Oswego Township

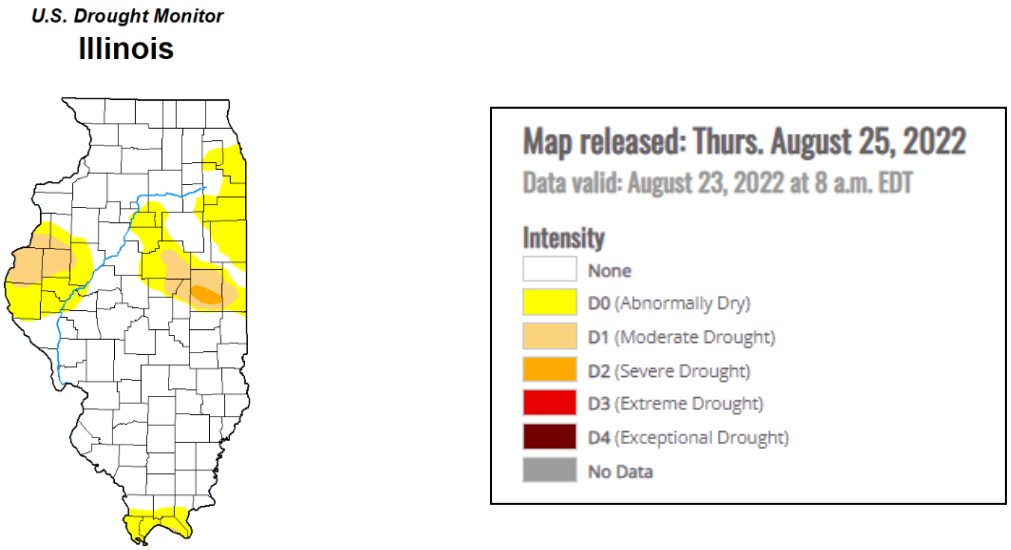
August 2022 - Status Report

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.

Soil Moisture Conditions Improve Across Portions of Northern Illinois

The 30 day period between 7/25 and 8/25 was the 10th driest on record at O'Hare with only 1.06 inches of rain received compared to a normal amount of 4.20." The following United States Drought Outlook map shows some improvement in northern Illinois, and the impact of the moisture deficit with abnormally dry conditions persisting in portions of Cook, DuPage, Kankakee and Will Counties.



Since the start of the 2022 mosquito season, rainfalls have hatched a total of 12 floodwater mosquito broods at O'Hare and 18 at DuPage County Airport. However, the persistent dry conditions have diminished these predicted broods and mosquito annoyance periods. By contrast, the Culex mosquito, the WNV disease vector, flourishes under stagnant water and drought conditions.

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. The Culex population

continued to surge in August. The following chart summarizes the number of WNV-positive mosquito samples, by county, by month, in northeastern Illinois, as of August 31ST.

	2022 West Nile Virus Positive *Culex* Samples - 8/31/22					
Month	**Cook**	**DuPage**	**Kane**	**Lake**	**McHenry**	**Will**
May		3				1
June	15	1		2		
July	287	17	6	7	1	2
August	864	66	26	24	7	11
YTD Total	**1,166**	**87**	**32**	**33**	**8**	**14**

IDPH NEWS RELEASE - 8/30/2022: "*The Illinois Department of Public Health (IDPH) has confirmed the first human case and first human death of West Nile virus (WNV) reported in Illinois for 2022. A person in their late 70's in Cook County became ill at the beginning of August and subsequently died. WNV was a contributing factor in the death. Laboratory testing at CDC has confirmed the diagnosis of WNV."*

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

Floodwater Mosquito Brood Prediction

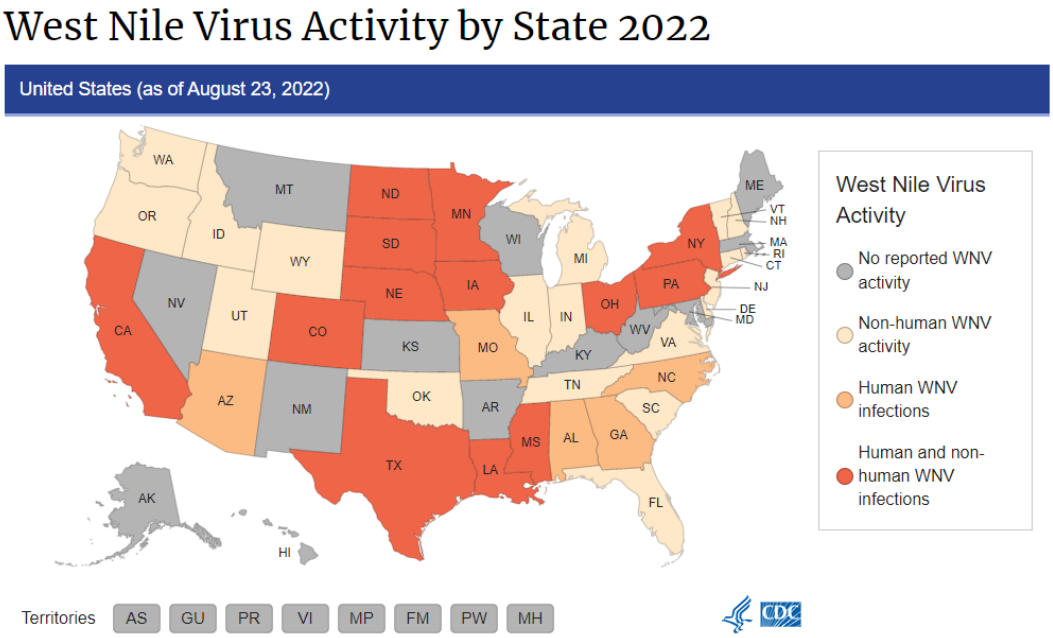
The floodwater mosquito (*Aedes vexans*) is the key nuisance species in the Chicagoland area. Distinct hatches of floodwater mosquito populations, or broods, are triggered by significant rainfall events. The Clarke Brood Prediction Model calculates peak annoyance periods based on rainfall and temperature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

Weather Station Name	Rain Date	Rain Amount	Brood Prediction Date
Will Co.	**07/15/2022**	**1.13**	**08/01/2022**
Will Co.	**07/22/2022**	**0.40**	**08/06/2022**
Will Co.	**07/23/2022**	**0.90**	**08/07/2022**
Will Co.	**07/24/2022**	**0.57**	**08/08/2022**
Will Co.	**08/07/2022**	**0.73**	**08/25/2022**
Will Co.	**08/19/2022**	**1.05**	**09/02/2022**
Will Co.	**08/20/2022**	**0.50**	**09/03/2022**

MOSQUITO-BORNE DISEASE UPDATE

West Nile Virus (WNV)

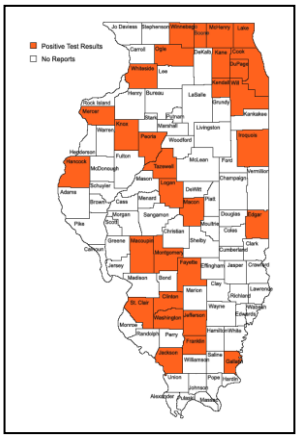
2022 – USA. As of August 23rd, ninety-eight (98) USA human WNV cases have been reported to the CDC in eighteen (18) states, including two (6) fatalities in AZ, LA and TX.



2022 – Illinois. As of August 30th, one fatal human WNV case has been reported to IDPH. The following chart compares 2022 to the same YTD periods in 2021 and 2012 (the last year of a major WNV outbreak):

West Nile Virus Activity Comparison and Summary (as of August 31, 2022)

	Number Collected in all Counties	# WNV Positives	% WNV Positives
2022 Data as of August 31			
2022 Mosquito Surveillance Samples	12,400	1,577	12.7%
2022 Bird Surveillance Samples	148	11	7.4%
2022 WNV Positive Counties	33		
2022 Human Cases as of August 31	1		
2021 Historical Data as of August 31 for Comparison			
2021 Mosquito Surveillance Samples	13,418	2,059	15.3%
2021 Bird Surveillance Samples	120	18	15.0%
2021 WNV Positive Counties	31		
2021 Total Human Cases	64		
2012 Historical Data as of August 31 for Comparison			
2012 Mosquito Surveillance Samples	16,147	4,425	27.4%
2012 Bird Surveillance Samples	514	104	20.2%
2012 WNV Positive Counties	45		
2012 Total Human Cases	290		



OPERATIONS UPDATE

Services Performed - August 2022

Service Item	Date
DUET Truck ULV	08/03/2022