Village of Lake in the Hills

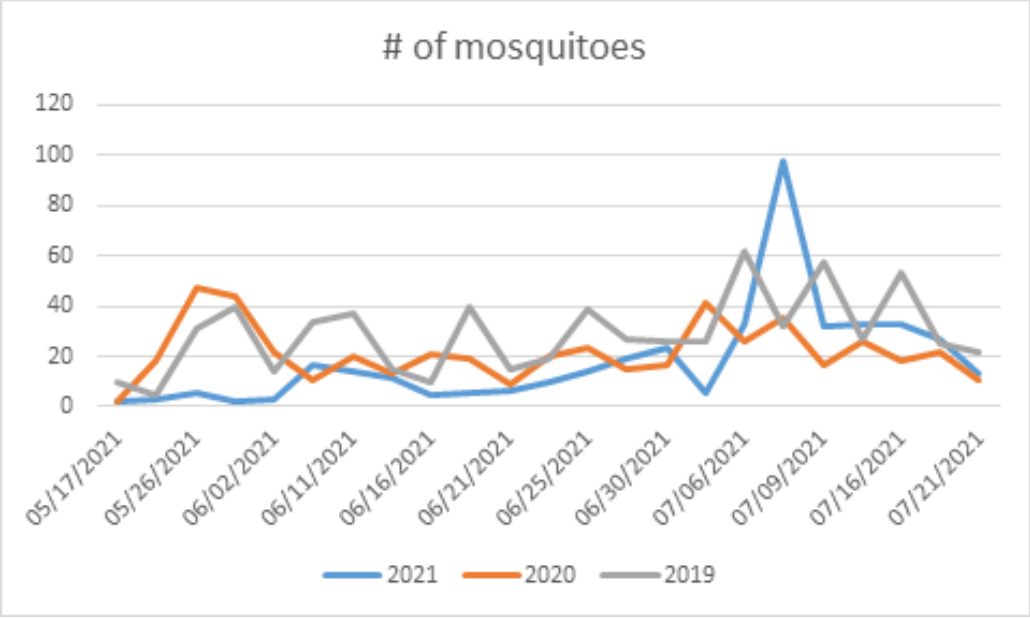
July 2021 - Status Report

SEASON PERSPECTIVE

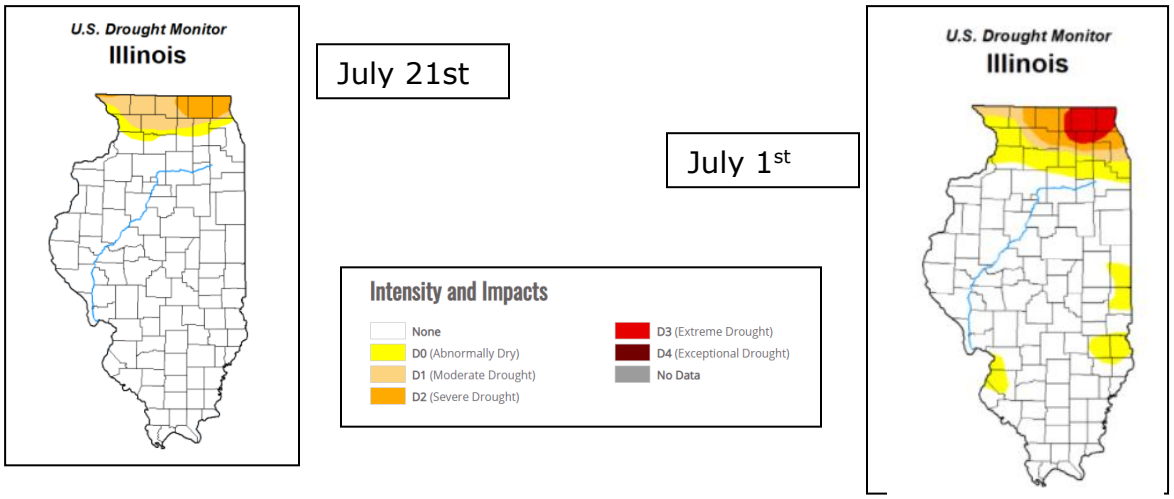
Introduction. Weather conditions critically affect the seasonal mosquito population. Excessive rainfall periods trigger hatches of floodwater mosquitoes (*Aedes vexans*), the dominant annoyance species in northern Illinois that has a flight range of 15 to 20 miles. The other target species is the northern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

Floodwater Mosquitoes spike in July and WNV activity is increasing in August!

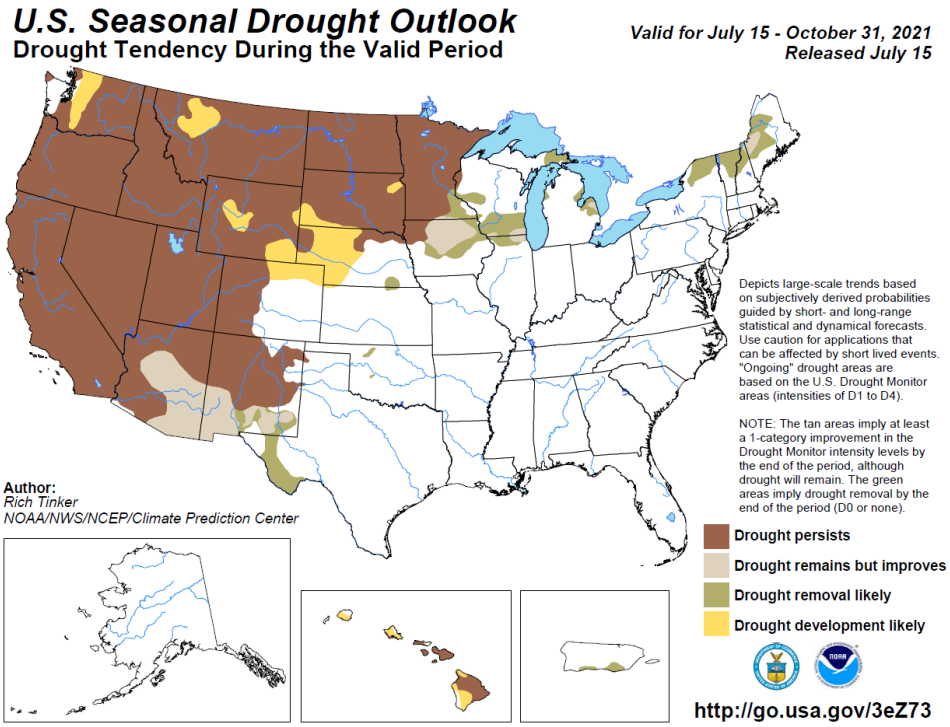
Since the start of the 2021 mosquito season, rainfalls have hatched a total of 7 floodwater mosquito broods at O'Hare, and 10 at DuPage County Airport. Because of the early season extreme drought conditions, the series of back-to-back broods began hitting the area in late June. During July, 547 citizen reports were received on the Clarke Mosquito Hotline & Portal, confirming the dramatic increase in mosquito annoyance conditions across the area. The following chart compares 2021 year-to-date mosquito population levels to 2019 and 2020 from our network of 100 New Jersey light traps. **July 2021 shows the highest peak of mosquito activity in the past three years.**



Over 7 inches of rain was received at O'Hare in late June and July. As shown by the following maps, drought conditions have improved in Northeastern Illinois since July 1st:



As shown by the following map, the National Weather Service & Climatic Prediction Center expect near-normal moisture levels in Illinois for the balance of the mosquito season:



Operations Plan. **Late July floodwater mosquito hatches will likely result in early August annoyance conditions.** Accordingly, Clarke operations will focus on floodwater, as well as, permanent water larval development habitats for the control of *Culex* species. **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 August for mosquito annoyance conditions and the increasing risk of WNV transmission.

Floodwater Mosquito Brood Prediction

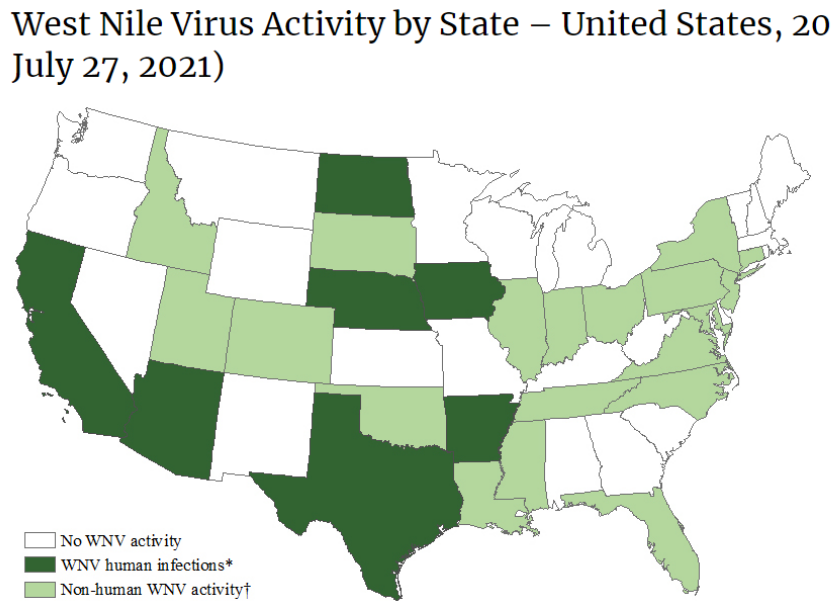
The floodwater mosquito (*Aedes vexans*) is the key nuisance species in the Chicagoland area. Distinct hatches of floodwater mosquito populations, or broods, are triggered by significant rainfall events. The Clarke Brood Prediction Model for July and August calculates peak annoyance periods based on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

Weather Station Name	Rain Date	Rain Amount	Brood Prediction Date
McHenry	06/20/2021	1.08	07/09/2021
McHenry	06/27/2021	0.46	07/16/2021

MOSQUITO-BORNE DISEASE UPDATE

West Nile Virus (WNV)

2021 – USA. As of July 27, 2021, a total of 21 cases of West Nile virus disease in people have been reported to CDC. Of these, 14 (67%) were classified as neuroinvasive disease (such as meningitis or encephalitis) and 7 (33%) were classified as non-neuroinvasive disease. The following map shows WNV activity by state, as of July 13, 2021:

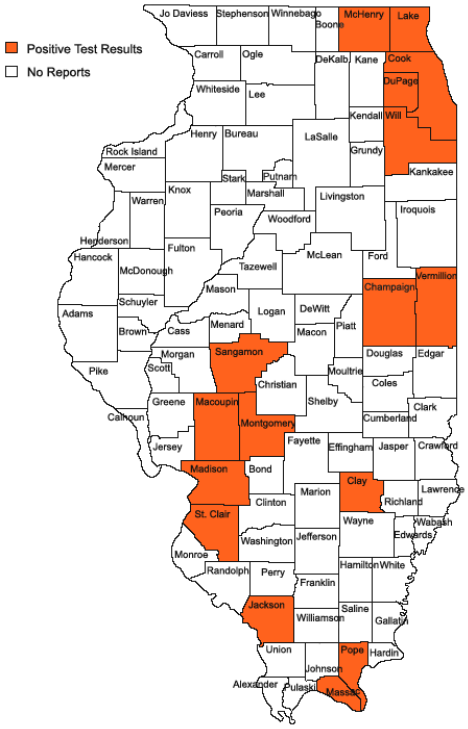


2021 – Illinois. Late July and early August WNV activity is increasing in Illinois. For example, on July 27th, DesPlaines Valley MAD reported 80% of mosquito samples in the Village of Berkeley tested positive for WNV. The following chart summarizes IDPH WNV 2021 surveillance data, as compared to historical data from 2020 and 2012, the last year of a state-wide outbreak:

West Nile Virus Activity Comparison and Summary (as of July 21, 2021)

	Number Collected in all Counties	# WNV Positives	% WNV Positives
2021 Data as of July 21			
2021 Mosquito Surveillance Samples	6,873	68	1.0%
2021 Bird Surveillance Samples	51	0	0%
2021 WNV Positive Counties	9		
2021 Human Cases as of July 21	0		
2020 Historical Data as of July 21 for Comparison			
2020 Mosquito Surveillance Samples	7,785	64	0.8%
2020 Bird Surveillance Samples	71	4	5.6%
2020 WNV Positive Counties	8		
2020 Total Human Cases	39		
2012 Historical Data as of July 21 for Comparison			
2012 Mosquito Surveillance Samples	7,341	976	13.3%
2012 Bird Surveillance Samples	350	27	7.7%
2012 WNV Positive Counties	29		
2012 Total Human Cases	290		

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



Reported Animal/Insect Positives

Municipality	Date Collected	Animal/Insect
BLOOMINGDALE	07/22/2021	MOSQUITO
CLARENDON HILLS	06/30/2021	MOSQUITO
ITASCA	07/20/2021	MOSQUITO
KEENEYVILLE	07/27/2021	MOSQUITO
LEMONT	07/01/2021	MOSQUITO
NAPERVILLE	07/22/2021	MOSQUITO
WOOD DALE	07/22/2021	MOSQUITO
WOOD DALE	07/22/2021	MOSQUITO
WOOD DALE	07/22/2021	MOSQUITO
WOODRIDGE	07/28/2021	MOSQUITO

OPERATIONS UPDATE

Services Performed July 2021:

Service Item	Start Date
ROS2802 - Anvil Truck ULV Application	07/02/2021
ROS1999 - Natular G 5#/Acre Hand	07/06/2021
ROS1302 - Targeted Site Larval Insp Serv	07/06/2021
ROS2802 - Anvil Truck ULV Application	07/26/2021

August 2021 Operations

Work Type	Service Kit
Targeted Site Larval Insp Serv	ROS1302 - Targeted Site Larval Insp Serv
Targeted Site Larval Insp Serv	ROS1302 - Targeted Site Larval Insp Serv
Complete Site Larval Insp Serv	ROS1252 - Complete Site Larval Insp Serv