

California Arbovirus Surveillance Bulletin #29

Week 42 Friday, October 21, 2022



WEEKLY UPDATE

Humans

West Nile virus

A total of 6 cases of West Nile virus (WNV) illness were reported this week from 6 counties: Glenn (1), Kings (1), Los Angeles (1), Merced (1), Orange (1), and Stanislaus (1). **This is the first WNV human case reported from Glenn County this year.** In 2022, a total of 99 cases have been reported from 21 counties. Of the 99 cases, 78 (79%) had neuroinvasive illness and 6 (6%) were fatal. The median age of the cases was 64 years and 63 (64%) were male. The dates of symptom onset ranged from April 11 to October 2. In addition to the 99 WNV cases, 11 asymptomatic WNV-positive blood donors have been reported from 5 counties: Fresno (3), Kern (1), Los Angeles (4), Orange (2), and San Joaquin (1). At this time last year, 88 WNV cases had been reported from 22 counties.

St. Louis encephalitis virus

No human cases of St. Louis encephalitis virus (SLEV) were reported this week. In 2022, 8 SLEV human cases have been reported from 4 counties: Fresno (1), Kern (3), Stanislaus (1), and Tulare (3). At this time last year, 1 SLEV case had been reported from one county.

Dead Birds

A total of 4 WNV positive dead birds were reported this week from 2 counties: Los Angeles (2), and Santa Clara (2). In 2022, 185 WNV positive dead birds have been reported from 23 counties. At this time last year, 208 WNV positive dead birds had been reported from 19 counties.

Mosquito Pools

West Nile virus

A total of 43 WNV positive mosquito pools were reported this week from 6 counties: Fresno (2), Los Angeles (25), Riverside (2), San Bernardino (10), San Joaquin (1), and Tulare (3). In 2022, 3,100 WNV positive mosquito pools have been reported from 25 counties. At this time last year, 2,255 WNV positive pools had been reported from 25 counties.

St. Louis encephalitis virus

A single (1) SLEV positive mosquito pool was reported this week from 1 county: Riverside (1). In 2022, 149 SLEV positive mosquito pools from 10 counties have been reported: Fresno (13), Imperial (6), Kern (11), Kings (27), Los Angeles (1), Madera (18), Riverside (56), San Joaquin (1), Stanislaus (1), and Tulare (15). At this time last year, 44 SLEV positive pools had been reported from 8 counties.

Sentinel Chickens

A total of 5 WNV positive chickens were reported from 2 counties: Los Angeles (3), Shasta (1), and Yolo (1). In 2022, 144 WNV positive chickens have been reported from 13 counties. At this time last year, 88 WNV positive chickens had been reported from 12 counties.

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| 2021 & 2022 YTD West Nile Virus Comparisons | | |
|--|----------------|----------------|
| | 2021 | 2022 |
| Total No. Dead Bird Reports | 4,800 | 4,443 |
| No. Positive Counties | 35 | 32 |
| No. Human Cases | 88 | 99 |
| No. Positive Dead Birds / No. Tested | 208 / 1,605 | 185 / 1,219 |
| No. Positive Mosquito Pools / No. Tested | 2,255 / 36,754 | 3,100 / 38,568 |
| No. Seroconversions / No. Tested | 88 / 5,369 | 144 / 4,879 |

| YTD WNV Activity by Element and County, 2022 | | | | | |
|---|---------------|---------------|-------------------|-----------------------|--------------------------|
| County | Humans | Horses | Dead Birds | Mosquito Pools | Sentinel Chickens |
| Butte | 3 | | 2 | 39 | 27 |
| Colusa | | | | | 3 |
| Contra Costa | | | 1 | 2 | 5 |
| Fresno | 14 | | 2 | 295 | |
| Glenn | 1 | | | | |
| Imperial | | | | 1 | |
| Kern | 15 | 3 | | 99 | |
| Kings | 6 | | | 105 | |
| Lake | | | 2 | 7 | 3 |
| Los Angeles | 13 | | 46 | 530 | 32 |
| Madera | 3 | | 2 | 132 | |
| Merced | 7 | | 1 | 20 | 16 |
| Napa | | | | 1 | |
| Nevada | | 1 | 1 | | |
| Orange | 4 | | 1 | 32 | |
| Placer | 1 | | 5 | 89 | |
| Riverside | | | 5 | 123 | |
| Sacramento | | 2 | 40 | 42 | 6 |
| San Bernardino | | | 7 | 97 | |
| San Joaquin | 3 | 1 | 1 | 208 | |
| San Luis Obispo | | 1 | | | |
| Santa Clara | 1 | | 26 | 22 | |
| Shasta | 1 | | 1 | 39 | 3 |
| Solano | 2 | | 9 | 12 | |
| Sonoma | 1 | | | | |
| Stanislaus | 10 | 1 | 1 | 69 | |
| Sutter | 1 | | 4 | 31 | 16 |
| Tehama | 3 | 2 | | | 6 |
| Tulare | 6 | 3 | 2 | 1,028 | 10 |
| Ventura | | | 1 | | |
| Yolo | 3 | | 24 | 65 | 4 |
| Yuba | 1 | | 1 | 12 | 13 |
| Totals | 99 | 14 | 185 | 3,100 | 144 |

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TESTING SUMMARIES

| | | WNV | SLEV | WEEV |
|--------------------|------|-----|------|------|
| Human Cases | Week | 6 | 0 | 0 |
| | YTD | 99 | 8 | 0 |

| Positive / Total Tested | | | | | | |
|-------------------------|-----|------|------|------|------|------|
| | WNV | SLEV | WEEV | CHIK | DENV | ZIKA |

| | | |
|-------------------|------|-------------|
| Dead Birds | Week | 4 / 24 |
| | YTD | 185 / 1,219 |

| | | | | |
|---------------------|------|-------------|-----------|-----------|
| Chicken Sera | Week | 5 / 177 | 0 / 177 | 0 / 177 |
| | YTD | 144 / 4,879 | 0 / 4,879 | 0 / 4,879 |

| | | | | | | | |
|-----------------------|------|----------------|--------------|------------|---------|---------|---------|
| Mosquito Pools | Week | 43 / 1,067 | 1 / 1,067 | 0 / 1,066 | 0 / 91 | 0 / 91 | 0 / 91 |
| | YTD | 3,100 / 38,568 | 138 / 34,900 | 0 / 33,486 | 0 / 527 | 0 / 527 | 0 / 527 |

POSITIVES

Dead Birds

| County | Agency | City | Zip Code | Species | Date Reported | Virus |
|-------------|----------------------------------|------------------|----------|---------------|---------------|-------|
| Los Angeles | Greater Los Angeles Co VCD - SFS | Hacienda Heights | 91745 | American Crow | 10/11/2022 | WNV |
| Los Angeles | Long Beach Animal Control | Long Beach | 90804 | American Crow | 10/13/2022 | WNV |
| Santa Clara | Santa Clara Co VCD | Campbell | 95008 | American Crow | 10/11/2022 | WNV |
| Santa Clara | Santa Clara Co VCD | Los Altos | 94024 | American Crow | 10/14/2022 | WNV |

Mosquito Pools

| County | Site code | Pool # | Species | City | # in Pool | Trap type | Collected | Virus |
|-------------|-----------|--------|----------------------|------------------|-----------|-----------|------------|-------|
| Fresno | FRNO 10 | 1102 | Cx. quinquefasciatus | Fresno | 33 | GRVD | 10/18/2022 | WNV |
| Fresno | FRNO 35 | 1084 | Cx. quinquefasciatus | Fresno | 50 | GRVD | 10/13/2022 | WNV |
| Los Angeles | GRLA 2017 | 6001 | Cx. quinquefasciatus | Studio City | 50 | GRVD | 10/12/2022 | WNV |
| Los Angeles | GRLA 2035 | 6020 | Cx. quinquefasciatus | Tarzana | 34 | GRVD | 10/13/2022 | WNV |
| Los Angeles | GRLA 2278 | 926 | Cx. quinquefasciatus | Long Beach | 27 | GRVD | 10/13/2022 | WNV |
| Los Angeles | GRLA 2323 | 928 | Cx. quinquefasciatus | Los Angeles | 50 | GRVD | 10/14/2022 | WNV |
| Los Angeles | GRLA 2512 | 6017 | Cx. quinquefasciatus | Atwater Village | 50 | GRVD | 10/12/2022 | WNV |
| Los Angeles | GRLA 2552 | 6014 | Cx. quinquefasciatus | Glendale | 50 | GRVD | 10/12/2022 | WNV |
| Los Angeles | GRLA 2555 | 6019 | Cx. quinquefasciatus | Encino | 50 | GRVD | 10/13/2022 | WNV |
| Los Angeles | GRLA 2890 | 925 | Cx. quinquefasciatus | Lakewood | 50 | GRVD | 10/13/2022 | WNV |
| Los Angeles | GRLA 2957 | 922 | Cx. quinquefasciatus | Hawaiian Gardens | 50 | GRVD | 10/13/2022 | WNV |
| Los Angeles | GRLA 3039 | 5999 | Cx. quinquefasciatus | Hollywood Hills | 50 | GRVD | 10/12/2022 | WNV |

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|----------------|-------------|------|----------------------|------------------|----|--------|------------|------|
| Los Angeles | GRLA 3069 | 6004 | Cx. quinquefasciatus | Valley Village | 50 | GRVD | 10/12/2022 | WNV |
| Los Angeles | GRLA 3075 | 937 | Cx. quinquefasciatus | El Sereno | 50 | GRVD | 10/14/2022 | WNV |
| Los Angeles | GRLA 3079 | 6007 | Cx. quinquefasciatus | Sun Valley | 50 | GRVD | 10/12/2022 | WNV |
| Los Angeles | GRLA 3084 | 930 | Cx. quinquefasciatus | Commerce | 50 | GRVD | 10/14/2022 | WNV |
| Los Angeles | GRLA 3098 | 6009 | Cx. quinquefasciatus | Silver Lake | 50 | GRVD | 10/12/2022 | WNV |
| Los Angeles | GRLA 3102 | 6002 | Cx. quinquefasciatus | Studio City | 50 | GRVD | 10/12/2022 | WNV |
| Los Angeles | GRLA 3133 | 6029 | Cx. quinquefasciatus | San Fernando | 50 | GRVD | 10/14/2022 | WNV |
| Los Angeles | SGVA 1071 | 1142 | Cx. quinquefasciatus | Monterey Park | 50 | GRVD | 10/18/2022 | WNV |
| Los Angeles | SGVA 148 | 1157 | Cx. quinquefasciatus | El Monte | 50 | GRVD | 10/18/2022 | WNV |
| Los Angeles | SGVA 291 | 1152 | Cx. quinquefasciatus | El Monte | 50 | GRVD | 10/18/2022 | WNV |
| Los Angeles | SGVA 313 | 1147 | Cx. quinquefasciatus | Pasadena | 50 | GRVD | 10/18/2022 | WNV |
| Los Angeles | SGVA 62 | 1137 | Cx. quinquefasciatus | Covina | 50 | GRVD | 10/18/2022 | WNV |
| Los Angeles | SGVA 695 | 1155 | Cx. quinquefasciatus | Rosemead | 50 | GRVD | 10/19/2022 | WNV |
| Los Angeles | SGVA 952 | 1144 | Cx. quinquefasciatus | San Dimas | 50 | GRVD | 10/18/2022 | WNV |
| Los Angeles | SGVA 961 | 1151 | Cx. quinquefasciatus | Alhambra | 50 | GRVD | 10/18/2022 | WNV |
| Riverside | COAV 54 | 6390 | Cx. tarsalis | North Shore | 50 | CO2 | 10/18/2022 | SLEV |
| Riverside | NWST 100 | 262 | Cx. quinquefasciatus | Riverside | 44 | GRVD | 10/7/2022 | WNV |
| Riverside | NWST 224 | 263 | Cx. quinquefasciatus | Corona | 35 | GRVD | 10/11/2022 | WNV |
| San Bernardino | SANB 472 | 603 | Cx. tarsalis | San Bernardino | 3 | CO2 | 10/13/2022 | WNV |
| San Bernardino | WVAL 252 | 1780 | Cx. quinquefasciatus | Chino Hills | 16 | GRVD | 10/18/2022 | WNV |
| San Bernardino | WVAL 359 | 1817 | Cx. stigmatosoma | Chino | 8 | CO2 | 10/19/2022 | WNV |
| San Bernardino | WVAL 4461 | 1777 | Cx. quinquefasciatus | Chino Hills | 10 | GRVD | 10/18/2022 | WNV |
| San Bernardino | WVAL 4461 | 1778 | Cx. quinquefasciatus | Chino Hills | 50 | GRVD | 10/18/2022 | WNV |
| San Bernardino | WVAL 4613 | 1824 | Cx. quinquefasciatus | Upland | 33 | GRVD | 10/19/2022 | WNV |
| San Bernardino | WVAL 5009 | 1783 | Cx. quinquefasciatus | Rancho Cucamonga | 18 | GRVD | 10/18/2022 | WNV |
| San Bernardino | WVAL 6015 | 1806 | Cx. quinquefasciatus | Ontario | 50 | GRVD | 10/19/2022 | WNV |
| San Bernardino | WVAL 6015 | 1807 | Cx. quinquefasciatus | Ontario | 50 | GRVD | 10/19/2022 | WNV |
| San Bernardino | WVAL 9005 | 1809 | Cx. quinquefasciatus | Upland | 36 | GRVD | 10/19/2022 | WNV |
| San Joaquin | SJCM 8008 | 2305 | Cx. tarsalis | Manteca | 21 | CO2 | 10/18/2022 | WNV |
| Tulare | DLTA 8414 | 4603 | Cx. quinquefasciatus | Visalia | 50 | BGSENT | 10/7/2022 | WNV |
| Tulare | DLTA 8414 | 4611 | Cx. quinquefasciatus | Visalia | 50 | BGSENT | 10/7/2022 | WNV |
| Tulare | DLTA 851013 | 4671 | Cx. quinquefasciatus | Visalia | 50 | CO2 | 10/13/2022 | WNV |

Sentinel Chickens

| County | Site Code | Nearest City | Date Bled | Virus | Band 01 | Band 02 | Band 03 |
|-------------|-------------|-----------------|------------|-------|---------|---------|---------|
| Los Angeles | LACW 1002 | Torrance | 10/11/2022 | WNV | 1682 | 1683 | 1684 |
| Shasta | SHAS 005038 | Shasta | 10/17/22 | WNV | 1353 | | |
| Yolo | SAYO 116006 | Knights Landing | 10/3/2022 | WNV | 1271 | | |

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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).

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.

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.

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.

Website Information: For updated information on WNV in California, please visit the California WNV website, <https://westnile.ca.gov>, or the California Vector-Borne Disease Surveillance System website, <https://maps.vectorsurv.org>.

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