

# California Arbovirus Surveillance Bulletin # 1

Week 4 Friday, January 26, 2007

## Weekly Summary

### COMMENTS

**\*\*Bulletin includes 2007 data and updated 2006 summaries.**

#### **Humans**

No human cases have been reported in 2007.

2006 Summary: In 2006, 276 human West Nile virus (WNV) cases were identified from 36 counties: Alameda (1), Butte (31), Colusa (4), Contra Costa (8), El Dorado (2), Fresno (11), Glenn (12), Imperial (1), Kern (49), Kings (1), Lake (2), Los Angeles (13), Marin (1), Merced (4), Modoc (2), Mono (1), Napa (1), Nevada (1), Orange (6), Placer (8), Riverside (4), Sacramento (15), San Bernardino (3), San Diego (1), San Joaquin (8), San Luis Obispo (1), Santa Clara (5), Shasta (4), Solano (6), Stanislaus (11), Sutter (12), Tehama (6), Tulare (6), Ventura (3), Yolo (27), and Yuba (5). Of the 276 WNV cases, 82 (30%) were classified as West Nile neuroinvasive disease, and 189 (68%) as West Nile fever. The median age of all cases was 49 years (range: 8-86 years). Of the cases, 177 (64%) were male. Seven WNV-related fatalities were reported in 2006, from Butte (2), Contra Costa (2), Fresno (1), Riverside (1), and Shasta (1). Twenty-eight WNV-positive blood donation samples were identified; 14 of the individuals reported symptoms and were reclassified as cases.

#### **Horses**

No equine cases have been reported in 2007.

2006 Summary: In 2006, a total of 58 equine cases of WNV were reported from 23 counties: Contra Costa (1), Fresno (5), Kern (4), Lake (2), Lassen (7), Marin (1), Mendocino (2), Merced (3), Modoc (2), Placer (1), Sacramento (1), San Diego (3), San Joaquin (2), San Luis Obispo (5), Santa Barbara (2), Santa Clara (1), Shasta (4), Sonoma (1), Stanislaus (3), Sutter (1), Tehama (2), Tulare (3), and Yuba (2). Twenty-four died or were euthanized.

#### **Dead Birds**

No dead birds tested positive for WNV this week. In 2007, one American Crow, collected on 1/04/07 in Los Angeles County, tested positive for WNV.

2006 Summary: In 2006, 1,446 dead birds tested positive for WNV from 53 counties: Alameda (41), Amador (2), Butte (40), Calaveras (2), Colusa (9), Contra Costa (93), El Dorado (19), Fresno (75), Glenn (35), Humboldt (2), Inyo (8), Kern (24), Kings (13), Lake (8), Lassen (3), Los Angeles (98), Madera (3), Marin (9), Mariposa (1), Mendocino (7), Merced (41), Modoc (2), Mono (1), Monterey (5), Napa (8), Nevada (4), Orange (49), Placer (13), Riverside (3), Sacramento (89), San Benito (1), San Bernardino (33), San Diego (26), San Francisco (3), San Joaquin (47), San Luis Obispo (14), San Mateo (7), Santa Barbara (19), Santa Clara (224), Santa Cruz (7), Shasta (89), Siskiyou (1), Solano (21), Sonoma (23), Stanislaus (77), Sutter (2), Tehama (12), Trinity (1), Tulare (14), Tuolumne (1), Ventura (62), Yolo (54), and Yuba (1).

In addition, 32 dead tree squirrels tested positive for WNV from 9 counties: Alameda (2), Butte (1), Contra Costa (18), Los Angeles (1), Marin (1), San Bernardino (3), San Mateo (2), Santa Clara (2), and Shasta (2).

#### **Mosquito Pools**

**CVEC reported two WNV positive mosquito pools this week, one each from Los Angeles and Riverside counties. These are the first WNV positive pools collected in 2007. See "positive mosquito pool" table for details.**

2006 Summary: In 2006, 832 mosquito pools tested positive for WNV from 34 counties: Alameda (9), Butte (1), Calaveras (2), Contra Costa (18), El Dorado (2), Fresno (40), Glenn (1), Imperial (14), Inyo (3), Kern (230), Kings (34), Lake (12), Lassen (3), Los Angeles (78), Madera (4), Marin (2), Merced (8), Orange (14), Placer (23), Riverside (31), Sacramento (34), San Bernardino (25), San Joaquin (40), Santa Barbara (1), Santa Clara (8), Shasta (7), Solano (1), Sonoma (1), Stanislaus (51), Sutter (55), Tulare (8), Ventura (2), Yolo (64), and Yuba (6).

Eighteen mosquito pools from Kern County tested positive for western equine encephalomyelitis virus (WEE).

#### **Sentinel Chickens**

No sentinel chickens have tested positive in 2007.

2006 Summary: In 2006, 640 WNV seroconversions were detected in chickens from 29 counties: Butte (49), Colusa (1), Contra Costa (25), Fresno (37), Glenn (10), Imperial (57), Kern (100), Kings (25), Lake (6), Los Angeles (38), Madera (9), Marin (2), Merced (15), Placer (11), Riverside (27), Sacramento (13), San Bernardino (26), San Joaquin (19), Santa Clara (1), Shasta (4), Solano (22), Sonoma (1), Stanislaus (45), Sutter (36), Tehama (3), Tulare (22), Ventura (1), Yolo (26), and Yuba (9).

A total of 122 flocks out of 245 had at least one chicken test positive for WNV antibodies. In addition, there were 13 unconfirmed flavivirus seroconversions detected in chickens from Kings (2), Madera (3), Placer (5), San Bernardino (1), and Stanislaus (2) counties.

There were 13 WEE seroconversions detected in chickens located in Kern (11) and Riverside (2) counties.

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## Website Information

For updated information on WNV, please visit the California WNV website, [www.westnile.ca.gov](http://www.westnile.ca.gov), the CDC website, [www.cdc.gov](http://www.cdc.gov), and the USGS website, [www.westnilemaps.usgs.gov](http://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.

## 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 | 0             | 0            | 0     | 0            | 0     | 0            | 0     | 0              | 0     |
|               | YTD  | 53            | 0            | 0     | 0            | 0     | 0            | 0     | 0              | 0     |
| Horses Tested | Week | 0             | 0            | 0     | 0            | 0     | 0            | 0     | 0              | 0     |
|               | YTD  | 0             | 0            | 0     | 0            | 0     | 0            | 0     | 0              | 0     |

### Dead Birds

|      | Number Tested | WNV Positive |
|------|---------------|--------------|
| Week | 96            | 0            |
| YTD  | 115           | 1            |

### Sentinel Chickens and Mosquito Pools

|                |      | Number Tested | WNV Positive | WEE Positive | SLE Positive | Flavivirus* Positive |
|----------------|------|---------------|--------------|--------------|--------------|----------------------|
| Chicken sera   | Week | 0             | 0            | 0            | 0            | 0                    |
|                | YTD  | 355           | 0            | 0            | 0            | 0                    |
| Mosquito pools | Week | 73            | 2            | 0            | 0            | 0                    |
|                | YTD  | 128           | 2            | 0            | 0            | 0                    |

\*Does not include those later confirmed as WNV or SLE

### Mosquito pools tested by local agencies

|        |      | Number Tested | WNV Positive | WEE Positive | SLE Positive |
|--------|------|---------------|--------------|--------------|--------------|
| RT-PCR | Week | 0             | 0            | 0            | 0            |
|        | YTD  | 0             | 0            | 0            | 0            |
| RAMP   | Week | 0             | 0            | N/A          | N/A          |
|        | YTD  | 0             | 0            | --           | --           |

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## POSITIVES

### Mosquito Pools

| Site Code | Pool # | Species             | # in Pool | Collected | Tested  | City            | County      | Virus |
|-----------|--------|---------------------|-----------|-----------|---------|-----------------|-------------|-------|
| COAV0533  | 54     | Cx tarsalis         | 20        | 1/10/07   | 1/25/07 | Mecca           | Riverside   | WN    |
| GRLA2223  | 7      | Cx quinquefasciatus | 13        | 1/11/07   | 1/25/07 | Rowland Heights | Los Angeles | WN    |

**National Comments:** No new national update.

2006 Summary: As of January 3, 2007, WNV activity had been reported from 48 states, the District of Columbia (DC), and New York City (NYC). A total of 4,180 human cases were reported to the Centers for Disease Control and Prevention (CDC) from 43 states and DC: Alabama (7), Arizona (150), Arkansas (28), California (272), Colorado (332), Connecticut (9), DC (2), Florida (3), Georgia (8), Idaho (984), Illinois (210), Indiana (81), Iowa (36), Kansas (30), Kentucky (6), Louisiana (172), Maryland (10), Massachusetts (3), Michigan (52), Minnesota (65), Mississippi (182), Missouri (61), Montana (34), Nebraska (264), Nevada (123), New Jersey (5), New Mexico (8), New York (23), North Carolina (1), North Dakota (137), Ohio (47), Oklahoma (47), Oregon (69), Pennsylvania (9), South Carolina (1), South Dakota (113), Tennessee (18), Texas (327), Utah (158), Virginia (4), Washington (3), West Virginia (1), Wisconsin (20), and Wyoming (65).

At the same time last year, 2,819 cases had been reported from 42 states and NYC. Of the 4,180 cases reported in 2006, 1,410 (34%) had West Nile neuroinvasive disease (i.e. encephalitis or meningitis). The median age of the 4,165 cases where data was available was 51 years (range: 3 months-99 years) and 55% were male. A total of 149 WNV-associated fatalities have been reported in 2006, from Arizona (6), Arkansas (3), California (6), Colorado (7), Connecticut (1), Georgia (1), Idaho (14), Illinois (9), Indiana (4), Kansas (4), Kentucky (1), Louisiana (8), Michigan (6), Minnesota (3), Missouri (3), Mississippi (13), Nebraska (1), Nevada (1), New Mexico (1), New York (4), North Dakota (1), Ohio (4), Oklahoma (5), Pennsylvania (2), South Dakota (3), Tennessee (1), Texas (29), Utah (5), Wisconsin (1), and Wyoming (2).

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## TEST PROTOCOLS

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### **Dead Birds:**

All bird species from all zip codes are currently being accepted for testing unless otherwise requested by a local agency. Additionally, once WNV has been detected within a county, doves, pigeons, and chickens will no longer be accepted for testing from that county. Corvids that test positive via RAMP or VecTest are no longer confirmed. Dead birds are necropsied at the California Animal Health and Food Safety (CAHFS) laboratory at UC Davis. Oral swabs from American Crows and kidney tissue from all other dead birds are forwarded to the UC Davis Center for Vector borne Diseases (CVEC) for WNV testing using the singleplex RT-PCR Taqman assay and confirmed with a second primer set. The WNV Dead Bird Surveillance Coordinator, Ryan Carney, can be reached directly at (510) 412-6254.

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### **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.

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### **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.

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*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 Tina Feiszli by phone (510) 412-6298, FAX (510) 412-6263, or email [tfeiszli@dhs.ca.gov].*