



# Arbovirus Surveillance Report

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## West Nile Virus 2018 End of Season Summary

### Overall Assessment

The risk of West Nile virus infection in Chicago for the 2018 season was moderate. The number of reported human cases was 57, which represents a 159% increase in the number of cases compared to 2017 (22). The increase in human cases is likely due to increased mosquito populations as a result of variable weather patterns. Statewide there have been 140 cases of WNV reported in 2018, with 10 fatalities. Throughout many areas in the US, just as seen in Chicago and the state of Illinois, the amount of virus in circulation was higher in 2018 in comparison to 2017. Statewide the number of cases increased from 90 in 2017 to 140 in 2018, while nationally the number of cases increased from 2,097 in 2017 to 2,323 cases this year.

### Larviciding

As in prior seasons, pre-season larviciding was conducted in areas that have greater historic prevalence of disease. Pre-season larviciding was a cooperative venture between the Department of Public Health, Vector Disease Control International, and sister agencies. In total, over 80,600 catch basins were treated with Fourstar® 180 microbial briquettes. FourStar® kills mosquito larvae before they become adults by using the naturally occurring soil bacteria *Bacillus thuringiensis israelensis* (Bti).

To evaluate the effectiveness of these efforts, a total of 482 catch basins were sampled: 119 out of 138 (86%) sampled in July, 218 out of 222 (98%) sampled in August, and 116 out of 122 (95%) sampled in September had no pupae present. FourStar® proved to be an effective product against larvae.

### Environmental Surveillance for WNV

Eighty-two gravid traps were placed throughout the city and mosquitoes were collected on a twice-weekly basis from June – September. All mosquito species that were collected were identified and recorded, and female mosquitoes of the *Culex* genus were tested for both West Nile virus (WNV) and St. Louis encephalitis (SLE). The total number of mosquitoes collected was 34,539, of which 17,980 were female *Culex*. Of these, a total of 1,715 mosquito pools were prepared and tested, of which 212 (12.4%) were positive for WNV (none were positive for SLE). In comparison, 20,849 mosquitoes were collected during the same period in 2017, of which 14,236 were female *Culex*. Of these, a total of 1,577 mosquito pools were prepared and tested, of which 177 (11.2 %) were positive for WNV (none were positive for SLE). In addition to mosquito surveillance, in 2018, a total of 7 birds were submitted; 2 were unable to be tested, 3 were negative, and 2 were positive.

In addition to WNV surveillance, BG-sentinel traps were placed to monitor for the presence of Aedes species mosquitoes, potential vectors for the Zika virus. In total, 2,012 Aedes albopictus – 1,327 females and 685 males - were collected.

<b>Cumulative Mosquito Testing for WNV from Gravid Traps</b>	
Number of Female Culex Trapped and Tested	17,980
Total Number of Mosquito Pools Tested	1,715
Number of Mosquito Pools Positive	212
Number of Community Areas with Positive Mosquitoes*	34
<b>Cumulative Bird Testing for WNV</b>	
Total Number of Birds Submitted	7
Number of Birds Tested	5
Number of Birds Positive	2
<b>Cumulative Mosquito Collections from BG-Sentinel Traps</b>	
Total Number of <i>Aedes albopictus</i>	2,012

\*Community areas with positive mosquito pools: Archer Heights, Ashburn, Austin, Avondale, Belmont Cragin, Beverly, Chatham, Chicago Lawn, Clearing, Dunning, East Garfield Park, Edgewater, Edison Park, Englewood, Forest Glen, Gage Park, Hegewisch, Irving Park, Lake View, Lincoln Park, Lincoln Square, New City, North Park, Norwood Park, O'Hare, Portage Park, Riverdale, South Chicago, South Deering, South Lawndale, Washington Heights, West Lawn, West Pullman, and West Town.

### Human Surveillance for WNV

57 human cases of WNV were reported, 4 of which were fatal. In comparison, 22 cases, 3 of which were fatal, were reported in 2017.

### Adulticiding

Adulticiding was conducted when an area showed a vector index greater than or equal to 1 for two consecutive weeks. Prior to adulticiding, a press release was issued, aldermanic offices were notified, and door hangers were distributed (some 9,000 in total). Adulticiding occurred on 4 separate occasions, covering 6 wards and 84.2 linear road miles, using Zenivex®.

For WNV surveillance data in Illinois: [Illinois Data](#)

For national WNV surveillance data: [National Data](#)

For more information on WNV: [Environmental Health Homepage](#)

For U.S. Climate data: [NOAA National Overview](#)