

California Arbovirus Surveillance Bulletin # 42

Week 49 Friday, December 9, 2005

Weekly Summary

Comments:

Humans:

As of December 9, 2005, 916 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 (35), 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 (91), Sutter (9), Tehama (4), Tulare (59), Tuolumne (1), Ventura (1), Yolo (12), and Yuba (6). Of the 916 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 860 WNV cases with symptoms, 288 are classified as West Nile neuroinvasive disease cases, 505 as West Nile fever, and 67 are of unknown clinical presentation. The median age for all symptomatic cases where data is available is 51 years (range: 2-95 years). 472 (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:

The California Department of Food & Agriculture reported one new confirmed case of equine WNV in Santa Clara County this week. This was the first positive horse for this County in 2005. The YTD total for the state is 455.

Dead Birds:

This week, the hotline received 330 dead bird reports, for an YTD total of 108,607 reports. 6 out of 103 (5.8%) dead birds collected from 20 counties tested positive for WNV.

- 3 out of 70 (4.3%) dead birds tested positive via RT-PCR.
- 0 out of 17 (0%) corvids tested positive via VecTest.
- 1 out of 1 (100%) corvids tested positive via RAMP.
- 2 out of 15 (13.3%) dead birds tested positive via immunohistochemistry.

The WNV positive dead birds were collected from the following counties: Orange (2); San Bernardino (1); San Luis Obispo (2); and Sonoma (1).

The following bird species tested positive for WNV: American crow (4); western scrub jay (1); and yellow-billed magpie (1). See "WNV Positive Dead Birds" table for details.

Since January 1, 2005, 3,014 of 9,067 dead birds have tested positive for WNV.

Mosquito Pools:

WNV: CVEC reported no WNV positive mosquito pools for this week. 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 is testing sentinel chicken sera samples every other week, and therefore, no chicken results are available this week.

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 | 30 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| | YTD | 2159 | 0 | 916 | 0 | 0 | 0 | 0 | 0 | 0 |
| Horses Tested | Week | N/a | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| | YTD | 714 | 0 | 455 | 0 | 0 | 0 | 0 | 0 | 0 |

Dead Birds

| | Number Tested | WNV Positive |
|------|---------------|--------------|
| Week | 103 | 6 |
| YTD | 9,067 | 3,014 |

Sentinel Chickens and Mosquito Pools*

| | | Number Tested | WNV Positive | WEE Positive | SLE Positive | Other Positive |
|----------------|------|---------------|--------------|--------------|--------------|----------------|
| | | | | | | |
| | YTD | 33299 | 791 | 131 | 0 | 0 |
| Mosquito pools | Week | 61 | 0 | 0 | 0 | 0 |
| | YTD | 19774 | 1239 | 51 | 0 | 0 |

*Total has been adjusted to include local agency submission

Human Positives Reported (December 5 – December 9):

| Virus | Onset Date | Status | Diagnosis | County | Age |
|-------|------------|----------|-----------|------------|-----|
| WNV | 10/5/05 | Probable | WNF | Stanislaus | 64 |
| WNV | 11/12/05 | Probable | WNF | Tulare | 43 |
| WNV | 8/xx/05 | Probable | WNND | Tulare | 30 |

WNV Positive Dead Birds Reported (December 5-December 9)

| Species | County | City | ZIP | Date Collected | Date Tested | Tested By |
|----------------------|-----------------|---------------------|-------|----------------|-------------|-----------|
| American Crow | Orange | Orange | 92870 | 11/02/05 | 11/02/05 | IHC |
| American Crow | Orange | San Juan Capistrano | 92675 | 11/17/05 | 11/17/05 | IHC |
| American Crow | San Bernardino | Chino | 91710 | 12/01/05 | 12/01/05 | RAMP |
| American Crow | Sonoma | Sebastopol | 95472 | 11/21/05 | 12/5/05 | RT-PCR |
| Western Scrub-Jay | San Luis Obispo | Paso Robles | 93446 | 10/19/05 | 12/5/05 | RT-PCR |
| Yellow-billed Magpie | San Luis Obispo | Paso Robles | 93446 | 10/19/05 | 12/5/05 | RT-PCR |

National Comments:

As of December 6, 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 2,775 human WNV cases have been reported in 2005 from 42 states. At this time in 2004, 2,432 cases had been reported from 40 states, DC, and NYC. In 2005, of the 2,607 cases with available data, the median age is 51 years (range: 3 months-98 years) and 1,476 (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].