



Arbovirus Surveillance Report

City of Chicago
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Environmental Health

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West Nile Virus 2017 End of Season Summary

Overall Assessment

The risk of West Nile virus infection in Chicago for the 2017 season was moderate. The number of reported human cases was 22, which represents a 55% reduction in the number of cases compared to 2016. The decrease in human cases is likely due to decreased mosquito populations as a result of more efficacious larviciding efforts and variable weather patterns.

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, Westside Health Authority, and sister agencies. In total, over 88,600 catch basins were treated with Fourstar® XR – 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 544 catch basins were sampled: 16 out of 85 (18.8%) of catch basins sampled in June, 13 out of 160 (8.1%) sampled in July, 34 out of 184 (18.5%) sampled in August, and 22 out of 115 (19.1%) sampled in September had adult emergence. In total, adult emergence occurred in 85 out of 544 (15.6%) catch basins.

Environmental Surveillance

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 20,849, 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 comparison, 49,784 mosquitoes were collected during the same period in 2016, of which 36,711 were female *Culex*. Of these, a total of 2,029 mosquito pools were prepared and tested, of which 463 (22.8%) were positive for WNV (none were positive for SLE). In addition to mosquito surveillance, in 2017, a total of 14 birds were submitted; 3 were unable to be tested, 10 were negative, and 1 was 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, 418 *Aedes albopictus* – 334 females and 84 males - were collected.

Cumulative Mosquito Testing for WNV from Gravid Traps	
Number of Female <i>Culex</i> Trapped and Tested	14,236
Total Number of Mosquito Pools Tested	1,577
Number of Mosquito Pools Positive	177
Number of Community Areas with Positive Mosquitoes*	26
Cumulative Bird Testing for WNV	
Total Number of Birds Submitted	14
Number of Birds Tested	10
Number of Birds Positive	1
Cumulative Mosquito Collections from BG-Sentinel Traps	
Total Number of <i>Aedes albopictus</i>	418

*Community areas with positive mosquito pools: Archer Heights, Austin, Avalon Park, Avondale, Belmont Cragin, Beverly, Chatham, Chicago Lawn, Dunning, East Garfield Park, Edison Park, Forest Glen, Gage Park, Greater Grand Crossing, Hegewisch, Lincoln Park, Lincoln Square, New City, O'Hare, Pullman, Riverdale, South Deering, South Lawndale, Washington Heights, West Pullman, and West Town.

Human Surveillance for WNV

Twenty-two human cases of WNV were reported, 3 of which were fatal. In comparison, 49 cases, 2 of which were fatal, were reported in 2016.

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 3 separate occasions, covering 5 wards and 35.70 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](#)