

# California Arbovirus Surveillance Bulletin # 43

Week 50 Friday, December 16, 2005

## Weekly Summary

### Comments:

#### **Humans:**

As of December 16, 2005, 921 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 (19), 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 921 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 865 WNV cases with symptoms, 289 are classified as West Nile neuroinvasive disease cases, 509 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). 474 (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 no new cases of equine WNV this week. The YTD total for the state is 455.

#### **Dead Birds:**

This week, the hotline received 315 dead bird reports, for an YTD total of 108,922 reports. 3 out of 61 (4.9%) dead birds collected from 20 counties tested positive for WNV.

- 0 out of 58 (0%) dead birds tested positive via RT-PCR.
- 2 out of 2 (100%) corvids tested positive via VecTest.
- 1 out of 1 (100%) corvids tested positive via immunohistochemistry.

The WNV positive dead birds were collected from Los Angeles (2) and Orange counties (1).

The following bird species tested positive for WNV: American crow (2); and house finch (1). See "WNV Positive Dead Birds" table for details.

Since January 1, 2005, 3,017 of 9,153 dead birds have tested positive for WNV.

#### **Mosquito Pools:**

WNV: CVEC reported three WNV positive mosquito pools from Los Angeles (1) and San Bernardino (2) counties this week. The YTD total for the State is 1242.

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

**Sentinel Chickens: WNV:** VRDL reported two seroconversions between two flocks from San Bernardino and Stanislaus counties. No flavivirus positives were reported this week. The current YTD total stands at 793 seroconversions.

**WEE.** VRDL reported eight WEE seroconversions from Riverside County this week. The current YTD total stands at 139 seroconversions.

#### **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.

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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	23	0	5	0	0	0	0	0	0
	YTD	2182	0	921	0	0	0	0	0	0
Horses Tested	Week	N/a	0	0	0	0	0	0	0	0
	YTD	714	0	455	0	0	0	0	0	0

### Dead Birds

	Number Tested	WNV Positive
Week	61	3
YTD	9,153	3,017

### Sentinel Chickens and Mosquito Pools\*

		Number Tested	WNV Positive	WEE Positive	SLE Positive	Other Positive
	YTD	33862	793	139	0	0
Mosquito pools	Week	63	3	0	0	0
	YTD	19837	1242	51	0	0

\*Total has been adjusted to include local agency submission

### Human Positives Reported (December 12 – December 16):

Virus	Onset Date	Status	Diagnosis	County	Age
WNV	8/1/05	Probable	WNF	Madera	>65
WNV	8/30/05	Probable	WNF	Madera	>18
WNV	9/18/05	Probable	WNF	Madera	>65
WNV	9/30/05	Probable	WNF	Madera	>65
WNV	10/8/05	Probable	WNND	Madera	>18

### Virus Positive From Mosquito Pools:

Results	Species	Date Collected	Site	Pool #	County	City	Date Received
WNV	Cx quinquefasciatus	11/30/05	GRLA2617	6257	Los Angeles	Santa Clarita	12/8/05
WNV	Cx tarsalis	9/29/05	SANB0001	541	San Bernardino	Needles	12/8/05
WNV	Cx tarsalis	9/29/05	SANB0001	544	San Bernardino	Needles	12/8/05

### 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	Band #7	Band #8
***	WNV	SANB0016	San Bernardino	CA	Needles	Chemehuevi	10/27/05	1302							
	WNV	TRLK0402	Stanislaus	CA	Denair	Bettencourt/Mendes	12/5/05	1119							
***	WEE	RIVR0002	Riverside	CA	Hemet	San Jacinto Wildlife	9/15/05	5224	5225	5227	5228	5229	5230	5232	5233

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## WNV Positive Dead Birds Reported (December 12-December 16)

Species	County	City	ZIP	Date Collected	Date Tested	Tested By
American Crow	Los Angeles	Santa Clarita	91355	12/07/05	12/07/05	VecTest
American Crow	Los Angeles	Santa Clarita	91355	12/07/05	12/07/05	VecTest
House Finch	Orange	Portola Hills	92579	11/21/05	11/21/05	IHC

### 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

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### **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.

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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. The VRDL also forwards selected serum to CVEC for additional testing for WNV, WEE, and SLE antibodies as needed.

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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 Al Hom by phone (510) 412-6252, FAX (510) 412-6263, or email [ahom@dhs.ca.gov].*