

## California Arbovirus Surveillance Bulletin #34

Week 48 Friday, November 30, 2018



### Weekly Update

#### **Humans**

##### West Nile virus

A total of 7 human cases of West Nile virus (WNV) illness were reported this week from 3 counties: Fresno (5), Kern (1), and Tulare (1). In 2018, a total of 189 human WNV cases have been reported from 31 counties. Of the 189 case patients, 133 (70%) had neuroinvasive illness and 8 (4.4%) fatalities have been reported. The median age of the individuals is 60 years (range: 1–91 years) and 121 (64%) are male. Dates of symptom onset ranged from May 6 – October 28. In addition to the 182 cases, 21 asymptomatic infections have been reported from Butte (5), Contra Costa (2), Fresno (1), Los Angeles (4), Orange (2), Riverside (1), Sacramento (1), San Joaquin (1), Stanislaus (3), and Yolo (1) counties. At this time last year, 489 human WNV cases had been reported from 26 counties.

##### St. Louis encephalitis virus

No new cases were reported this week. In 2018, one human case of St. Louis encephalitis virus (SLEV) disease has been reported from Los Angeles County. At this time last year, one human SLEV case had been reported from one county.

#### **Dead Birds**

One WNV positive dead bird was reported from Santa Clara County this week. In 2018, a total of 498 WNV positive dead birds have been reported from 21 counties. At this time last year, 505 WNV positive dead birds had been reported from 39 counties.

#### **Mosquito Pools**

##### West Nile virus

A total of 3 WNV positive mosquito pools were reported this week from Los Angeles County. In 2018, 1,963 mosquito pools have tested positive for WNV from 29 counties. At this time last year, 3,370 WNV positive mosquito pools had been reported from 26 counties.

##### St. Louis encephalitis virus

No SLEV positive mosquito pools were reported this week. In 2018, 387 SLEV positive mosquito pools have been reported from 8 counties: Fresno (56), Imperial (3), Kern (65), Kings (30), Los Angeles (1), Madera (14), Riverside (56), and Tulare (162). At this time last year, 179 SLEV positive mosquito pools had been reported from 14 counties.

#### **Sentinel Chickens**

##### West Nile virus

A total of 2 WNV seroconversions were reported this week from Los Angeles County. In 2018, 163 WNV positive chickens have been reported from 16 counties. At this time last year, 305 WNV positive chickens had been reported from 18 counties.

##### St. Louis encephalitis virus

No SLEV seroconversions were reported this week. In 2018, one sentinel chicken has tested positive for SLEV from Merced County. At this time last year, 9 SLEV positive chickens had been reported from 3 counties.

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| 2017 & 2018 YTD West Nile Virus Comparisons |                |                |
|---|----------------|----------------|
|   | 2017           | 2018           |
| Total # Dead Bird Reports                   | 7,545          | 7,980          |
| # Positive Counties                         | 47             | 41             |
| # Human Cases                               | 489            | 189            |
| # Positive Dead Birds / # Tested            | 505 / 2,000    | 498 / 2,139    |
| # Positive Mosquito Pools / # Tested        | 3,370 / 44,316 | 1,963 / 42,021 |
| # Seroconversions / # Tested                | 305 / 11,029   | 163 / 10,162   |

| YTD WNV Activity by Element and County, 2018 |            |           |            |                |                   |
|--|------------|-----------|------------|----------------|-------------------|
| County                                       | Humans     | Horses    | Dead Birds | Mosquito Pools | Sentinel Chickens |
| Alameda                                      |            |           | 20         | 15             |                   |
| Amador                                       | 1          | 1         |            |                |                   |
| Butte  | 10         |           | 4          | 48             | 37                |
| Colusa                                       |            |           |            |                | 6                 |
| Contra Costa                                 | 3          |           | 13         | 17             | 16                |
| El Dorado                                    |            |           | 2          |                |                   |
| Fresno                                       | 10         |           |            | 119            |                   |
| Glenn  | 2          |           |            | 4              |                   |
| Humboldt                                     | 1          |           | 1          |                |                   |
| Imperial                                     |            |           |            | 1              |                   |
| Kern   | 9          | 1         | 1          | 48             |                   |
| Kings  |            |           |            | 22             |                   |
| Lake   | 1          |           |            | 4              | 1                 |
| Los Angeles                                  | 42         |           | 19         | 75             | 30                |
| Madera                                       | 3          |           |            | 55             |                   |
| Merced                                       | 2          | 2         |            | 12             | 16                |
| Monterey                                     | 1          |           |            |                |                   |
| Napa   | 1          |           |            |                |                   |
| Nevada                                       | 1          |           |            |                |                   |
| Orange                                       | 9          |           | 15         | 96             |                   |
| Placer                                       | 9          | 1         | 44         | 230            | 4                 |
| Riverside                                    | 14         |           | 6          | 36             |                   |
| Sacramento                                   | 8          | 3         | 241        | 300            | 5                 |
| San Benito                                   |            |           |            |                | 1                 |
| San Bernardino                               | 6          |           |            | 12             |                   |
| San Diego                                    | 1          |           | 1          | 3              |                   |
| San Joaquin                                  | 13         | 1         | 16         | 533            |                   |
| San Mateo                                    |            |           | 5          | 2              |                   |
| Santa Clara                                  | 1          |           | 56         | 5              | 8                 |
| Santa Cruz                                   |            |           | 2          |                |                   |
| Shasta                                       | 1          | 1         | 5          | 8              | 4                 |
| Solano                                       |            |           |            | 3              | 7                 |
| Sonoma                                       |            |           |            | 1              |                   |
| Stanislaus                                   | 15         | 1         | 1          | 111            |                   |
| Sutter                                       | 1          |           | 4          | 28             | 20                |
| Tehama                                       | 1          |           |            |                | 1                 |
| Tulare                                       | 8          |           |            | 77             |                   |
| Tuolumne                                     | 1          |           | 1          |                |                   |
| Ventura                                      | 2          |           |            |                |                   |
| Yolo   | 10         |           | 41         | 90             | 5                 |
| Yuba   | 2          |           |            | 8              | 2                 |
| <b>Totals</b>                                | <b>189</b> | <b>11</b> | <b>498</b> | <b>1,963</b>   | <b>163</b>        |

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## TESTING SUMMARIES

### Humans

|             |      | WNV | SLE | WEE |
|-------------|------|-----|-----|-----|
| Human Cases | Week | 7   | 0   | 0   |
|             | YTD  | 189 | 1   | 0   |

### Dead Birds

|            |      | Number Tested | WNV Positive |
|------------|------|---------------|--------------|
| Dead Birds | Week | 38            | 1            |
|            | YTD  | 2,139         | 498          |

### Chickens

|              |      | Number Tested | WNV Positive | SLEV Positive | WEEV Positive |
|--------------|------|---------------|--------------|---------------|---------------|
| Chicken Sera | Week | 212           | 2            | 0             | 0             |
|              | YTD  | 10,162        | 163          | 1             | 0             |

### Mosquitoes

|                |  | Positive / Total Tested |                |              |            |           |           |           |
|----------------|--|-------------------------|----------------|--------------|------------|-----------|-----------|-----------|
| Mosquito Pools |  | WNV                     | SLEV           | WEEV         | CHIK       | DENV      | ZIKA      |           |
|                |  | Week                    | 3 / 254        | 0 / 254      | 0 / 254    | 0 / 80    | 0 / 80    | 0 / 80    |
|                |  | YTD                     | 1,963 / 42,021 | 387 / 34,171 | 0 / 29,282 | 0 / 2,124 | 0 / 2,124 | 0 / 2,124 |

## New Positives

### Dead Birds

| County      | Agency             | City     | Zip Code | Species       | Date Reported | Virus |
|-------------|--------------------|----------|----------|---------------|---------------|-------|
| Santa Clara | Santa Clara Co VCD | Campbell | 95008    | American Crow | 11/13/2018    | WNV   |

### Mosquitoes

| County      | Site Code | Pool # | Species              | City          | # in Pool | Trap Type | Collected | Virus |
|-------------|-----------|--------|----------------------|---------------|-----------|-----------|-----------|-------|
| Los Angeles | GRLA3076  | 6094   | Cx. quinquefasciatus | Valley Glen   | 50        | GRVD      | 11/20/18  | WNV   |
| Los Angeles | LACW1006  | 394    | Cx. quinquefasciatus | Playa Del Rey | 50        | GRVD      | 11/13/18  | WNV   |
| Los Angeles | LACW1012  | 399    | Cx. quinquefasciatus | Venice        | 23        | GRVD      | 11/14/18  | WNV   |

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### Sentinel Chickens

| County      | Site Code | City      | Date Bled | Virus | Band 01 | Band 02 |
|-------------|-----------|-----------|-----------|-------|---------|---------|
| Los Angeles | LACW1049  | Inglewood | 11/13/18  | WNV   | 1679    | 1680    |

## TEST PROTOCOLS

### Humans:

Specimens are tested by local laboratories with an IgM or IgG immunofluorescent assay (IFA) and/or an IgM enzyme immunoassay (EIA). Specimens with inconclusive results are forwarded to the California Department of Public Health Viral and Rickettsial Disease Laboratory (VRDL) for further testing with a plaque reduction neutralization test (PRNT).

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### Dead Birds

Oral swab samples collected from bird carcasses are tested at the UC Davis Arbovirus Research and Training laboratory (DART) or at a local agency for West Nile virus by RT-qPCR.

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### Sentinel Chickens:

Dried blood spot samples from sentinel chickens are tested at the California Department of Public Health Vector-Borne Disease Laboratory for IgG antibodies to West Nile, St. Louis encephalitis, and western equine encephalomyelitis viruses by an EIA. Positive samples are confirmed by IFA, western-blot, or PRNT.

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### Mosquito Pools:

Mosquito pools are tested at DART or at a local agency for West Nile, western equine encephalomyelitis, and St. Louis encephalitis viral RNA using a multiplex RT-qPCR. Invasive *Aedes* mosquitoes (*Ae. aegypti* and *Ae. albopictus*) are also tested at DART for chikungunya, dengue, and Zika viral RNA by a separate RT-qPCR.

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*Website Information:* For updated information on WNV and SLEV in California, please visit the California WNV website, [www.westnile.ca.gov](http://www.westnile.ca.gov), or the California Vectorborne Disease Surveillance System website, [www.calsurv.org](http://www.calsurv.org). For national information on WNV and other arboviruses, please visit the CDC websites: [www.cdc.gov](http://www.cdc.gov) and [https://wwwn.cdc.gov/arbovet/maps/ADB\\_Diseases\\_Map/index.html](https://wwwn.cdc.gov/arbovet/maps/ADB_Diseases_Map/index.html)

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