In week 34, one mosquito trap tested positive for WNV. In week 35 to date, zero traps tested positive for WNV.

No human WNV cases have been reported to date for 2019.

In 2019, 6 travel-associated Dengue cases have been identified in Dallas County.

*Aedes albopictus* and *Aedes aegypti* are currently circulating in the area.

### Table 1. Mosquito Laboratory and Human Case Surveillance Data for WNV, Dallas County

<table>
<thead>
<tr>
<th>Week Ending</th>
<th>07/20</th>
<th>07/27</th>
<th>08/03</th>
<th>08/10</th>
<th>08/17</th>
<th>08/24</th>
<th>08/31</th>
<th>YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMWR Week</td>
<td>29</td>
<td>30</td>
<td>31</td>
<td>32</td>
<td>33</td>
<td>34*</td>
<td>35*</td>
<td></td>
</tr>
<tr>
<td>Total Traps Placed in Dallas County a</td>
<td>243</td>
<td>247</td>
<td>235</td>
<td>250</td>
<td>241</td>
<td>253</td>
<td>258</td>
<td>5,131</td>
</tr>
<tr>
<td>Number of Positive Mosquito Traps (PHL; IL) c</td>
<td>1; 0</td>
<td>2; 0</td>
<td>0; 0</td>
<td>1; 0</td>
<td>1; 0</td>
<td>0; 1</td>
<td>0; 0</td>
<td>32; 3</td>
</tr>
<tr>
<td>Number of Pools Tested (PHL; IL) b,c</td>
<td>227; 11</td>
<td>209; 16</td>
<td>189; 16</td>
<td>214; 16</td>
<td>206; 12</td>
<td>211; 15</td>
<td>214; 18</td>
<td>3,849; 313</td>
</tr>
<tr>
<td>Number of Trap Results Currently Pending</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Average Number of Cx. quinquefasciatus per Trap d</td>
<td>59.6</td>
<td>38.9</td>
<td>26.4</td>
<td>24.4</td>
<td>33.4</td>
<td>23.8</td>
<td>21.2</td>
<td>22.4</td>
</tr>
<tr>
<td>Total Number of Cx. quinquefasciatus Trapped and Tested</td>
<td>7,935</td>
<td>6,385</td>
<td>4,658</td>
<td>5,827</td>
<td>5,643</td>
<td>4,995</td>
<td>4,374</td>
<td>103,119</td>
</tr>
<tr>
<td>Number of Positive Mosquito Pools (PHL; IL) c</td>
<td>1; 0</td>
<td>2; 0</td>
<td>0; 0</td>
<td>1; 0</td>
<td>1; 0</td>
<td>0; 1</td>
<td>0; 0</td>
<td>32; 3</td>
</tr>
<tr>
<td>WNV Infection Rate per 1,000 Cx. quinquefasciatus e</td>
<td>0.13</td>
<td>0.31</td>
<td>0.00</td>
<td>0.17</td>
<td>0.18</td>
<td>0.20</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Weekly Vector Index (VI) f</td>
<td>0.01</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Presumptive WNV Viremic Blood Donors</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>WNV Human Cases (WNND; WNF) g</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 2. Mosquito Laboratory and Human Case Surveillance Data for Chikungunya, Dengue and Zika Virus, Dallas County

<table>
<thead>
<tr>
<th>Week Ending</th>
<th>07/20</th>
<th>07/27</th>
<th>08/03</th>
<th>08/10</th>
<th>08/17</th>
<th>08/24</th>
<th>08/31</th>
<th>YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMWR Week</td>
<td>29</td>
<td>30</td>
<td>31</td>
<td>32</td>
<td>33</td>
<td>34*</td>
<td>35*</td>
<td></td>
</tr>
<tr>
<td>Total Biogents Sentinel-Traps Placed in Dallas County h</td>
<td>29</td>
<td>27</td>
<td>31</td>
<td>28</td>
<td>30</td>
<td>29</td>
<td>16</td>
<td>480</td>
</tr>
<tr>
<td>Average Number of Aedes per Trap i</td>
<td>15.2</td>
<td>14.9</td>
<td>9.8</td>
<td>12.5</td>
<td>8.1</td>
<td>11.7</td>
<td>9.0</td>
<td>15.6</td>
</tr>
<tr>
<td>Chikungunya Human Cases (Confirmed &amp; Probable) j</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Dengue Human Cases (Confirmed &amp; Probable) k</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Zika Human Cases (Confirmed &amp; Probable) l</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pregnant Women with Possible Zika Infection m</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

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a One mosquito trap with a pool containing only Culex restuans were positive for WNV in week 18, and is not included in VI calculations.

b Data for most recent 2 weeks are preliminary, and reflect results reported as of 12:30 p.m. September 3, 2019.

c Excludes traps without female *Culex quinquefasciatus* identified. Maximum of 50 female *Culex quinquefasciatus* per pool; more than 1 pool may be tested per trap

d Average abundance of female *Culex quinquefasciatus* mosquitoes per trap night/week (excludes non-working traps)

e WNV Infection rates calculated using a Maximum Likelihood Estimation (MLE). Biggerstaff BJ. PooledInfRate, version 4.0; Microsoft Excel Add-In; CDC 2007

f The Vector Index (VI) reflects the MLE adjusted for *Culex quinquefasciatus* abundance. VI=∑ξ_{i=species}N_{i}/P, where N is the average number of *Culex quinquefasciatus* mosquitoes collected per trap night and P is the estimated infection rate

gh Human cases by week of report to health department. WNND = West Nile Neuroinvasive Disease; WNF = West Nile Fever

h All Biogents (BG) Sentinel traps deployed in municipalities submitting data to DCHHS since Week 13.

i Average abundance of *Aedes albopictus* and *Aedes aegypti* mosquitoes per night/trap in BG-Traps (excludes non-working traps)

j Human CHIKV cases by week of report to the health department (AT : Autochthonous case; I : imported)

k Human Dengue cases by week of report to the health department

l Confirmed and probable human Zika cases by week of specimen collection date

m Possible Zika Virus Infection Among Pregnant Women — United States and Territories, May 2016, [http://www.cdc.gov/mmwr/volumes/65/wr/mm6520e1.htm/](http://www.cdc.gov/mmwr/volumes/65/wr/mm6520e1.htm/)
Table 3. WNV Positive Gravid Mosquito Traps and Human WNV Cases by City, Dallas County, 2019

<table>
<thead>
<tr>
<th>MMWR Week</th>
<th>MMWR Week Total</th>
<th>07/20</th>
<th>07/27</th>
<th>08/03</th>
<th>08/10</th>
<th>08/17</th>
<th>08/24</th>
<th>08/31</th>
<th>YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>29</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>30</td>
<td>30</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>31</td>
<td>31</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>32</td>
<td>32</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>33</td>
<td>33</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>34*</td>
<td>34</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>35*</td>
<td>35</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Data for most recent 2 weeks are preliminary, and reflect results reported as of 12:30 p.m. September 3, 2019.
†Range of numbers of traps placed weekly, in weeks 1 - 35.

Figure 1: All WNV Negative and Positive Mosquito Traps Collected During 2019: Weeks 1-35 (N=5,131)

Figure 2: Cumulative WNV Positive Mosquito Traps Collected: Weeks 1-35 (N=35)

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DCHHS Epidemiology (214) 819-2004 Epidemiology@dallascounty.org www.dallascounty.org/hhs
Figure 3: WNV Positive Mosquito Traps Collected During 2019: Weeks 34 and 35* (N=1)

Positive Traps

Figure 4: Trap Counts of Female Cx. quinquefasciatus from 2019 Season: Weeks 1-35*

*Figure 4 only shows traps for which results were available; malfunctioning traps were excluded. Almost all traps are at fixed sites.

Note: Most recent 1-2 weeks data are preliminary and subject to change following receipt of data still pending.

Figure 5: Average Numbers of Female Cx. quinquefasciatus per Trap-night and WNV Vector Index by Week: 2012 Season and 2019 Season (through Week 35*)

** Vector Index of 0.50 is the historical threshold associated with larger local epidemics of WNV illnesses in humans.

Note: Most recent 1-2 weeks data are preliminary and subject to change following receipt of data still pending.
Figure 6: WNV Vector Index by Week: 2012 - 2019 Seasons

The Vector Index (VI) reflects the MLE adjusted for Culex quinquefasciatus abundance. VI = \sum_{species} \hat{R}_i \hat{P}_i , where N is the average number of Culex quinquefasciatus mosquitoes collected per trap night and \hat{P} is the estimated infection rate.

Figure 7: Average Numbers of Female Cx. quinquefasciatus per Trap-night by Week: 2012 - 2019 Seasons

Figure 8: MLE (WNV Infection Rate per 1,000 Cx. quinquefasciatus) by Week: 2012 - 2019 Seasons
Figure 9: BG-Sentinel Trap Counts of Female *Aedes aegypti* and *Aedes albopictus* during 2019: Weeks 14 through 35*

*Data for most recent 2 weeks are preliminary.

†Routine *Aedes* BG-Sentinel trapping was conducted during week 14 - 43 in 2018.
Acknowledgements:

We are grateful for the partnership of the following contributors to our county-wide Arboviral Surveillance Report:

Mosquito Trapping and Data from Environmental Health Services Divisions of the Following Cities:

- Addison
- Balch Springs
- Carrollton
- Cedar Hill
- Cockrell Hill
- Coppell
- Dallas
- DeSoto
- Duncanville
- Farmers Branch
- Garland
- Glenn Heights
- Grand Prairie
- Highland Park
- Hutchins
- Irving
- Lancaster
- Mesquite
- Richardson
- Rowlett
- Sachse
- Seagoville
- Sunnyvale
- University Park
- Wilmer

Mosquito Speciation and Laboratory Testing:

- DCHHS Environmental Health Services: Mosquito Lab
- DCHHS LRN Laboratory
- DSHS Laboratory Services, Arbovirus-Entomology Team
- Municipal Mosquito

Human Case Reports and Investigations:

- Area Acute Care Hospitals and Healthcare Providers
- Dallas County Medical Examiner's Office
- City of Dallas Vital Statistics Unit
- Carter Blood Care
- American Red Cross
- DCHHS Acute Communicable Disease Epidemiology Division
- Zika Pregnancy Registry Team
- Arboviral Case Investigation and Clinical Inquiries Team

For inquiries related to this Arboviral Surveillance Report, please contact: Idaresit Umoh, MPH