



Frankfort Township

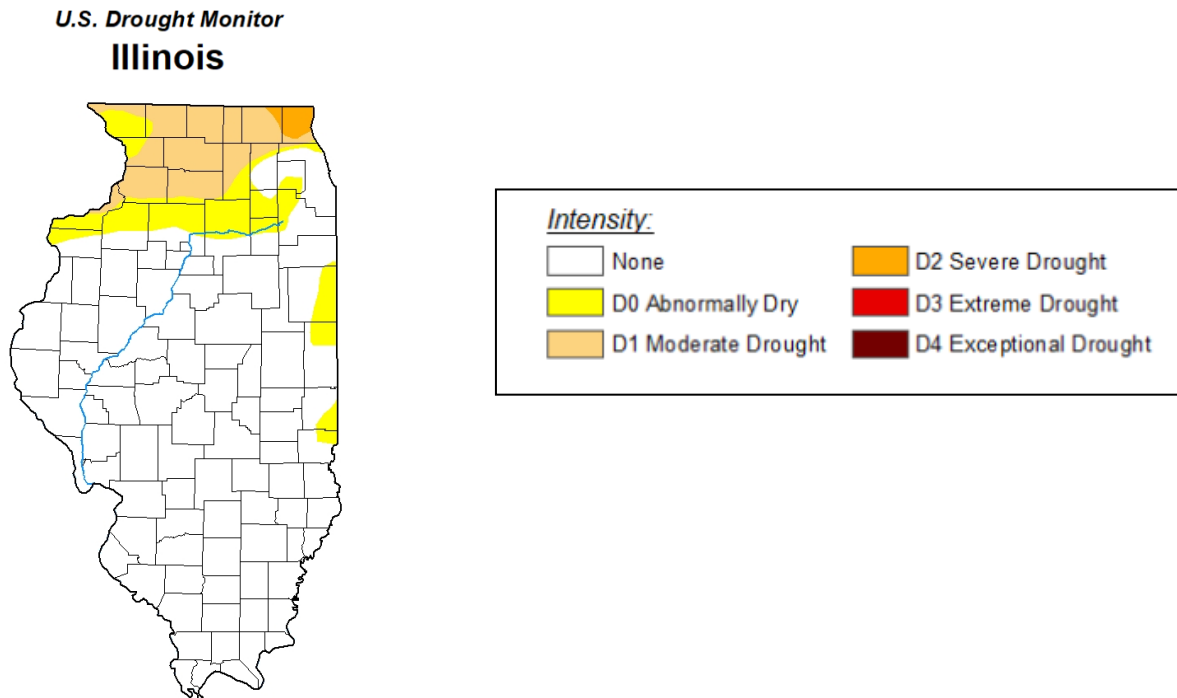
August 2021 - Status Report

SEASON PERSPECTIVE

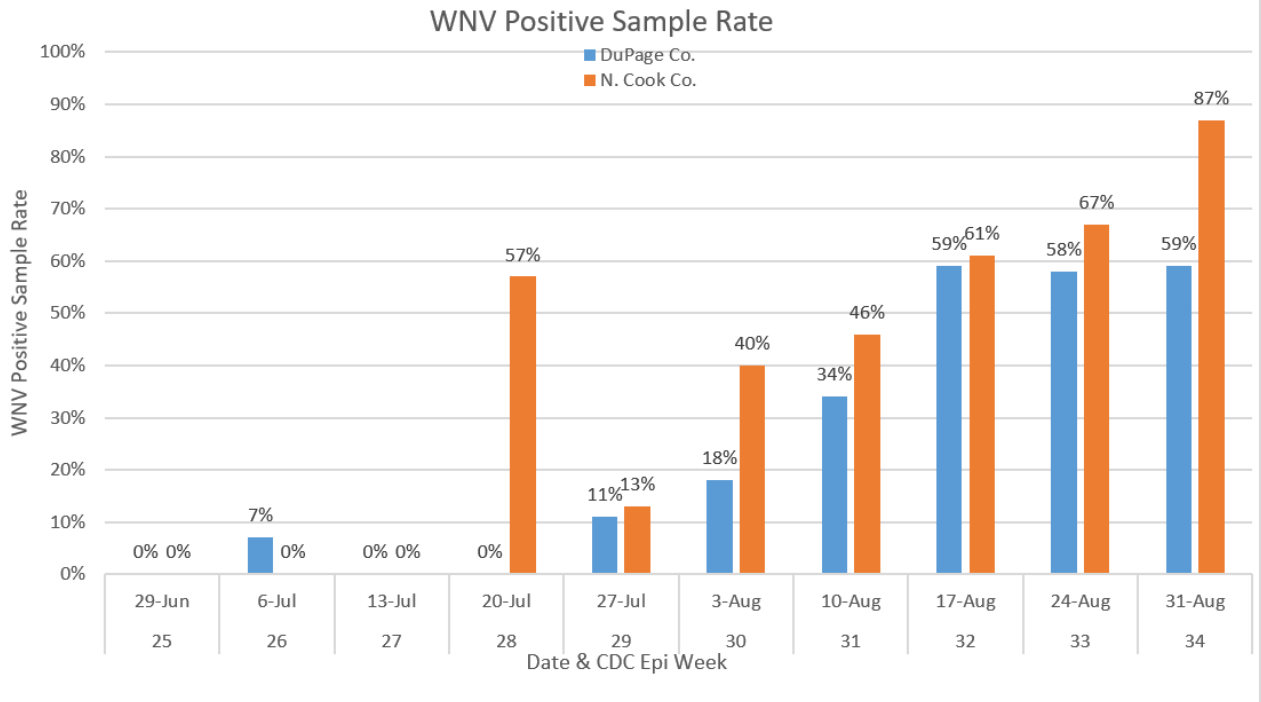
Introduction. Weather conditions critically affect the seasonal mosquito population. Excessive rainfall periods trigger hatches of floodwater mosquitoes (*Aedes vexans*), the dominant annoyance species in northern Illinois that has a flight range of 15 to 20 miles. The other target species is the northern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

WNV-positive *Culex* mosquito test results surge in August

Despite near the average amount of rainfall for August, northeastern Illinois remains in an abnormally dry to severe drought condition, as shown by the following U.S. Drought Monitor Map (September 2, 2021):



Since the start of the 2021 mosquito season, rainfalls have hatched a total of 10 floodwater mosquito broods at O’Hare, and 12 at DuPage County Airport. However, after peaking in late July and early August, floodwater mosquito annoyance conditions have diminished. On-the-other hand, the *Culex* mosquito, the disease vector of WNV, flourishes under stagnant water and drought conditions. The following graph compares the WNV-positive sample rate depicting the surge in West Nile-positive mosquitoes in DuPage County and northern Cook County in late August of 2021:



August and September are the prime months for WNV transmission to the human population. Surveillance data provides an early warning system for the risk of WNV. **As of early September, six (6) human cases have been reported in Illinois: 2 in Cook County, 1 in Lake County, and 3 in DuPage County.** The following chart summarizes the number of WNV-positive mosquito samples, by county, by month in northeastern Illinois counties:

2021 West Nile Virus Positive <i>Culex</i> Samples						
Month	Cook	DuPage	Kane	Lake	McHenry	Will
June	7	1		1		
July	131	17	1	33	4	4
August	1,324	88	9	107	9	20
YTD Total	1,462	106	10	141	13	24

Operations Plan. Clarke operations will focus on *Culex* permanent water sites for the control of larval development, including the treatment of street catch basins. **Truck ULV adulticide applications will be recommended to protect the public health, as warranted by surveillance data, especially as WNV+ mosquitoes are detected.** Community-wide spraying will be warranted in September for mosquito annoyance conditions and the increasing risk of WNV transmission.



Floodwater Mosquito Brood Prediction – South Lake

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 for July and August calculates peak annoyance periods based on rainfall and temperature data collected from weather stations in your area.

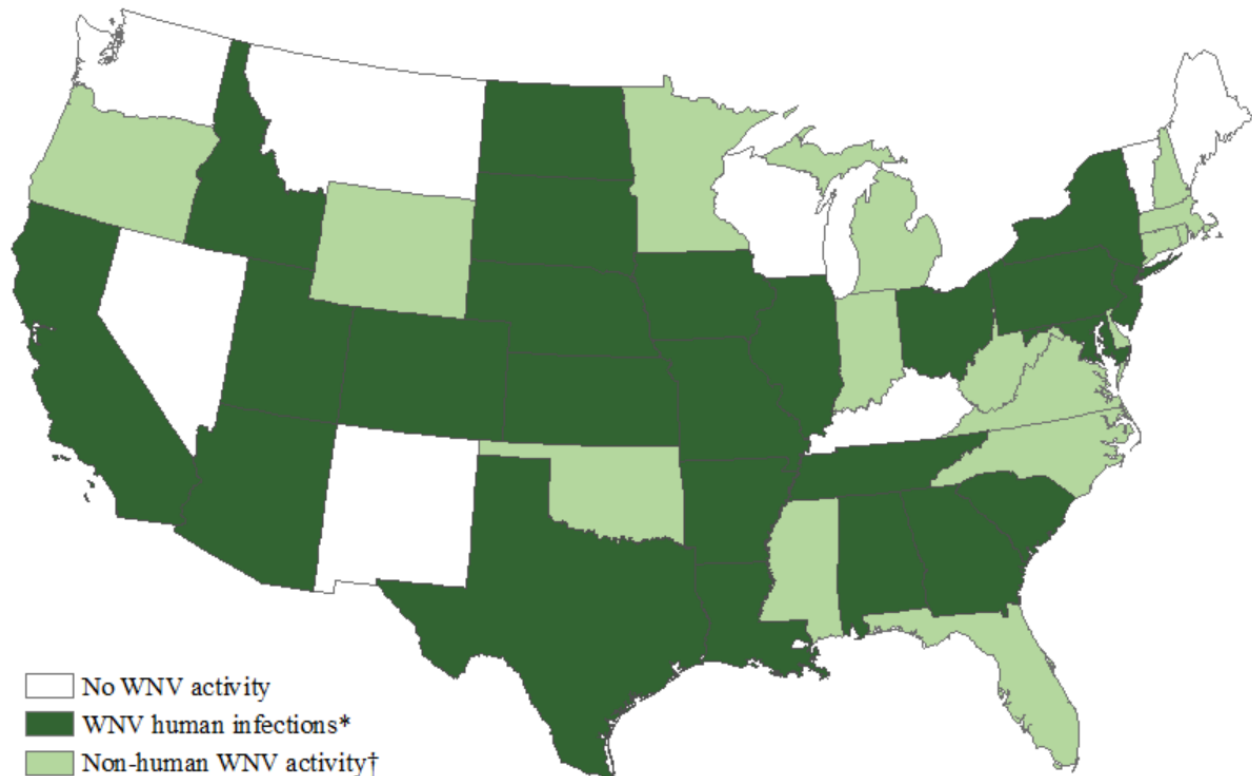
Weather Station Name	Rain Date	Rain Amount	Brood Prediction Date
Will Co.	07/27/2021	1.30	08/11/2021
Will Co.	08/11/2021	0.46	08/26/2021
Will Co.	08/25/2021	1.21	09/08/2021

MOSQUITO-BORNE DISEASE UPDATE

West Nile Virus (WNV)

2021 – USA. As of August 24, 2021, a total of 102 cases of West Nile virus disease in people have been reported to CDC. Of these, 64 (63%) were classified as neuroinvasive disease (such as meningitis or encephalitis) and 38 (37%) were classified as non-neuroinvasive disease.

West Nile Virus Activity by State – United States, 2021 (as of August 24th)





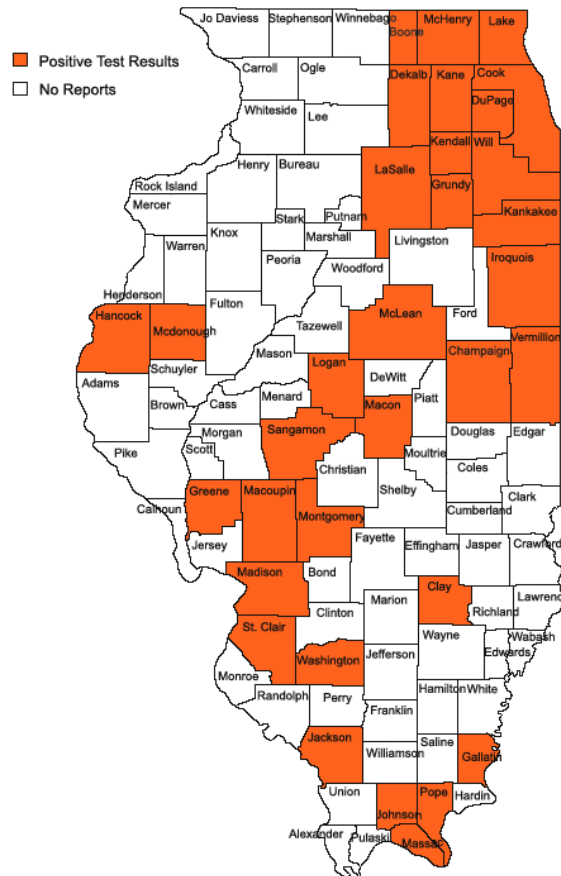
2021 – Illinois. *The following chart summarizes IDPH WNV 2021 surveillance data, as compared to historical data from 2020 and 2012, the last year of a state-wide outbreak:

West Nile Virus Activity Comparison and Summary (as of September 1, 2021)

	Number Collected in all Counties	# WNV Positives	% WNV Positives
2021 Data as of Sept 1			
2021 Mosquito Surveillance Samples	14,476	1,749	12.1%
2021 Bird Surveillance Samples	115	15	13.0%
2021 WNV Positive Counties	30		
2021 Human Cases as of Sept 1	1		
2020 Historical Data as of Sept 1 for Comparison			
2020 Mosquito Surveillance Samples	15,271	1,769	11.6%
2020 Bird Surveillance Samples	104	7	6.7%
2020 WNV Positive Counties	20		
2020 Total Human Cases	42		
2012 Historical Data as of Sept 1 for Comparison			
2012 Mosquito Surveillance Samples	13,381	3,485	26.0%
2012 Bird Surveillance Samples	534	104	19.5%
2012 WNV Positive Counties	45		
2012 Total Human Cases	290		

*2021 human case data appears to be lagging with reports of 2 Cook County and 1 Lake County cases.

The following map shows the Illinois counties that have had WNV-positive activity in 2021:





OPERATIONS UPDATE

Services Performed August 2021

Service Item	Start Date
Biomist 3+15 Truck ULV	08/24/2021