



City of Geneva

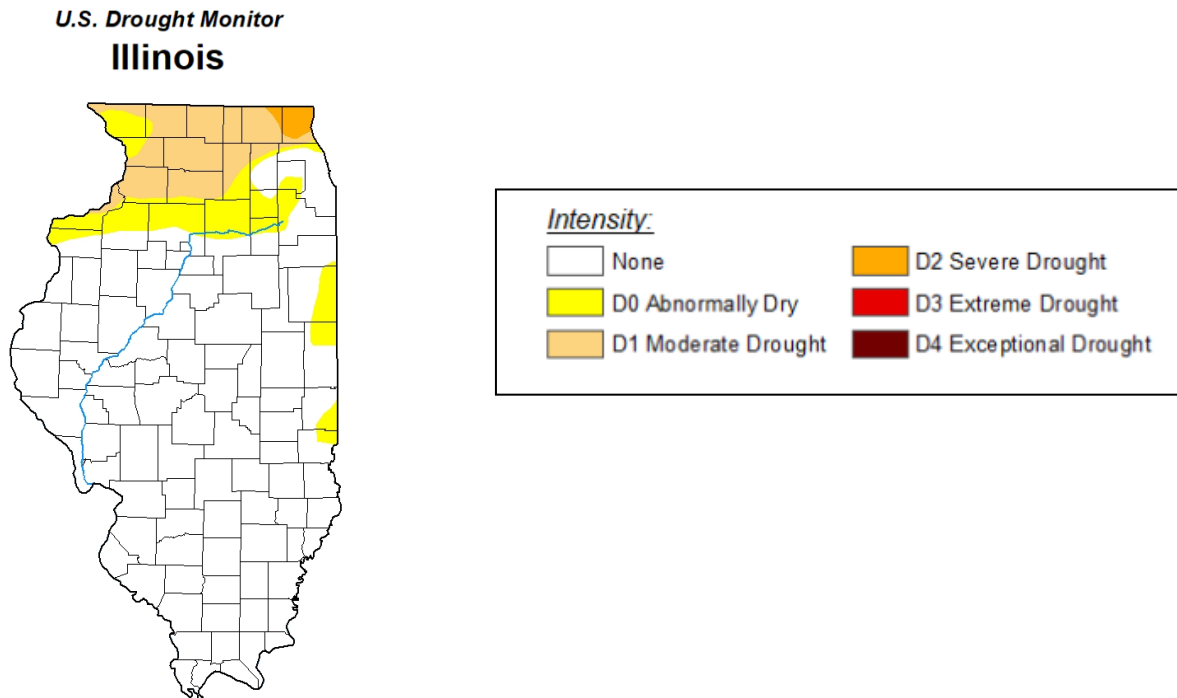
August 2021 - Status Report

SEASON PERSPECTIVE

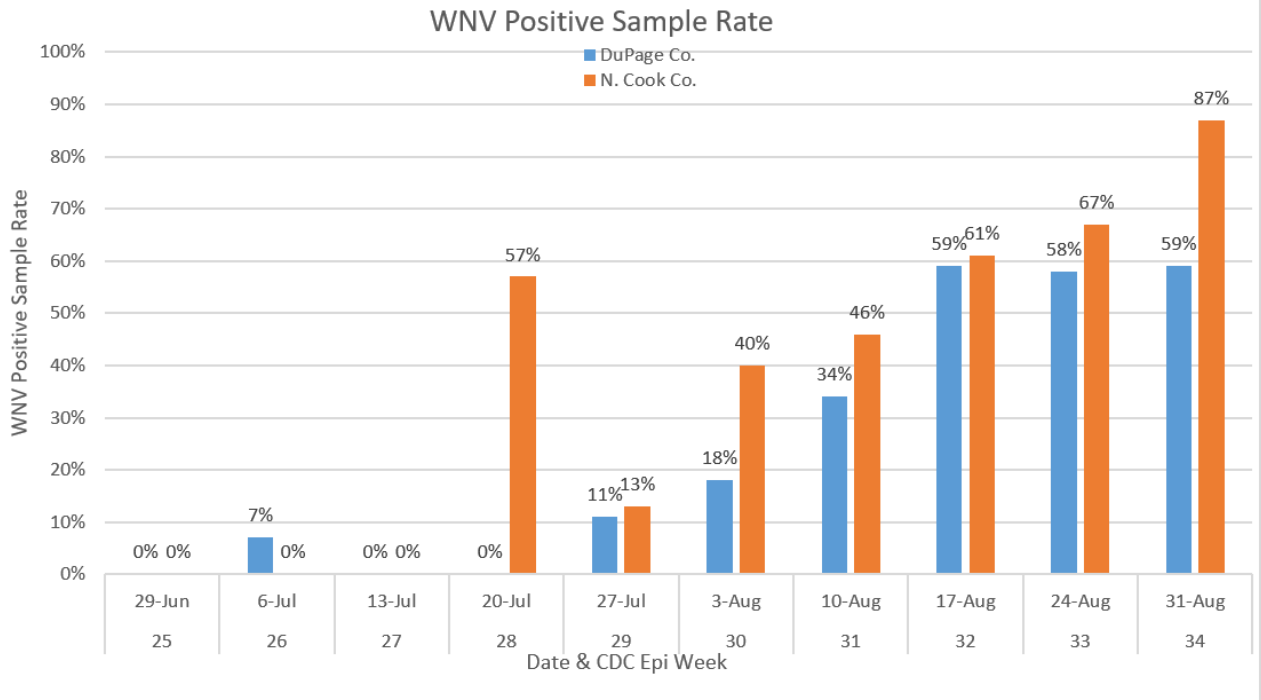
Introduction. Weather conditions critically affect the seasonal mosquito population. Excessive rainfall periods trigger hatches of floodwater mosquitoes (*Aedes vexans*), the dominant annoyance species in northern Illinois that has a flight range of 15 to 20 miles. The other target species is the northern 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 – Elgin

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 |
|----------------------|------------|-------------|-----------------------|
| Elgin | 08/08/2021 | 0.48 | 08/23/2021 |
| Elgin | 08/09/2021 | 1.35 | 08/24/2021 |
| Elgin | 08/10/2021 | 2.98 | 08/25/2021 |
| Elgin | 08/18/2021 | 0.72 | 09/02/2021 |
| Elgin | 08/24/2021 | 0.44 | 09/11/2021 |
| Elgin | 08/29/2021 | 0.52 | 09/12/2021 |

New Jersey Light Trap Counts

(*Red numbers indicate an annoyance level)

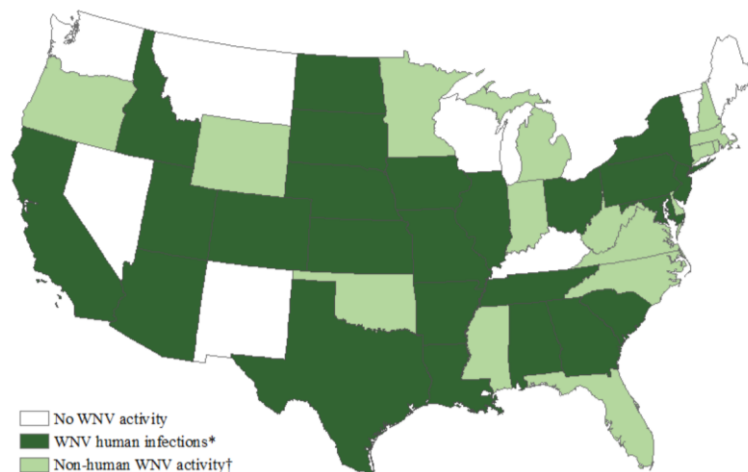
| Trap Location | Aug 02 | Aug 04 | Aug 06 | Aug 09 | Aug 11 | Aug 13 | Aug 16 | Aug 18 | Aug 20 | Aug 23 | Aug 25 | Aug 27 | Aug 30 |
|---------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 37W681 Kaneville Rd | 27 | 28 | 52 | 23 | 10 | 32 | 13 | 15 | 24 | 58 | 27 | 58 | 39 |
| Eastside Dr Fire Station | 6 | 8 | 4 | 3 | 3 | 3 | 3 | 2 | 4 | 3 | 4 | 6 | 6 |
| Westhaven & Heartland well site | 1 | 2 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | Mal | 9 | 25 |
| Wheeler Dr & Stevens St | 9 | 26 | 18 | 4 | 14 | 20 | 4 | 7 | 20 | 39 | 125 | 81 | 149 |

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)





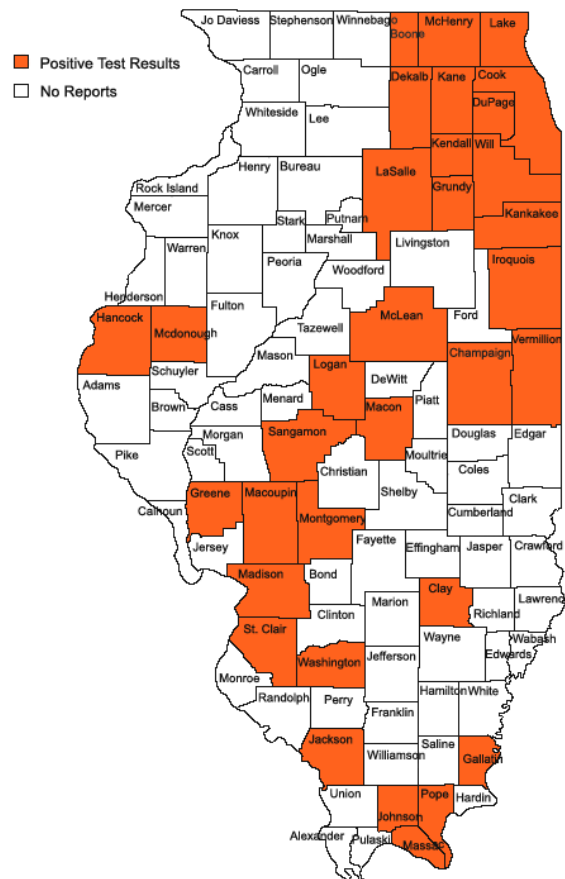
2021 – Illinois. *The following chart summarizes IDPH WNV 2021 surveillance data, as compared to historical data from 2020 and 2012, the last year of a state-wide outbreak:

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 |
|--|-------------------|
| ROS2888 - Biomist 3+15 Truck ULV | 08/03/2021 |
| ROS2888 - Biomist 3+15 Truck ULV | 08/24/2021 |
| ROS1302 - Targeted Site Larval Insp Serv | 08/25/2021 |