| DEKALB | 1 | 1 | 0 | 1 | 0 |
| DUPAGE | 0 | 0 | 0 | 114 | 0 |
| GRUNDY | 0 | 0 | 0 | 1 | 0 |
| KANE | 0 | 0 | 0 | 35 | 0 |
| KANKAKEE | 0 | 0 | 0 | 6 | 0 |
| KENDALL | 0 | 0 | 0 | 10 | 0 |
| LAKE | 0 | 0 | 0 | 75 | 0 |
| MCHENRY | 1 | 0 | 0 | 15 | 0 |
| STEPHENSON | 1 | 0 | 0 | 1 | 0 |
| WILL | 0 | 0 | 0 | 32 | 0 |
| WINNEBAGO | 1 | 0 | 0 | 5 | 0 |
| TOTAL | 12 | 7 | 1 | 1819 | 1 |

Zika Virus (ZIKV)

As of August 19th, the following chart summarizes the number of ZIKV human cases in the United States and Territories (Puerto Rico, U.S. Virgin Islands, Guam, American Samoa, and Marshall Islands):

| ZIKV CASE CATEGORY | UNITED STATES | TERRITORIES |
|--------------------|---------------|-------------|
| Total | 2,260 | 8,035 |
| Pregnant Women | 529 | 691 |

As of August 22nd, the Illinois Department of Public Health reported 51 travel-associated human cases. Local transmission of ZIKV from mosquitoes to humans has been confirmed in Miami-Dade County, Florida. Thirty-six human cases have been documented requiring the intensification of surveillance, aerial & ground, door-to-door larviciding and adulticiding efforts to control *Aedes aegypti*, the disease vector.



Brood Prediction

The floodwater mosquito (*Aedes vexans*) is the key nuisance species in the Chicagoland area. Distinct hatches of floodwater mosquito populations, or broods, are triggered by significant rainfall events. The Clarke Brood Prediction Model calculates peak annoyance periods based on rainfall and temperature data collected from weather stations in your area.

| Weather Station Name | Rainfall Date | Rain Amount (inches) | Brood Prediction Date |
|----------------------|---------------|----------------------|-----------------------|
| Will Co. | 07/17/2016 | 0.76 | 08/01/2016 |
| Will Co. | 07/21/2016 | 1.36 | 08/06/2016 |
| Will Co. | 07/23/2016 | 1.12 | 08/07/2016 |
| Will Co. | 07/29/2016 | 1.10 | 08/13/2016 |
| Will Co. | 08/12/2016 | 3.50 | 08/28/2016 |
| Will Co. | 08/20/2016 | 0.40 | 09/07/2016 |
| Will Co. | 08/24/2016 | 0.60 | 09/07/2016 |
| Will Co. | 08/26/2016 | 0.85 | 09/09/2016 |

Operation and Surveillance Reports:

Below is a report outlining all services performed in the month of August. These services could include the following:

- **0956 N.J. Light Trap (5 day/wk – WMAD)** - *Seasonal Light Trap Service for adult mosquito population monitoring.*
- **1252 Complete Site Larval Insp Serv:** *Inspection service of all potential mosquito larvae development sites.*
- **1302 Targeted Site Larval Insp Serv:** *Inspection of all targeted larval development sites.*
- **1352 Larval Site Service Call:** *Special inspection of standing water for mosquito breeding per hot line request.*
- **1752 Vectobac (B.T.I.) BP Larv:** *Backpack larviciding for biological control of mosquito larvae sites.*
- **2009 Natular XRT CB Bike:** *Catch Basin treatment for larval control.*
- **2010 Natular XRT BYCB Bike:** *Backyard catch basin treatment for larval control.*
- **2202 5% Abate Helicopter Prehatch:** *Helicopter prehatch application for larval control.*
- **2206 Natular T30 CB Bike:** *Catch Basin treatment for larval control.*
- **2552 Merus Truck ULV:** *Truck ULV application for adult mosquito control*
- **2888 Biomist 3+15 Truck ULV:** *Truck ULV application for adult mosquito control*
- **2902 0.5% FLIT (Permethrin) BP Barr:** *Backpack barrier strip application to reduce adult mosquito reinfestation.*
- **2922 0.5% FLIT (Permethrin) BP Barr:** *Backpack barrier strip application to reduce adult mosquito reinfestation.*



Services Performed August 2016:

| Service Item | Start Date |
|---------------------------------------|------------|
| ROS2802 - Anvil Truck ULV Application | 08/08/2016 |
| ROS2802 - Anvil Truck ULV Application | 08/17/2016 |