

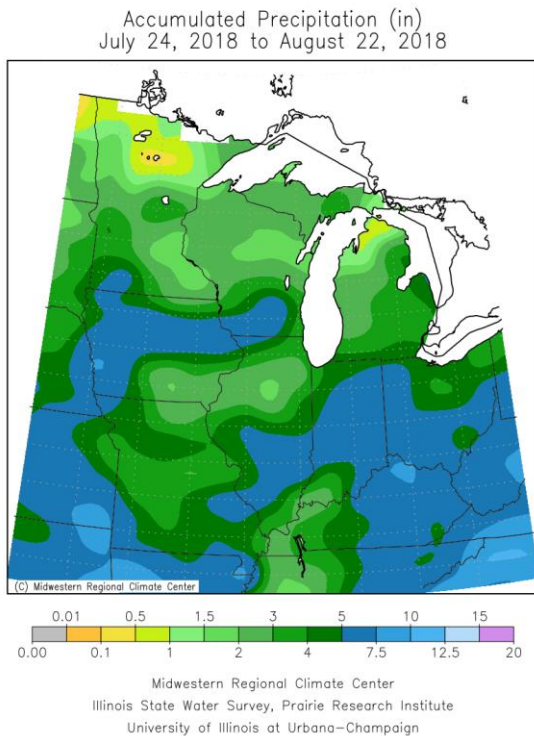
Joliet Township

August 2018 Status Report

SEASON PERSPECTIVE

Introduction. 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 and drought conditions.

The floodwater mosquito population peaked in early July as a result of record rainfall in May and June. The excessive July heat and dry spell depleted soil moisture and curtailed the impact of subsequent floodwater mosquito brood hatches. The following Midwest Regional Climatic Center map shows the more recent rainfall pattern between July 24th and August 22nd:



Most of northern Illinois received 2.0 to 4.0 inches of rain that hatched several floodwater broods by Labor Day weekend. In addition, late August, Labor Day weekend, and early September heavy rains will trigger late season floodwater broods. The National Weather Service predicts above normal temperatures for September. These rainfalls will fill manmade container habitats, such as, bird baths, roof gutter, stagnant swimming pools, buckets, old tires, to sustain residential *Culex* larval development.



While the floodwater mosquito population declined in August, the northern house mosquito (*Culex pipiens*) surged in the dry and hot conditions increasing the WNV potential. As of August 23rd, the State of Illinois reported 6 human cases in Cook, DuPage, Macoupin, Tazewell and Will Counties. Gravid trapping results indicated an alarming percentage of West Nile positive (WNV+) mosquitoes during the week of August 20th. The North Shore Mosquito Abatement District reported 78.6% (81/103) positive results of *Culex* batches tested, and Clarke reported 50.3% (84/167) positive. Therefore, more Chicagoland human cases are expected because of the high mosquito infection rate, as shown by the sudden increase of statewide cases jumping from 6 to 22 during the week of August 27th. The case count increased to 34 on September 5th.

Strategy and Recommendations. There is a high prevalence of WNV+ *Culex* across the Chicagoland that continues to increase the risk of human infection. Accordingly, Clarke operations will continue to focus on *Culex* mosquito larval development, including the booster treatment of street catch basins, a primary habitat for this species. Following Centers for Disease Control & Prevention (CDC) guidelines: “*Adult mosquito control is also intended to reduce the abundance of biting, infected adult mosquitoes in order to prevent them from transmitting WNV to humans and to break the mosquito-bird transmission cycle.*” Therefore, through September, cyclic truck ultra-low volume (ULV) adulticide applications will be recommended to suppress the adult mosquito population and protect the public health from WNV.

The Clarke Mosquito Hotline (800-942-2555) is available to citizens to report standing water and excessive biting annoyance situations.

Floodwater Mosquito 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 a weather station in your area.

Weather Station Name	Rainfall Date	Rain Amount	Brood Prediction Date
Will Co.	07/20/2018	0.70	08/07/2018
Will Co.	08/07/2018	0.62	08/23/2018
Will Co.	08/16/2018	0.54	08/31/2018
Will Co.	08/20/2018	0.85	09/05/2018
Will Co.	08/28/2018	0.88	09/11/2018



MOSQUITO-BORNE DISEASE UPDATE

West Nile Virus (WNV)

2018 - USA. As of September 4, 2018, a total of 45 states and the District of Columbia have reported West Nile virus infections in people, birds, or mosquitoes in 2018. Overall, 559 cases of West Nile virus disease in people have been reported to CDC. Of these, 312 (56%) were classified as neuroinvasive disease (such as meningitis or encephalitis) and 247 (44%) were classified as non-neuroinvasive disease. The following map shows current WNV activity across the United States:



2018 – ILLINOIS. On August 29th, the Illinois Department of Public Health (IDPH) confirmed the first human West Nile virus-related death in Illinois for 2018. A LaSalle County resident over 65 years who became ill during the first part of August and tested positive for West Nile virus has died.

To date, the Illinois Department of Public Health (IDPH) has reported 34 WNV human cases in Cook, DuPage, Macoupin, Tazewell and Will Counties. Overall, sixty (60) Illinois counties have reported WNV activity in mosquitoes, including most counties in northern Illinois. For perspective, in 2017 there were 90 WNV human cases confirmed in Illinois.

“Although we’re moving toward the end of summer, West Nile virus remains a risk until the first hard frost,” said IDPH Director Nirav D. Shah, M.D., J.D. “It’s important for everyone to continue taking precautions like using insect repellent, wearing long sleeve shirts and pants, and staying indoors between dusk and dawn.”



The following chart summarizes 2018 year-to-date surveillance data for northern Illinois counties in the State of Illinois, as of September 7th:

County	American Crow	Blue Jay	Other Birds	Mosquito Batches	Horse
COOK	0	0	4	1,938	0
DEKALB	2	0	0	19	0
DUPAGE	0	0	0	156	0
KANE	0	0	0	39	0
LAKE	1	0	1	68	0
MCHENRY	0	0	1	15	0
WILL	0	0	0	89	0
WINNEBAGO	1	0	0	22	0
TOTAL	14	1	9	2,714	2

Zika virus (ZIKV)

Background. In 2016, the continental United States endured a major ZIKV outbreak with more than 5,100 travel-related nationwide and 139 locally transmitted cases in areas of south Florida. In 2017, the ZIKV human case count was dramatically diminished in the continental United States with the CDC reporting 407 cases with the following breakdown:

- 398 – travelers returning from affected areas
- 4 – through presumed local transmission in Florida and Texas
- 5 – through sexual transmission

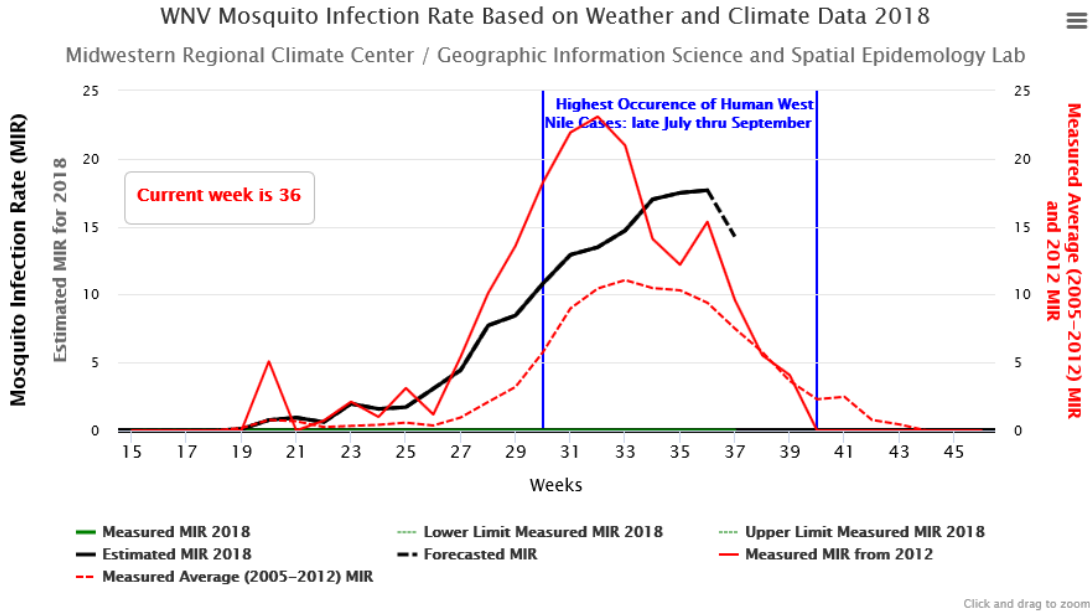
Provisional ZIKV Data as of September 5, 2018.

<https://www.cdc.gov/zika/reporting/2018-case-counts.html>

Zika Case Origin	Human Case Count	
	USA	US Territories
Travelers from affected areas	41	0
Presumed local transmission	0	82
Acquired via sexual transmission	0	0
YTD TOTAL	41	82



Midwest Regional Climatic Center (MRCC) WNV Prediction Model – Week 35 – 8/27/18



New Jersey Light Trap Counts

(*Red numbers indicate an annoyance level)

Trap Location	Aug 01	Aug 03	Aug 06	Aug 08	Aug 10	Aug 13	Aug 15	Aug 17	Aug 20	Aug 22	Aug 24	Aug 27	Aug 29	Aug 31
901 S Joliet St	2	5	2	3	1	6	4	1	0	2	4	0	2	5

*Mal - trap malfunction

Services Performed August 2018:

Service Item	Start Date
ROS1302 - Targeted Site Larval Insp Serv	08/21/2018
ROS2888 - Biomist 3+15 Truck ULV	08/29/2018