

## California Arbovirus Surveillance Bulletin #34

Week 42 Friday, October 23, 2015



### Weekly Update

#### **Humans**

A total of **55 new human cases of West Nile virus (WNV) illness were reported this week from the following 9 counties: Butte (1), Los Angeles (12), Madera (1), Orange (4), Riverside (23), San Bernardino (6), San Diego (5), Santa Clara (1), and Ventura (2).** As of October 21, a total of 421 human cases of WNV illness have been reported to the California Department of Public Health from 30 counties; 23 were fatal. At this time last year, 562 cases had been reported from 29 counties. Of the 421 case-patients, 307 (73%) had neuroinvasive illness. The median age of the individuals is 58 years (range: 5-98 years); 246 (58%) are male. Dates of symptom onset ranged from May 15 to October 16. In addition, 45 asymptomatic WNV-positive blood donors have been reported this year in 16 local health jurisdictions: Butte (5), Fresno (5), Glenn (2), Kern (1), Los Angeles (10), Merced (1), Napa (1), Orange (4), Placer (1), Riverside (2), Sacramento (2), San Bernardino (6), San Diego (1), Tehama (2), Tulare (1), and Yolo (1).

#### **Dead Birds**

A total of 22 WNV positive dead birds were reported this week from the following 6 counties: Los Angeles (5), Orange (1), Riverside (2), San Diego (12), San Mateo (1), and Santa Clara (1). In 2015, 1,192 birds have tested positive for WNV from 37 counties. At this time last year, 2,340 WNV positive birds had been detected in 36 counties.

#### **Mosquito Pools**

A total of 34 WNV positive mosquito pools were reported this week from the following 6 counties: Los Angeles (21), Riverside (2), Sacramento (4), San Diego (5), San Joaquin (1), and Stanislaus (1). In 2015, 2,972 mosquito pools have tested positive for WNV from 29 counties, and 38 mosquito pools have tested positive for St. Louis encephalitis virus (SLEV) from one county (Riverside). At this time last year, 3,268 WNV mosquito pools had been reported from 30 counties.

#### **Sentinel Chickens**

A total of 17 WNV seroconversions were reported this week from 8 flocks located in the following 4 counties: Los Angeles (11), Merced (1), San Diego (3), and Ventura (2). In addition, two SLEV seroconversions were reported from one flock in Riverside County. In 2015, 379 WNV seroconversions have been detected among 89 flocks located in 22 counties and 8 SLEV seroconversions have been detected from 2 flocks in Riverside County. At this time last year, 412 WNV positive chickens had been reported from 93 flocks in 23 counties.

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| <b>YTD WNV Activity by Element and County, 2015</b> |            |              |                |                   |
|---|------------|--------------|----------------|-------------------|
| County  | Humans     | Dead Birds   | Mosquito Pools | Sentinel Chickens |
| Alameda   |            | 16           | 14             |                   |
| Butte   | 51         | 38           | 94             | 37                |
| Colusa  | 1          | 3            |                | 10                |
| Contra Costa  | 1          | 11           | 8              | 17                |
| El Dorado   |            | 4            |                |                   |
| Fresno  | 7          | 3            | 108            |                   |
| Glenn   | 19         | 4            | 21             | 10                |
| Humboldt  |            | 2            |                |                   |
| Kern  | 10         | 1            | 135            |                   |
| Kings   |            | 3            | 144            |                   |
| Lake  | 2          | 5            | 31             | 4                 |
| Los Angeles   | 81         | 56           | 227            | 96                |
| Madera  | 4          | 1            | 21             |                   |
| Marin   | 1          | 3            |                |                   |
| Mendocino   | 1          |              |                |                   |
| Merced  | 1          | 3            | 8              | 21                |
| Napa  |            | 7            |                |                   |
| Nevada  | 2          | 10           |                | 4                 |
| Orange  | 39         | 64           | 360            |                   |
| Placer  |            | 21           | 50             | 8                 |
| Riverside   | 89         | 76           | 150            | 14                |
| Sacramento  | 2          | 103          | 163            | 2                 |
| San Bernardino                                      | 31         | 25           | 248            | 26                |
| San Diego   | 21         | 283          | 31             | 9                 |
| San Joaquin   | 2          | 18           | 207            |                   |
| San Mateo   |            | 17           | 5              |                   |
| Santa Barbara                                       |            | 2            | 1              |                   |
| Santa Clara   | 6          | 229          | 19             | 5                 |
| Shasta  | 3          | 16           | 48             | 22                |
| Siskiyou  | 1          |              |                |                   |
| Solano  | 1          | 10           | 6              | 7                 |
| Sonoma  |            | 11           | 12             |                   |
| Stanislaus  | 12         | 14           | 84             | 9                 |
| Sutter  | 2          | 16           | 54             | 36                |
| Tehama  | 5          |              |                | 18                |
| Trinity   |            | 2            |                |                   |
| Tulare  | 7          | 22           | 528            |                   |
| Ventura   | 5          | 26           |                | 7                 |
| Yolo  | 7          | 61           | 172            | 6                 |
| Yuba  | 7          | 6            | 23             | 11                |
| <b>Totals</b>                                       | <b>421</b> | <b>1,192</b> | <b>2,972</b>   | <b>379</b>        |

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| 2014 & 2015 YTD West Nile Virus Comparisons |                |                |
|---|----------------|----------------|
|   | 2014           | 2015           |
| Total # Dead Bird Reports                   | 13,630         | 9,961          |
| # Positive Counties                         | 40             | 40             |
| # Human Cases                               | 562            | 421            |
| # Positive Dead Birds / # Tested            | 2,340 / 3,798  | 1,192 / 2,922  |
| # Positive Mosquito Pools / # Tested        | 3,268 / 29,127 | 2,972 / 35,280 |
| # Seroconversions / # Tested                | 412 / 13,518   | 379 / 11,311   |

### TESTING SUMMARIES

#### Humans

|             |      | WNV | SLE | WEE |
|-------------|------|-----|-----|-----|
| Human Cases | Week | 55  | 0   | 0   |
|             | YTD  | 421 | 0   | 0   |

#### Dead Birds

|            |      | Number Tested | WNV Positive |
|------------|------|---------------|--------------|
| Dead Birds | Week | 62            | 22           |
|            | YTD  | 2,922         | 1,192        |

#### Chickens & Mosquitoes

|                |      | Number Tested | WNV Positive | SLEV Positive | WEEV Positive |
|----------------|------|---------------|--------------|---------------|---------------|
| Chicken Sera   | Week | 298           | 17           | 2             | 0             |
|                | YTD  | 11,311        | 379          | 8             | 0             |
| Mosquito Pools | Week | 1,070         | 34           | 0             | 0             |
|                | YTD  | 35,280        | 2,972        | 38            | 0             |

### NEW POSITIVES

#### Dead Birds

| County      | Agency                              | City           | Zip Code | Species       | Date Reported | Virus |
|-------------|-------------------------------------|----------------|----------|---------------|---------------|-------|
| Los Angeles | Greater Los Angeles Co VCD - Sylmar | Newhall        | 91321    | American Crow | 10/14/2015    | WNV   |
| Los Angeles | Los Angeles Co Veterinarian         | Agua Dulce     | 91390    | American Crow | 10/12/2015    | WNV   |
| Los Angeles | Los Angeles Co Veterinarian         | Studio City    | 91604    | American Crow | 10/13/2015    | WNV   |
| Los Angeles | Los Angeles Co Veterinarian         | Thousand Oaks  | 91320    | American Crow | 10/15/2015    | WNV   |
| Los Angeles | Los Angeles Co Veterinarian         | Woodland Hills | 91364    | American Crow | 10/13/2015    | WNV   |
| Orange      | Orange Co VCD                       | Orange         | 92869    | Rock Dove     | 10/13/2015    | WNV   |
| Riverside   | Northwest Mosquito VCD              | Corona         | 92880    | American Crow | 10/9/2015     | WNV   |
| Riverside   | Northwest Mosquito VCD              | Norco          | 92860    | American Crow | 10/9/2015     | WNV   |
| San Diego   | San Diego Co VCP                    | Coronado       | 92118    | American Crow | 10/20/2015    | WNV   |

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|             |                    |           |       |                    |            |     |
|-------------|--------------------|-----------|-------|--------------------|------------|-----|
| San Diego   | San Diego Co VCP   | Lakeside  | 92040 | American Crow      | 10/20/2015 | WNV |
| San Diego   | San Diego Co VCP   | Oceanside | 92056 | Sharp-shinned Hawk | 10/23/2015 | WNV |
| San Diego   | San Diego Co VCP   | Ramona    | 92065 | American Crow      | 10/21/2015 | WNV |
| San Diego   | San Diego Co VCP   | San Diego | 92027 | American Crow      | 10/19/2015 | WNV |
| San Diego   | San Diego Co VCP   | San Diego | 92027 | American Crow      | 10/19/2015 | WNV |
| San Diego   | San Diego Co VCP   | San Diego | 92104 | American Crow      | 10/23/2015 | WNV |
| San Diego   | San Diego Co VCP   | San Diego | 92105 | American Crow      | 10/20/2015 | WNV |
| San Diego   | San Diego Co VCP   | San Diego | 92107 | American Crow      | 10/20/2015 | WNV |
| San Diego   | San Diego Co VCP   | San Diego | 92117 | American Crow      | 10/19/2015 | WNV |
| San Diego   | San Diego Co VCP   | San Diego | 92117 | American Crow      | 10/20/2015 | WNV |
| San Diego   | San Diego Co VCP   | San Diego | 92119 | American Crow      | 10/22/2015 | WNV |
| San Mateo   | San Mateo Co MAD   | Atherton  | 94027 | American Crow      | 10/9/2015  | WNV |
| Santa Clara | Santa Clara Co VCD | Los Altos | 94022 | Steller's Jay      | 10/19/2015 | WNV |

## Mosquitoes

| County      | Site Code  | Pool # | Species              | City                      | # in Pool | Trap Type | Collected  | Virus |
|-------------|------------|--------|----------------------|---------------------------|-----------|-----------|------------|-------|
| Los Angeles | GRLA2097   | 708    | Cx. quinquefasciatus | La Mirada                 | 50        | GRVD      | 10/15/2015 | WNV   |
| Los Angeles | GRLA2100   | 715    | Cx. quinquefasciatus | Norwalk                   | 50        | GRVD      | 10/15/2015 | WNV   |
| Los Angeles | GRLA2101   | 706    | Cx. quinquefasciatus | Santa Fe Springs          | 19        | GRVD      | 10/15/2015 | WNV   |
| Los Angeles | GRLA2268   | 713    | Cx. quinquefasciatus | Cerritos                  | 27        | GRVD      | 10/15/2015 | WNV   |
| Los Angeles | GRLA2530   | 5887   | Cx. quinquefasciatus | Sunland                   | 50        | GRVD      | 10/16/2015 | WNV   |
| Los Angeles | GRLA2550   | 5891   | Cx. quinquefasciatus | Mission Hills             | 50        | GRVD      | 10/16/2015 | WNV   |
| Los Angeles | GRLA2952   | 707    | Cx. quinquefasciatus | South Whittier(LA County) | 33        | GRVD      | 10/15/2015 | WNV   |
| Los Angeles | GRLA3038   | 5878   | Cx. quinquefasciatus | Valley Village            | 50        | GRVD      | 10/15/2015 | WNV   |
| Los Angeles | GRLA3039   | 5875   | Cx. quinquefasciatus | Los Angeles               | 50        | GRVD      | 10/15/2015 | WNV   |
| Los Angeles | GRLA3040   | 709    | Cx. quinquefasciatus | La Mirada                 | 50        | GRVD      | 10/15/2015 | WNV   |
| Los Angeles | GRLA3041   | 712    | Cx. quinquefasciatus | Artesia                   | 50        | GRVD      | 10/15/2015 | WNV   |
| Los Angeles | GRLA3048   | 704    | Cx. quinquefasciatus | Pico Rivera               | 50        | GRVD      | 10/15/2015 | WNV   |
| Los Angeles | GRLA3066   | 5881   | Cx. quinquefasciatus | North Hollywood           | 50        | GRVD      | 10/15/2015 | WNV   |
| Los Angeles | GRLA3076   | 5882   | Cx. quinquefasciatus | Valley Glen               | 50        | GRVD      | 10/15/2015 | WNV   |
| Los Angeles | GRLA3133   | 5884   | Cx. quinquefasciatus | San Fernando              | 50        | GRVD      | 10/16/2015 | WNV   |
| Los Angeles | LACW1049   | 206    | Cx. quinquefasciatus | Inglewood                 | 50        | GRVD      | 10/13/2015 | WNV   |
| Los Angeles | LACW1049   | 207    | Cx. quinquefasciatus | Inglewood                 | 50        | GRVD      | 10/13/2015 | WNV   |
| Los Angeles | LACW1049   | 208    | Cx. quinquefasciatus | Inglewood                 | 50        | GRVD      | 10/13/2015 | WNV   |
| Los Angeles | LACW1049   | 214    | Cx. quinquefasciatus | Inglewood                 | 50        | GRVD      | 10/13/2015 | WNV   |
| Los Angeles | LACW1049   | 217    | Cx. quinquefasciatus | Inglewood                 | 33        | GRVD      | 10/13/2015 | WNV   |
| Los Angeles | LACW1012   | 218    | Cx. quinquefasciatus | Venice                    | 37        | GRVD      | 10/12/2015 | WNV   |
| Riverside   | NWST22     | 322    | Cx. quinquefasciatus | Lake Elsinore             | 25        | CO2       | 10/13/2015 | WNV   |
| Riverside   | NWST34     | 350    | Cx. stigmatosoma     | Riverside                 | 16        | CO2       | 10/16/2015 | WNV   |
| Sacramento  | SAYO203039 | 6673   | Cx. pipiens          | North Highlands           | 50        | CO2       | 10/16/2015 | WNV   |
| Sacramento  | SAYO212033 | 6684   | Cx. pipiens          | Sacramento, CA            | 32        | GRVD      | 10/16/2015 | WNV   |
| Sacramento  | SAYO213048 | 6670   | Cx. pipiens          | Sacramento                | 45        | CO2       | 10/16/2015 | WNV   |
| Sacramento  | SAYO214040 | 6696   | Cx. pipiens          | Rancho Cordova            | 2         | CO2       | 10/16/2015 | WNV   |
| San Diego   | SAND226    | 338    | Cx. quinquefasciatus | Del Mar                   | 27        | GRVD      | 10/16/2015 | WNV   |
| San Diego   | SAND56     | 336    | Cx. quinquefasciatus | Oceanside                 | 13        | GRVD      | 10/16/2015 | WNV   |
| San Diego   | SAND10283  | 275    | Cx. quinquefasciatus | Escondido                 | 10        | GRVD      | 9/24/2015  | WNV   |
| San Diego   | SAND429    | 280    | Cx. quinquefasciatus | San Diego                 | 16        | GRVD      | 9/24/2015  | WNV   |
| San Diego   | SAND10294  |        | Cx. tarsalis         | El Cajon                  | 3         | CO2       | 9/29/2015  | WNV   |
| San Joaquin | SJCM8082   | 2941   | Cx. pipiens          | Stockton                  | 11        | CO2       | 10/20/2015 | WNV   |
| Stanislaus  | TRLK1214   | 1963   | Cx. pipiens          | Turlock                   | 50        | CO2       | 10/15/2015 | WNV   |

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### Sentinel Chickens

| County      | Site Code | City                      | Date Bled  | Virus | Band 01 | Band 02 | Band 03 |
|-------------|-----------|---------------------------|------------|-------|---------|---------|---------|
| Los Angeles | LACW1007  | Baldwin Hills             | 10/8/2015  | WNV   | 1437    | 1441    | 1442    |
| Los Angeles | LACW1010  | Los Angeles(Miracle Mile) | 9/30/2015  | WNV   | 1451    | 1453    |         |
| Los Angeles | LACW1012  | Venice                    | 10/6/2015  | WNV   | 1455    | 1457    |         |
| Los Angeles | LACW1049  | Inglewood                 | 10/6/2015  | WNV   | 1498    | 1500    | 1501    |
| Los Angeles | LONG0004  | Long Beach                | 10/12/2015 | WNV   | 1377    |         |         |
| Merced      | MERC0013  | Dos Palos                 | 10/8/2015  | WNV   | 1815    |         |         |
| Riverside   | COAV0035  | Mecca                     | 10/13/2015 | SLEV  | 2583    | 2584    |         |
| San Diego   | SAND0057  | Sorrento Valley           | 10/13/2015 | WNV   | 1986    | 1987    | 1989    |
| Ventura     | VENT0700  | Simi Valley               | 10/14/2015 | WNV   | 2322    | 2325    |         |

### 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 or confirmation.

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#### Dead Birds

Oral swab samples from corvids are collected onto RNA preservation cards and tested by the UC Davis Center for Vectorborne Diseases (CVEC) for West Nile virus by the singleplex RT-PCR Taqman assay and confirmed with a second primer set. Some local agencies test birds using the RAMP© test or conduct RT-PCR on tissue samples.

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#### Sentinel Chickens:

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

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#### Mosquito Pools:

Mosquito pools are submitted to CVEC and screened for West Nile, western equine encephalomyelitis, and St. Louis encephalitis viral RNA using a Taqman multiplex RT-PCR. CVEC no longer performs confirmatory testing on PCR-positive pools of *Cx. tarsalis* and *Cx. quinquefasciatus* but will continue to confirm multiplex PCR-positive results for other mosquito species using singleplex RT-PCR.

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