

California Arbovirus Surveillance Bulletin # 28

Week 33 Monday, August 24, 2009

Weekly Summary

WEEKLY COMMENTS



As of August 21, 2009, 35 counties have reported West Nile virus (WNV) activity. At this time last year, 36 counties had reported WNV activity.

Humans

Last week, 2 new cases of West Nile virus were reported from Fresno and Los Angeles counties. In 2009, 12 human cases of WNV have been identified in Contra Costa (1), Fresno (2), Kern (3), Kings (1), Los Angeles (3), Orange (1) and San Diego (1) counties. Of the 12 individuals, 6 (50%) developed neuroinvasive symptoms. The median age of the 12 individuals is 52 years (range: 15-76 years), and 8 (67%) are male. None of the cases have resulted in fatalities. In addition, four WNV-positive blood donation samples have been reported this year from Kern (1), Los Angeles (2) and San Joaquin (1) counties; all four blood donors were asymptomatic. At this time last year, 73 human cases had been reported from 13 counties.

Horses

Last week, a horse from Contra Costa County tested positive for WNV. In 2009, 4 equine WNV cases have been reported from 3 counties; 2 of the cases were euthanized as a result of their illness. At this time last year, 4 equine WNV cases had been reported from 3 counties.

Dead Birds & Tree Squirrels

Last week, 31 WNV positive dead birds were reported from the following 12 counties: Contra Costa (3), Fresno (3), Lake (1), Los Angeles (7), Monterey (1), Sacramento (2), San Bernardino (1), San Diego (2), San Joaquin (2), Stanislaus (3), Tulare (5), and Ventura (1). In 2009, 329 birds from 33 counties have tested positive for WNV. At this time last year, 1,135 WNV positive dead birds had been reported from 32 counties.

Last week, an eastern-gray squirrel tested positive for WNV from Santa Clara County. In 2009, 3 tree squirrels from 3 counties have tested positive for WNV. At this time last year, 6 WNV positive tree squirrels had been reported from 3 counties.

Mosquito Pools

Last week, 145 WNV positive mosquito pools were reported from the following 14 counties: Contra Costa (1), Fresno (11), Kern (13), Lake (2), Orange (2), Placer (12), Riverside (4), Sacramento (5), San Bernardino (13), San Joaquin (9), Stanislaus (31), Sutter (4), Tulare (36), and Yolo (2). These are the first WNV positive pools detected in Lake County this year. In 2009, 649 mosquito pools have tested positive for WNV from 21 counties. At this time last year, 906 WNV positive mosquito pools had been reported from 23 counties.

Sentinel Chickens

Last week, 42 WNV seroconversions were reported from the following 9 counties: Butte (1), Imperial (9), Kern (16), Los Angeles (8), Merced (3), San Bernardino (2), San Joaquin (1), Solano (1), and Sutter (1). These are the first WNV positive chickens detected in Butte, Merced, San Joaquin, Solano, and Sutter counties this year. In 2009, 98 chickens from 15 counties have tested positive for WNV antibodies. At this time last year, 63 WNV seroconversions had been reported from 9 counties.

Website Information: For updated information on WNV in California, please visit the California WNV website, www.westnile.ca.gov, or the California Vectorborne Disease Surveillance System website, www.calsurv.org. For national information on WNV and other arboviruses, please visit the CDC website, www.cdc.gov, and the USGS website, www.westnilemaps.usgs.gov.

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YTD WNV Activity by Element and County, 2009

| County | Humans | Horses | Dead Birds | Mosquito Pools | Sentinel Chickens | Squirrels |
|----------------|-----------|----------|------------|----------------|-------------------|-----------|
| Alameda | | | 8 | | | |
| Butte | | | 7 | 3 | 1 | |
| Colusa | | | 2 | | | |
| Contra Costa | 1 | 1 | 19 | 17 | 1 | |
| El Dorado | | | 4 | | | |
| Fresno | 2 | | 57 | 106 | | 1 |
| Imperial | | | | 2 | 29 | |
| Kern | 3 | | 25 | 94 | 21 | |
| Kings | 1 | | 9 | 57 | | |
| Lake | | | 2 | 2 | | |
| Los Angeles | 3 | | 50 | 38 | 21 | |
| Madera | | | 9 | 2 | | |
| Merced | | | 2 | | 3 | |
| Modoc | | | 1 | | | |
| Monterey | | | 2 | | | |
| Orange | 1 | | 6 | 4 | | |
| Placer | | | 3 | 17 | | |
| Riverside | | | 1 | 11 | 1 | |
| Sacramento | | | 12 | 17 | 2 | |
| San Bernardino | | | 10 | 27 | 5 | 1 |
| San Diego | 1 | | 20 | 2 | 4 | |
| San Francisco | | | 1 | | | |
| San Joaquin | | 2 | 19 | 63 | 1 | |
| San Mateo | | | 1 | | | |
| Santa Barbara | | | 1 | | | |
| Santa Clara | | | 10 | 14 | | 1 |
| Santa Cruz | | | 1 | | | |
| Shasta | | | 6 | | | |
| Solano | | | 2 | | 1 | |
| Stanislaus | | 1 | 15 | 50 | | |
| Sutter | | | | 15 | 1 | |
| Tulare | | | 20 | 102 | 5 | |
| Tuolumne | | | 1 | | | |
| Ventura | | | 2 | | | |
| Yolo | | | 1 | 6 | 2 | |
| Total | 12 | 4 | 329 | 649 | 98 | 3 |

| 2009 & 2008 YTD West Nile Virus Comparisons | | |
|---|---------------|--------------|
| | 2008 | 2009 |
| Total # Dead Bird Reports | 22,950 | 11,957 |
| # Positive Counties | 36 | 35 |
| # Human Cases / # Tested | 73 / 580 | 12 / 621 |
| # Horse Cases / # Tested | 4 / 158 | 4 / 135 |
| # Positive Dead Birds / # Tested | 1,135 / 3,647 | 329 / 2,026 |
| # Positive Mosquito Pools / # Tested | 906 / 18,659 | 649 / 17,528 |
| # Positive Chicken Sera / # Tested | 63 / 18,311 | 98 / 16,256 |
| # Positive Squirrels / # Tested | 6 / 107 | 3 / 66 |

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TEST SUMMARIES

Human & Horse Cases

| | Number Tested | WNV | | WEE | | SLE | | Other | |
|----------------|---------------|----------|-------|----------|-------|----------|-------|----------|-------|
| | | Imported | Local | Imported | Local | Imported | Local | Imported | Local |
| Humans Tested* | Week | 25 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | YTD | 621 | 1 | 11 | 0 | 0 | 0 | 0 | 0 |
| Horses Tested | Week | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | YTD | 135 | 0 | 4 | 0 | 0 | 0 | 0 | 0 |

Dead Birds & Tree Squirrels

| | | Number Tested | WNV Positive |
|----------------|------|---------------|--------------|
| Dead Birds | Week | 93 | 31 |
| | YTD | 2,026 | 329 |
| Tree Squirrels | Week | 1 | 1 |
| | YTD | 66 | 3 |

Sentinel Chickens & Mosquito Pools

| | | Number Tested | WNV Positive | SLE Positive | WEE Positive |
|------------------------|------|---------------|--------------|--------------|--------------|
| Chicken Sera | Week | 1,004 | 42 | 0 | 0 |
| | YTD | 16,256 | 98 | 0 | 0 |
| Mosquito Pools: RT-PCR | Week | 1,007 | 138 | 0 | 0 |
| | YTD | 16,943 | 603 | 0 | 0 |
| Mosquito Pools: RAMP | Week | 52 | 7 | N/A | N/A |
| | YTD | 585 | 46 | N/A | N/A |

POSITIVES

Dead Birds & Tree Squirrels

| County | Agency | City | Zip | Species | Reported | Tested | Virus | Method |
|--------------|-------------------------------------|---------------|-------|------------------------|----------|---------|-------|---------|
| Contra Costa | Contra Costa MVCD | Brentwood | 94513 | American Crow | 8/18/09 | 8/18/09 | WNV | RAMP |
| Contra Costa | Contra Costa MVCD | Brentwood | 94513 | American Crow | 8/18/09 | 8/18/09 | WNV | RAMP |
| Contra Costa | Contra Costa MVCD | Pittsburg | 94565 | Western Scrub-Jay | 8/17/09 | 8/18/09 | WNV | RAMP |
| Fresno | Consolidated MAD | Reedley | 93654 | Western Scrub-Jay | 8/6/09 | 8/17/09 | WNV | RT-PCR |
| Fresno | Consolidated MAD | Selma | 93662 | Western Scrub-Jay | 8/16/09 | 8/18/09 | WNV | RAMP |
| Fresno | Fresno MVCD | Fresno | 93705 | Western Scrub-Jay | 7/5/09 | 7/6/09 | WNV | RAMP |
| Lake | Lake Co VCD | Clearlake | 95422 | Northern Mockingbird | 8/5/09 | 8/17/09 | WNV | RT-PCR |
| Los Angeles | Antelope Valley MVCD | Palmdale | 93551 | House Sparrow | 8/12/09 | 8/17/09 | WNV | RT-PCR |
| Los Angeles | Greater Los Angeles Co VCD - Sylmar | Van Nuys | 91401 | American Crow | 8/12/09 | 8/17/09 | WNV | RT-PCR |
| Los Angeles | Los Angeles Co Veterinarian | Lancaster | 93534 | House Finch | 8/2/09 | 8/17/09 | WNV | RT-PCR |
| Los Angeles | Los Angeles Co Veterinarian | Lancaster | 93535 | House Sparrow | 8/6/09 | 8/17/09 | WNV | RT-PCR |
| Los Angeles | Los Angeles Co Veterinarian | Santa Clarita | 91350 | House Finch | 8/10/09 | 8/17/09 | WNV | RT-PCR |
| Los Angeles | Los Angeles Co Veterinarian | Valencia | 91354 | House Sparrow | 8/5/09 | 8/17/09 | WNV | RT-PCR |
| Los Angeles | Los Angeles Co West VCD | Westchester | 90045 | American Crow | 8/17/09 | 8/18/09 | WNV | VecTest |
| Monterey | Northern Salinas Valley MAD | Salinas | 93901 | House Sparrow | 8/10/09 | 8/17/09 | WNV | RT-PCR |
| Sacramento | Sacramento-Yolo MVCD | Sacramento | 95835 | House Finch | 8/10/09 | 8/17/09 | WNV | RT-PCR |
| Sacramento | Sacramento-Yolo MVCD | Sacramento | 95825 | MacGillivray's Warbler | 8/10/09 | 8/17/09 | WNV | RT-PCR |

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|----------------|---------------------|------------------|-------|-----------------------|----------|-----------|-----|--------|
| San Bernardino | San Bernardino VCP | Upland | 91786 | House Finch | 8/10/09 | 8/17/09 | WNV | RT-PCR |
| San Diego | San Diego Co VCP | San Diego | 92111 | Common Raven | 8/13/09 | 8/14/09 | WNV | RT-PCR |
| San Diego | San Diego Co VCP | Valley Center | 92082 | American Crow | 8/10/09 | 8/12/09 | WNV | RT-PCR |
| San Joaquin | San Joaquin Co MVCD | Lodi | 95240 | Yellow-billed Magpie | 8/7/09 | 8/17/09 | WNV | RT-PCR |
| San Joaquin | San Joaquin Co MVCD | Manteca | 95336 | Western Scrub-Jay | 8/10/09 | 8/17/09 | WNV | RT-PCR |
| Santa Clara | Santa Clara VCD | San Jose | 95123 | Eastern Gray Squirrel | 8/5/2009 | 8/17/2009 | WNV | RT-PCR |
| Stanislaus | East Side MAD | Modesto | 95356 | Western Scrub-Jay | 8/6/09 | 8/17/09 | WNV | RT-PCR |
| Stanislaus | Turlock MAD | Patterson | 95363 | Western Scrub-Jay | 8/5/09 | 8/17/09 | WNV | RT-PCR |
| Stanislaus | Turlock MAD | Turlock | 95382 | Yellow-billed Magpie | 8/11/09 | 8/17/09 | WNV | RT-PCR |
| Tulare | Delta VCD | Visalia | 93277 | Western Scrub-Jay | 8/6/09 | 8/17/09 | WNV | RT-PCR |
| Tulare | Delta VCD | Visalia | 93277 | American Crow | 8/10/09 | 8/17/09 | WNV | RT-PCR |
| Tulare | Delta VCD | Visalia | 93277 | Western Scrub-Jay | 8/10/09 | 8/17/09 | WNV | RT-PCR |
| Tulare | Delta VCD | Visalia | 93277 | Mourning Dove | 8/10/09 | 8/17/09 | WNV | RT-PCR |
| Tulare | Delta VCD | Visalia | 93277 | Western Scrub-Jay | 8/11/09 | 8/17/09 | WNV | RT-PCR |
| Ventura | Ventura Co EHD | Westlake Village | 91362 | Western Bluebird | 8/10/09 | 8/17/09 | WNV | RT-PCR |

Mosquitoes

| County | Site Code | Pool # | Species | # in Pool | Collected | Tested | City | Virus | Method |
|--------------|-----------|--------|---------------------|-----------|-----------|-----------|---------------|-------|--------|
| Contra Costa | CNTR8202 | 588 | Cx tarsalis | 24 | 8/17/2009 | 8/20/2009 | Discovery Bay | WNV | RTPCR |
| Fresno | CNSL1342 | 363 | Cx quinquefasciatus | 26 | 8/14/2009 | 8/19/2009 | Fresno | WNV | RTPCR |
| Fresno | CNSL1686 | 362 | Cx quinquefasciatus | 21 | 8/14/2009 | 8/19/2009 | Clovis | WNV | RTPCR |
| Fresno | CNSL2117 | 653 | Cx quinquefasciatus | 14 | 8/18/2009 | 8/19/2009 | Sanger | WNV | RTPCR |
| Fresno | CNSL2202 | 360 | Cx quinquefasciatus | 14 | 8/13/2009 | 8/19/2009 | Sanger | WNV | RTPCR |
| Fresno | CNSL3030 | 646 | Cx quinquefasciatus | 41 | 8/12/2009 | 8/19/2009 | Orange Cove | WNV | RTPCR |
| Fresno | CNSL4047 | 652 | Cx quinquefasciatus | 50 | 8/14/2009 | 8/19/2009 | Selma | WNV | RTPCR |
| Fresno | CNSL6036 | 367 | Cx tarsalis | 42 | 8/11/2009 | 8/19/2009 | Riverdale | WNV | RTPCR |
| Fresno | CNSL6036 | 368 | Cx quinquefasciatus | 50 | 8/11/2009 | 8/19/2009 | Riverdale | WNV | RTPCR |
| Fresno | CNSL6155 | 651 | Cx quinquefasciatus | 34 | 8/14/2009 | 8/19/2009 | Caruthers | WNV | RTPCR |
| Fresno | CNSL6171 | 370 | Cx quinquefasciatus | 26 | 8/11/2009 | 8/19/2009 | Riverdale | WNV | RTPCR |
| Fresno | CNSL6178 | 369 | Cx quinquefasciatus | 50 | 8/11/2009 | 8/19/2009 | Riverdale | WNV | RTPCR |
| Kern | AFSB0121 | 5151 | Cx quinquefasciatus | 30 | 8/13/2009 | 8/19/2009 | Bakersfield | WNV | RTPCR |
| Kern | AFSB0122 | 5142 | Cx quinquefasciatus | 10 | 8/6/2009 | 8/18/2009 | Oildale | WNV | RTPCR |
| Kern | AFSB0123 | 5157 | Cx quinquefasciatus | 6 | 8/13/2009 | 8/19/2009 | Oildale | WNV | RTPCR |
| Kern | AFSB0125 | 5153 | Cx quinquefasciatus | 20 | 8/13/2009 | 8/19/2009 | Bakersfield | WNV | RTPCR |
| Kern | KERN0009 | 426 | Cx quinquefasciatus | 45 | 8/12/2009 | 8/19/2009 | Bakersfield | WNV | RTPCR |
| Kern | KERN0013 | 419 | Cx tarsalis | 21 | 8/11/2009 | 8/19/2009 | Bakersfield | WNV | RTPCR |
| Kern | KERN0028 | 432 | Cx quinquefasciatus | 36 | 8/12/2009 | 8/19/2009 | Bakersfield | WNV | RTPCR |
| Kern | KERN0029 | 435 | Cx tarsalis | 50 | 8/12/2009 | 8/19/2009 | Lamont | WNV | RTPCR |
| Kern | KERN0031 | 433 | Cx tarsalis | 46 | 8/12/2009 | 8/19/2009 | Arvin | WNV | RTPCR |
| Kern | KERN0036 | 420 | Cx tarsalis | 50 | 8/11/2009 | 8/19/2009 | Bakersfield | WNV | RTPCR |
| Kern | KERN0044 | 441 | Cx quinquefasciatus | 31 | 8/14/2009 | 8/19/2009 | Shafter | WNV | RTPCR |
| Kern | KERN2007 | 430 | Cx quinquefasciatus | 12 | 8/12/2009 | 8/19/2009 | Bakersfield | WNV | RTPCR |
| Kern | KERN2010 | 438 | Cx quinquefasciatus | 28 | 8/13/2009 | 8/19/2009 | Bakersfield | WNV | RTPCR |
| Lake | LAKE0090 | 168 | Cx tarsalis | 50 | 8/18/2009 | 8/19/2009 | | WNV | RTPCR |
| Lake | LAKE0099 | 170 | Cx tarsalis | 50 | 8/18/2009 | 8/19/2009 | | WNV | RTPCR |
| Orange | ORCO0036 | 1005 | Cx quinquefasciatus | 30 | 8/13/2009 | 8/14/2009 | Cypress | WNV | RTPCR |
| Orange | ORCO0036 | 1006 | Cx quinquefasciatus | 30 | 8/13/2009 | 8/14/2009 | Cypress | WNV | RTPCR |
| Placer | PLCR0017 | 556 | Cx tarsalis | 50 | 8/18/2009 | 8/20/2009 | Sheridan | WNV | RTPCR |

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|----------------|----------|------|---------------------|----|-----------|-----------|----------------|-----|-------|
| Placer | PLCR0025 | 492 | Cx tarsalis | 50 | 8/13/2009 | 8/19/2009 | Lincoln | WNV | RTPCR |
| Placer | PLCR0030 | 545 | Cx pipiens | 50 | 8/18/2009 | 8/20/2009 | Lincoln | WNV | RTPCR |
| Placer | PLCR0035 | 581 | Cx tarsalis | 50 | 8/18/2009 | 8/20/2009 | Lincoln | WNV | RTPCR |
| Placer | PLCR0139 | 479 | Cx tarsalis | 50 | 8/13/2009 | 8/19/2009 | ROSEVILLE | WNV | RTPCR |
| Placer | PLCR0296 | 518 | Cx stigmatosoma | 15 | 8/14/2009 | 8/20/2009 | Auburn | WNV | RTPCR |
| Placer | PLCR0339 | 523 | Cx tarsalis | 50 | 8/14/2009 | 8/20/2009 | Sheridan | WNV | RTPCR |
| Placer | PLCR0516 | 554 | Cx tarsalis | 13 | 8/18/2009 | 8/20/2009 | Roseville | WNV | RTPCR |
| Placer | PLCR0518 | 555 | Cx tarsalis | 29 | 8/18/2009 | 8/20/2009 | Roseville | WNV | RTPCR |
| Placer | PLCR1113 | 488 | Cx tarsalis | 16 | 8/13/2009 | 8/20/2009 | Pleasant Grove | WNV | RTPCR |
| Placer | PLCR2020 | 526 | Cx tarsalis | 50 | 8/14/2009 | 8/20/2009 | Sheridan | WNV | RTPCR |
| Placer | PLCR2020 | 591 | Cx tarsalis | 50 | 8/18/2009 | 8/20/2009 | Sheridan | WNV | RTPCR |
| Riverside | RIVR0002 | 371 | Cx tarsalis | 34 | 8/5/2009 | 8/18/2009 | Nuevo | WNV | RTPCR |
| Riverside | RIVR0002 | 404 | Cx tarsalis | 50 | 8/18/2009 | 8/20/2009 | Nuevo | WNV | RTPCR |
| Riverside | RIVR0002 | 407 | Cx tarsalis | 50 | 8/18/2009 | 8/20/2009 | Nuevo | WNV | RTPCR |
| Riverside | RIVR0002 | 409 | Cx erythrothorax | 50 | 8/18/2009 | 8/20/2009 | Nuevo | WNV | RTPCR |
| Sacramento | SAYO4121 | 3137 | Cx pipiens | 11 | 8/14/2009 | 8/17/2009 | Sacramento | WNV | RTPCR |
| Sacramento | SAYO4310 | 3122 | Cx tarsalis | 13 | 8/13/2009 | 8/17/2009 | Elk Grove | WNV | RTPCR |
| Sacramento | SAYO4368 | 3129 | Cx pipiens | 29 | 8/14/2009 | 8/17/2009 | Galt | WNV | RTPCR |
| Sacramento | SAYO7000 | 3190 | Cx pipiens | 8 | 8/18/2009 | 8/19/2009 | Elk Grove | WNV | RTPCR |
| Sacramento | SAYO7005 | 3196 | Cx tarsalis | 3 | 8/18/2009 | 8/19/2009 | Rancho Cordova | WNV | RTPCR |
| San Bernardino | WVAL2008 | 778 | Cx quinquefasciatus | 50 | 8/13/2009 | 8/19/2009 | Chino | WNV | RTPCR |
| San Bernardino | WVAL2008 | 779 | Cx quinquefasciatus | 50 | 8/13/2009 | 8/19/2009 | Chino | WNV | RTPCR |
| San Bernardino | WVAL2008 | 780 | Cx quinquefasciatus | 50 | 8/13/2009 | 8/19/2009 | Chino | WNV | RTPCR |
| San Bernardino | WVAL2008 | 781 | Cx quinquefasciatus | 50 | 8/13/2009 | 8/19/2009 | Chino | WNV | RTPCR |
| San Bernardino | WVAL2008 | 782 | Cx quinquefasciatus | 38 | 8/13/2009 | 8/19/2009 | Chino | WNV | RTPCR |
| San Bernardino | WVAL2013 | 772 | Cx quinquefasciatus | 9 | 8/13/2009 | 8/19/2009 | Chino Hills | WNV | RTPCR |
| San Bernardino | WVAL2018 | 784 | Cx quinquefasciatus | 20 | 8/13/2009 | 8/19/2009 | Chino | WNV | RTPCR |
| San Bernardino | WVAL2022 | 769 | Cx quinquefasciatus | 22 | 8/13/2009 | 8/19/2009 | Fwy CA 60 | WNV | RTPCR |
| San Bernardino | WVAL6002 | 740 | Cx quinquefasciatus | 44 | 8/12/2009 | 8/19/2009 | Ontario | WNV | RTPCR |
| San Bernardino | WVAL6002 | 741 | Cx quinquefasciatus | 44 | 8/12/2009 | 8/19/2009 | Ontario | WNV | RTPCR |
| San Bernardino | WVAL6002 | 742 | Cx stigmatosoma | 17 | 8/12/2009 | 8/19/2009 | Ontario | WNV | RTPCR |
| San Bernardino | WVAL6003 | 762 | Cx quinquefasciatus | 28 | 8/12/2009 | 8/19/2009 | Ontario | WNV | RTPCR |
| San Bernardino | WVAL6011 | 761 | Cx quinquefasciatus | 9 | 8/12/2009 | 8/19/2009 | Ontario | WNV | RTPCR |
| San Joaquin | SJCM8005 | 703 | Cx tarsalis | 25 | 8/12/2009 | 8/19/2009 | Stockton | WNV | RTPCR |
| San Joaquin | SJCM8005 | 704 | Cx pipiens | 23 | 8/12/2009 | 8/19/2009 | Stockton | WNV | RTPCR |
| San Joaquin | SJCM8009 | 714 | Cx tarsalis | 25 | 8/13/2009 | 8/19/2009 | Stockton | WNV | RTPCR |
| San Joaquin | SJCM8018 | 721 | Cx tarsalis | 34 | 8/17/2009 | 8/18/2009 | Stockton | WNV | RAMP |
| San Joaquin | SJCM8100 | 730 | Cx tarsalis | 43 | 8/17/2009 | 8/18/2009 | Tracy | WNV | RAMP |
| San Joaquin | SJCM8143 | 736 | Cx tarsalis | 24 | 8/17/2009 | 8/19/2009 | Stockton | WNV | RAMP |
| San Joaquin | SJCM8159 | 717 | Cx pipiens | 50 | 8/17/2009 | 8/18/2009 | Stockton | WNV | RAMP |
| San Joaquin | SJCM8161 | 724 | Cx pipiens | 50 | 8/17/2009 | 8/18/2009 | Ripon | WNV | RAMP |
| San Joaquin | SJCM8161 | 728 | Cx pipiens | 50 | 8/17/2009 | 8/18/2009 | Ripon | WNV | RAMP |
| Stanislaus | EAST1075 | 9176 | Cx pipiens | 22 | 8/18/2009 | 8/19/2009 | Riverbank | WNV | RAMP |
| Stanislaus | TRLK0432 | 675 | Cx pipiens | 50 | 8/18/2009 | 8/19/2009 | Turlock | WNV | RTPCR |
| Stanislaus | TRLK0432 | 677 | Cx pipiens | 50 | 8/18/2009 | 8/20/2009 | Turlock | WNV | RTPCR |
| Stanislaus | TRLK0432 | 678 | Cx pipiens | 50 | 8/18/2009 | 8/19/2009 | Turlock | WNV | RTPCR |
| Stanislaus | TRLK0432 | 679 | Cx pipiens | 50 | 8/18/2009 | 8/19/2009 | Turlock | WNV | RTPCR |
| Stanislaus | TRLK0432 | 680 | Cx pipiens | 50 | 8/18/2009 | 8/19/2009 | Turlock | WNV | RTPCR |
| Stanislaus | TRLK0432 | 682 | Cx pipiens | 50 | 8/18/2009 | 8/19/2009 | Turlock | WNV | RTPCR |
| Stanislaus | TRLK0432 | 683 | Cx pipiens | 50 | 8/18/2009 | 8/19/2009 | Turlock | WNV | RTPCR |
| Stanislaus | TRLK0432 | 684 | Cx pipiens | 50 | 8/18/2009 | 8/19/2009 | Turlock | WNV | RTPCR |
| Stanislaus | TRLK0432 | 687 | Cx pipiens | 50 | 8/18/2009 | 8/19/2009 | Turlock | WNV | RTPCR |

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| Stanislaus | TRLK0436 | 722 | Cx pipiens | 50 | 8/18/2009 | 8/19/2009 | South Modesto | WNV | RTPCR |
| Stanislaus | TRLK0436 | 723 | Cx pipiens | 16 | 8/18/2009 | 8/19/2009 | South Modesto | WNV | RTPCR |
| Stanislaus | TRLK0516 | 709 | Cx pipiens | 41 | 8/18/2009 | 8/19/2009 | Denair | WNV | RTPCR |
| Stanislaus | TRLK0516 | 710 | Cx pipiens | 50 | 8/18/2009 | 8/19/2009 | Denair | WNV | RTPCR |
| Stanislaus | TRLK0524 | 646 | Cx pipiens | 50 | 8/13/2009 | 8/19/2009 | Keyes | WNV | RTPCR |
| Stanislaus | TRLK0524 | 648 | Cx pipiens | 50 | 8/13/2009 | 8/19/2009 | Keyes | WNV | RTPCR |
| Stanislaus | TRLK0524 | 649 | Cx pipiens | 39 | 8/13/2009 | 8/19/2009 | Keyes | WNV | RTPCR |
| Stanislaus | TRLK0526 | 694 | Cx tarsalis | 50 | 8/18/2009 | 8/19/2009 | Denair | WNV | RTPCR |
| Stanislaus | TRLK0530 | 660 | Cx tarsalis | 50 | 8/18/2009 | 8/19/2009 | Turlock | WNV | RTPCR |
| Stanislaus | TRLK0535 | 633 | Cx pipiens | 50 | 8/12/2009 | 8/19/2009 | Keyes | WNV | RTPCR |
| Stanislaus | TRLK0535 | 634 | Cx pipiens | 50 | 8/12/2009 | 8/19/2009 | Keyes | WNV | RTPCR |
| Stanislaus | TRLK0535 | 637 | Cx pipiens | 34 | 8/13/2009 | 8/19/2009 | Keyes | WNV | RTPCR |
| Stanislaus | TRLK0535 | 638 | Cx pipiens | 50 | 8/13/2009 | 8/19/2009 | Keyes | WNV | RTPCR |
| Stanislaus | TRLK0535 | 639 | Cx pipiens | 50 | 8/13/2009 | 8/19/2009 | Keyes | WNV | RTPCR |
| Stanislaus | TRLK0535 | 640 | Cx pipiens | 50 | 8/13/2009 | 8/20/2009 | Keyes | WNV | RTPCR |
| Stanislaus | TRLK0535 | 641 | Cx pipiens | 50 | 8/13/2009 | 8/19/2009 | Keyes | WNV | RTPCR |
| Stanislaus | TRLK0535 | 642 | Cx pipiens | 50 | 8/13/2009 | 8/19/2009 | Keyes | WNV | RTPCR |
| Stanislaus | TRLK0535 | 643 | Cx pipiens | 50 | 8/13/2009 | 8/20/2009 | Keyes | WNV | RTPCR |
| Stanislaus | TRLK0535 | 644 | Cx pipiens | 50 | 8/13/2009 | 8/20/2009 | Keyes | WNV | RTPCR |
| Stanislaus | TRLK0536 | 671 | Cx pipiens | 50 | 8/18/2009 | 8/19/2009 | Turlock | WNV | RTPCR |
| Stanislaus | TRLK0625 | 690 | Cx pipiens | 50 | 8/18/2009 | 8/19/2009 | Turlock | WNV | RTPCR |
| Sutter | SUYA0016 | 271 | Cx tarsalis | 47 | 8/17/2009 | 8/19/2009 | Trowbridge | WNV | RTPCR |
| Sutter | SUYA0030 | 269 | Cx tarsalis | 23 | 8/17/2009 | 8/19/2009 | Live Oak | WNV | RTPCR |
| Sutter | SUYA0044 | 273 | Cx tarsalis | 50 | 8/17/2009 | 8/19/2009 | Pleasant Grove | WNV | RTPCR |
| Sutter | SUYA0044 | 277 | Cx tarsalis | 50 | 8/18/2009 | 8/19/2009 | Pleasant Grove | WNV | RTPCR |
| Tulare | DLTA7322 | 656 | Cx quinquefasciatus | 50 | 8/18/2009 | 8/19/2009 | Kingsburg | WNV | RTPCR |
| Tulare | DLTA7520 | 693 | Cx quinquefasciatus | 50 | 8/19/2009 | 8/20/2009 | Yetttem | WNV | RTPCR |
| Tulare | DLTA7520 | 695 | Cx quinquefasciatus | 50 | 8/19/2009 | 8/20/2009 | Yetttem | WNV | RTPCR |
| Tulare | DLTA7520 | 696 | Cx quinquefasciatus | 50 | 8/19/2009 | 8/20/2009 | Yetttem | WNV | RTPCR |
| Tulare | DLTA7520 | 701 | Cx tarsalis | 27 | 8/19/2009 | 8/20/2009 | Yetttem | WNV | RTPCR |
| Tulare | DLTA7520 | 703 | Cx quinquefasciatus | 50 | 8/19/2009 | 8/20/2009 | Yetttem | WNV | RTPCR |
| Tulare | DLTA7520 | 706 | Cx quinquefasciatus | 50 | 8/19/2009 | 8/20/2009 | Yetttem | WNV | RTPCR |
| Tulare | DLTA7529 | 709 | Cx quinquefasciatus | 50 | 8/19/2009 | 8/20/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA7529 | 714 | Cx quinquefasciatus | 50 | 8/19/2009 | 8/20/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA7529 | 715 | Cx quinquefasciatus | 50 | 8/19/2009 | 8/20/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA7529 | 716 | Cx quinquefasciatus | 50 | 8/19/2009 | 8/20/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA7529 | 717 | Cx quinquefasciatus | 50 | 8/19/2009 | 8/20/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA7529 | 722 | Cx quinquefasciatus | 50 | 8/19/2009 | 8/20/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA7529 | 723 | Cx quinquefasciatus | 50 | 8/19/2009 | 8/20/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA7529 | 725 | Cx quinquefasciatus | 50 | 8/19/2009 | 8/20/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA8413 | 630 | Cx quinquefasciatus | 50 | 8/14/2009 | 8/18/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA8413 | 631 | Cx tarsalis | 28 | 8/14/2009 | 8/18/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA8413 | 632 | Cx quinquefasciatus | 50 | 8/14/2009 | 8/18/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA8413 | 633 | Cx quinquefasciatus | 50 | 8/14/2009 | 8/18/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA8413 | 638 | Cx quinquefasciatus | 33 | 8/14/2009 | 8/18/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA8413 | 639 | Cx tarsalis | 31 | 8/14/2009 | 8/18/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA8413 | 679 | Cx tarsalis | 20 | 8/19/2009 | 8/20/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA8413 | 680 | Cx quinquefasciatus | 50 | 8/19/2009 | 8/20/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA8414 | 627 | Cx quinquefasciatus | 50 | 8/14/2009 | 8/18/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA8414 | 681 | Cx quinquefasciatus | 50 | 8/19/2009 | 8/20/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA8414 | 682 | Cx tarsalis | 35 | 8/19/2009 | 8/20/2009 | Visalia | WNV | RTPCR |

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|--------|----------|------|---------------------|----|-----------|-----------|----------|-----|-------|
| Tulare | DLTA8419 | 641 | Cx quinquefasciatus | 40 | 8/14/2009 | 8/18/2009 | Goshen | WNV | RTPCR |
| Tulare | DLTA8520 | 649 | Cx quinquefasciatus | 41 | 8/18/2009 | 8/20/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA8520 | 650 | Cx quinquefasciatus | 47 | 8/18/2009 | 8/19/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA8520 | 651 | Cx quinquefasciatus | 31 | 8/18/2009 | 8/19/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA8527 | 642 | Cx quinquefasciatus | 30 | 8/14/2009 | 8/18/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA8527 | 645 | Cx quinquefasciatus | 46 | 8/14/2009 | 8/20/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA8527 | 646 | Cx quinquefasciatus | 28 | 8/14/2009 | 8/19/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA8530 | 640 | Cx quinquefasciatus | 17 | 8/14/2009 | 8/18/2009 | Visalia | WNV | RTPCR |
| Tulare | DLTA9412 | 730 | Cx quinquefasciatus | 22 | 8/19/2009 | 8/20/2009 | Visalia | WNV | RTPCR |
| Tulare | TLRE0026 | 54 | Cx pipiens | 14 | 8/19/2009 | 8/20/2009 | Tulare | WNV | RTPCR |
| Yolo | SAYO1106 | 3238 | Cx tarsalis | 50 | 8/18/2009 | 8/19/2009 | Woodland | WNV | RTPCR |
| Yolo | SAYO6002 | 3185 | Cx tarsalis | 50 | 8/18/2009 | 8/19/2009 | Woodland | WNV | RTPCR |

Sentinel Chickens

| County | Site Code | City | Date Bled | Virus | Band 01 | Band 02 | Band 03 | Band 04 | Band 05 | Band 06 | Band 07 |
|----------------|-----------|-------------|-----------|-------|---------|---------|---------|---------|---------|---------|---------|
| Butte | BUCO0003 | Oroville | 8/3/2009 | WNV | 3281 | | | | | | |
| Imperial | COAV5001 | Niland | 8/10/2009 | WNV | 3175 | | | | | | |
| Imperial | COAV5002 | Niland | 8/10/2009 | WNV | 3176 | 3177 | 3178 | 3179 | 3180 | 3181 | |
| Imperial | IMPR0013 | Calipatria | 8/11/2009 | WNV | 2756 | | | | | | |
| Imperial | IMPR0003 | El Centro | 8/11/2009 | WNV | 2772 | | | | | | |
| Kern | KERN00104 | Old River | 8/3/2009 | WNV | 2615 | | | | | | |
| Kern | KERN0107 | Arvin | 8/3/2009 | WNV | 2644 | 2645 | 2647 | 2648 | | | |
| Kern | KERN0111 | Arvin | 8/3/2009 | WNV | 2656 | | | | | | |
| Kern | KERN0113 | Bakersfield | 8/3/2009 | WNV | 2604 | 2605 | 2607 | | | | |
| Kern | KERN0114 | Bakersfield | 8/3/2009 | WNV | 2621 | 2624 | 2626 | 2628 | 2629 | 2630 | 2695 |
| Los Angeles | ANTV2667 | Palmdale | 8/12/2009 | WNV | 3411 | 3412 | 3413 | | | | |
| Los Angeles | ANTV5662 | Lancaster | 7/29/2009 | WNV | 3398 | 3400 | 3401 | | | | |
| Los Angeles | ANTV7945 | Quartz Hill | 7/29/2009 | WNV | 3374 | | | | | | |
| Los Angeles | ANTV7945 | Quartz Hill | 8/12/2009 | WNV | 3377 | | | | | | |
| Merced | MERC0502 | Hilmar | 8/7/2009 | WNV | 2270 | 2271 | 2272 | | | | |
| San Bernardino | SANB0001 | Needles | 7/28/2009 | WNV | 1680 | | | | | | |
| San Bernardino | WVAL0006 | Ontario | 8/21/2009 | WNV | 3720 | | | | | | |
| San Joaquin | SJCM9901 | Lodi | 7/28/2009 | WNV | 1560 | | | | | | |
| Solano | SOLA0015 | Winters | 7/30/2009 | WNV | 1343 | | | | | | |
| Sutter | SUYA0014 | Sutter | 8/6/2009 | WNV | 1288 | | | | | | |

NATIONAL COMMENTS

As of August 18, 2009, 82 human cases had been reported nationwide in the following 20 states: Arizona (7), Arkansas (1), California (10), Colorado (9), Idaho (1), Iowa (1), Kansas (2), Louisiana (3), Minnesota (1), Mississippi (15), Missouri (1), Montana (1), Nebraska (1), Nevada (10), New York (1), Pennsylvania (1), South Dakota (3), Tennessee (1), Texas (11), and Wyoming (2). Of the 82 individuals, 52 (63%) have neuroinvasive illness. There have been three fatalities in Mississippi (2) and Texas (1).

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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 or confirmation by plaque reduction neutralization test (PRNT).

*Human denominator data only includes specimens tested at VRDL and does not include additional negative specimens that are tested by local agencies only.

Horses:

Serum or brain tissue specimens from horses displaying neurological symptoms are submitted to the California Animal Health and Safety Laboratory (CAHFS) and tested by EIA and PRNT.

Dead Birds and Tree Squirrels:

Dead birds and tree squirrels are necropsied at CAHFS laboratory at University of California, Davis. Oral swabs from American Crows and kidney tissue from all other dead birds and squirrels are forwarded to the UC Davis Center for Vectorborne Diseases (CVEC) for West Nile virus testing using the singleplex RT-PCR Taqman assay and confirmed with a second primer set. The WNV Dead Bird Surveillance Coordinator, Erin Parker, can be reached directly at (510) 412-6254.

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 (WEE), and St. Louis encephalitis (SLE) viruses by EIA and IFA. Positive samples are confirmed by western-blot or PRNT.

Mosquito Pools:

Mosquito pools are submitted to CVEC and screened for WEE, SLE, and WNV viral RNA using a Taqman multiplex RT-PCR. CVEC will cease confirmation 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.

Prepared by the Vector-Borne Disease Section (Infectious Diseases Branch), California Department of Public Health, 850 Marina Bay Parkway, Richmond, CA 94804. Questions concerning this bulletin should be addressed to Tina Feiszli by phone (510) 412-6298 or email: tina.feiszli@cdph.ca.gov
