

California Arbovirus Surveillance Bulletin # 41

Week 48 Friday, December 2, 2005

Weekly Summary

Comments:

Humans:

As of December 2, 2005, 915 human West Nile virus (WNV) infections have been identified from the following local health jurisdictions: Alameda (1), Amador (4), Butte (25), Calaveras (2), Colusa (2), Contra Costa (11), El Dorado (1), Fresno (63), Glenn (13), Humboldt (1), Imperial (1), Kern (66), Kings (32), Los Angeles (47), Madera (14), Merced (28), Nevada (4), Orange (17), Placer (37), Plumas (1), Riverside (102), Sacramento (175), San Bernardino (34), San Diego (1), San Francisco (2), San Joaquin (36), San Mateo (1), Santa Barbara (2), Santa Clara (5), Shasta (1), Solano (5), Sonoma (1), Stanislaus (90), Sutter (9), Tehama (4), Tulare (57), Tuolumne (1), Ventura (1), Yolo (12), and Yuba (6). Of the 915 infections, 100 were initially detected in asymptomatic individuals through screening done at blood banks; 40 individuals later developed symptoms. Eight of the 100 presumptively viremic blood donors did not confirm in follow-up testing, and have subsequently been removed from the list. In addition to the individuals detected at blood banks, four individuals who had no symptoms for WNV were detected through the local health department. Of the 859 WNV cases with symptoms, 286 are classified as West Nile neuroinvasive disease cases, 504 as West Nile fever, and 69 are of unknown clinical presentation. The median age for all symptomatic cases where data is available is 51 years (range: 2-95 years). 469 (55%) of the cases are male. There have been 18 WNV-related fatalities to date in California this year, from Amador (1), Butte (1), Fresno (2), Kings (3), Madera (1), Riverside (5), Sacramento (1), San Bernardino (1), San Joaquin (1), Stanislaus (1), and Tulare (1) counties. The median age of the 18 fatalities was 79 years.

Horses:

No new reports have been received for the past two weeks. The YTD total for the state is 454.

Dead Birds:

From November 19-December 2, the hotline received 827 dead bird reports, for a YTD total of 108,244 reports. 9 out of 143 (6.3%) dead birds collected from 25 counties tested positive for WNV.

- 5 out of 135 (3.7%) dead birds tested positive via RT-PCR.
- 3 out of 4 (75.0%) corvids tested positive via VecTest.
- 1 out of 4 (25%) corvids tested positive via RAMP.

The WNV positive dead birds were collected from the following counties: Contra Costa (1); Riverside (1); San Diego (4); Santa Clara (1); and Sonoma (2).

The following bird species tested positive for WNV: American crow (5); western scrub-jay (4).

Since January 1, 2005, 3,008 of 8,973 dead birds have tested positive for WNV.

Mosquito Pools:

WNV: CVEC reported one WNV positive mosquito pool from San Bernardino County. The YTD total for the State is 1239.

WEE: CVEC also reported no WEE positive mosquito pools for this week. The YTD for the State is 51.

Sentinel Chickens: WNV: VRDL reported three seroconversions among three flocks from Riverside (1) and Stanislaus (2) counties. The current YTD total stands at 791 seroconversions. One flavivirus positive was reported this week from Butte County.

WEE: VRDL reported no WEE seroconversions this week. The current YTD total stands at 131 seroconversions.

Website Information:

For updated information on WNV, please visit the California WNV website, www.westnile.ca.gov, the CDC website, www.cdc.gov, and the USGS website, www.westnilemaps.usgs.gov. Please go to the Vector website at <http://vector.ucdavis.edu/arbo.html> for flock location and more information on WNV and other vector-borne diseases.

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TEST SUMMARIES

Humans and Horses

| | | Number Tested | WNV Positive | | WEE Positive | | SLE Positive | | Other Positive | |
|---------------|------|---------------|--------------|-------|--------------|-------|--------------|-------|----------------|-------|
| | | | Imported | Local | Imported | Local | Imported | Local | Imported | Local |
| Humans Tested | Week | 61 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 |
| | YTD | 2129 | 0 | 915 | 0 | 0 | 0 | 0 | 0 | 0 |
| Horses Tested | Week | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | YTD | 714 | 0 | 454 | 0 | 0 | 0 | 0 | 0 | 0 |

Dead Birds

| | Number Tested | WNV Positive |
|------|---------------|--------------|
| Week | 143 | 9 |
| YTD | 8,973 | 3,008 |

Sentinel Chickens and Mosquito Pools*

| | | Number Tested | WNV Positive | WEE Positive | SLE Positive | Other Positive |
|----------------|------|---------------|--------------|--------------|--------------|----------------|
| | | | | | | |
| | YTD | 33299 | 791 | 131 | 0 | 0 |
| Mosquito pools | Week | 192 | 1 | 0 | 0 | 0 |
| | YTD | 19713 | 1239 | 51 | 0 | 0 |

*Total has been adjusted to include local agency submission

Human Positives Reported (November 21 – December 2):

| Virus | Onset Date | Status | Diagnosis | County | Age |
|-------|------------|----------|-----------|----------------|-----|
| WNV | 7/25/05 | Probable | WNND | Riverside | 69 |
| WNV | Week 33 | Probable | WNF | Butte | >18 |
| WNV | 10/28/05 | Probable | WNND | Placer | >18 |
| WNV | 11/16/05 | Probable | WNF | Placer | >18 |
| WNV | 10/15/05 | Probable | WNF | Fresno | 80 |
| WNV | 9/14/05 | Probable | WNF | Fresno | 66 |
| WNV | Unknown | Probable | Unknown | San Bernardino | 51 |
| WNV | 10/1/05 | Probable | WNF | Stanislaus | 50 |
| WNV | 9/1/05 | Probable | WNF | Madera | >18 |
| WNV | Unknown | Probable | WNF | Madera | >65 |
| WNV | 11/7/05 | Probable | WNND | Tulare | 51 |

Virus Positive From Mosquito Pools:

| Results | Species | Date Collected | Site | Pool # | County | City | Date Received |
|---------|-------------|----------------|----------|--------|----------------|---------|---------------|
| WNV | Cx tarsalis | 9/15/05 | SANB0001 | 474 | San Bernardino | Needles | 11/17/05 |

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Chicken Seroconversions Reported by DHS:

| Virus | Site Number | County | State | Nearest City | Location | Date Seroconverted | Band #1 | Band #2 | Band #3 | Band #4 | Band #5 | Band #6 |
|-------|-------------|------------|-------|--------------|---------------|--------------------|---------|---------|---------|---------|---------|---------|
| WNV | COAV0114 | Riverside | CA | North Shore | Desert | 11/21/05 | 8551 | | | | | |
| WNV | TRLK9701 | Stanislaus | CA | Grayson | Dykzeul Dairy | 11/14/05 | 573 | | | | | |
| WNV | TRLK9702 | Stanislaus | CA | Patterson | Modesto Sewer | 11/14/05 | 585 | | | | | |
| Flav | BUCO0001 | Butte | CA | Chico | Elmer Street | 11/15/05 | 5406 | | | | | |

WNV Positive Dead Birds Reported (November 21-December 2)

| Species | County | City | Zip | Date Collected | Date Tested | Tested By |
|-------------------|--------------|-------------|-------|----------------|-------------|-----------|
| American Crow | Riverside | Norco | 92860 | 11/7/05 | 11/21/05 | RT-PCR |
| American Crow | San Diego | Escondido | 92029 | 11/14/05 | 11/14/05 | VecTest |
| American Crow | San Diego | Ramona | 92065 | 11/20/05 | 11/28/05 | RT-PCR |
| American Crow | Santa Clara | Santa Clara | 95051 | 11/10/05 | 11/10/05 | VecTest |
| American Crow | Sonoma | Windsor | 95492 | 10/05/05 | 11/28/05 | RT-PCR |
| Western Scrub-Jay | Contra Costa | Pittsburg | 94565 | 11/16/05 | 11/16/05 | RAMP |
| Western Scrub-Jay | San Diego | Ramona | 92065 | 11/16/05 | 11/16/05 | VecTest |
| Western Scrub-Jay | San Diego | El Cajon | 92021 | 11/15/05 | 11/28/05 | RT-PCR |
| Western Scrub-Jay | Sonoma | Healdsburg | 95448 | 11/16/05 | 11/28/05 | RT-PCR |

National Comments:

As of November 29, 2005, West Nile virus (WNV) activity has been detected in 48 states, New York City (NYC), and the District of Columbia (DC). At this time in 2004, a total of 47 states, Puerto Rico, DC, and NYC had published WNV activity. A total of 2,744 human WNV cases have been reported in 2005 from 42 states. At this time in 2004, 2,359 cases had been reported from 40 states, DC, and NYC. In 2005, of the 2,579 cases with available data, the median age is 51 years (range: 3 months-98 years) and 1,463 (57%) of the cases are male. Forty-three percent of the cases are neuroinvasive. There have been 98 reported WNV-related fatalities. The median age of the 93 decedents where data is available was 76 years (range: 36-98 years).

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TEST PROTOCOLS

Dead Birds:

All bird species, except chickens, doves, and pigeons, from all zip codes are currently being accepted for testing unless otherwise requested by a local agency. Positive RAMP and Vec-Tests from oral swabs from corvids are no longer confirmed. Other bird species are tested by singleplex RT-PCR and confirmed with a second primer set.

Dead birds are necropsied at the California Animal Health and Food Safety (CAHFS) Laboratories and kidney tissue from the dead birds are forward to the UC Davis Center for Vectorborne Diseases (CVEC) for WNV using the PCR Taqman assay. Organ pools from PCR positive carcasses are tested using cell culture for virus isolation. The WNV Dead Bird Surveillance Coordinator, Ryan Carney, can be reached directly at (510) 412-6254.

Sentinel Chickens:

Dried blood spot specimens from sentinel chickens submitted each week to the DHS Viral and Rickettsial Disease Laboratory (VRDL) are tested for the presence of antibodies to West Nile virus (WNV), western equine encephalomyelitis (WEE), and St. Louis encephalitis (SLE) viruses by EIA and IFA. The VRDL performs additional testing, including plaque reduction neutralization (PRNT), on specimens from sentinel chickens from geographic areas where WNV is detected for the first time. The VRDL also forwards selected serum to CVEC for additional testing for WNV, WEE, and SLE antibodies as needed.

Mosquito Pools:

All mosquito pools are 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) and the Viral and Rickettsial Disease Laboratory Branch, Division of Communicable Disease Control, California Department of Health Services, 850 Marina Bay Parkway, Richmond, CA 94804. Questions concerning this bulletin should be addressed to Al Hom by phone (510) 412-6252, FAX (510) 412-6263, or email [ahom@dhs.ca.gov].