

California Arbovirus Surveillance Bulletin # 39

Week 45 Monday, November 14, 2005

Weekly Summary

Comments:

Humans:

As of November 10, 2005, 896 human West Nile virus (WNV) infections have been identified from the following local health jurisdictions: Alameda (1), Amador (4), Butte (24), Calaveras (2), Colusa (2), Contra Costa (11), El Dorado (1), Fresno (61), Glenn (13), Humboldt (1), Imperial (1), Kern (63), Kings (32), Los Angeles (45), Madera (12), Merced (28), Nevada (4), Orange (17), Placer (35), Plumas (1), Riverside (99), Sacramento (174), San Bernardino (33), 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 (89), Sutter (9), Tehama (4), Tulare (56), Tuolumne (1), Ventura (1), Yolo (12), and Yuba (6). One hundred of the 896 infections 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 841 WNV cases with symptoms, 281 are classified as West Nile neuroinvasive disease cases, 486 as West Nile fever, and 74 are of unknown clinical presentation. The median age for all symptomatic cases where data is available is 50 years (range: 2-95 years). 462 (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 did not submit a report this week. The YTD total for the state is 453.

Dead Birds:

This week the hotline received 931 dead bird reports, for an YTD total of 106,871 reports. 11 out of 94 (11.7%) dead birds collected from 23 counties tested positive for WNV this week.

- 8 out of 75 (10.7%) dead birds tested positive via RT-PCR.
- 3 out of 19 (15.8%) dead birds tested positive via immunohistochemistry.

The WNV positive dead birds were collected from the following counties: Alameda (1); Contra Costa (1); Los Angeles (2); Orange (3); San Diego (1); Santa Barbara (1); Sonoma (1); and Ventura (1).

The following bird species tested positive for WNV: American crow (8); northern flicker (1); red-shouldered hawk (1); and western scrub-jay (1). See "WNV Positive Dead Birds" table for details.

Since January 1, 2005, 2,986 of 8,745 dead birds have tested positive for WNV.

Mosquito Pools:

WNV: CVEC reported two WNV positive mosquito pools from Riverside County. The YTD total for the State is 1238.

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

Sentinel Chickens: WNV: VRDL reported four seroconversions among four flocks from Los Angeles (1), San Bernardino (2), and Stanislaus (1) counties. The current YTD total stands at 778 seroconversions. One flavivirus positive was reported this week.

WEE: VRDL reported no WEE seroconversion this week. The current YTD total stands at 127 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	47	0	2	0	0	0	0	0	0
	YTD	2037	0	896	0	0	0	0	0	0
Horses Tested	Week	0	0	0	0	0	0	0	0	0
	YTD	709	0	453	0	0	0	0	0	0

Dead Birds

	Number Tested	WNV Positive
Week	94	11
YTD	8,745	2,086

Sentinel Chickens and Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive	Other Positive
Chicken sera	Week	509*	4	0	0	0
	YTD	32295	778	127	0	0
Mosquito pools	Week	120	2	0	0	0
	YTD	19381	1238	51	0	0

*Total has been adjusted to include local agency submission

Human Positives Reported (November 7 – November 10):

Virus	Onset Date	Status	Diagnosis	County	Age
WNV	9/17/05	Probable	WNND	Merced	72
WNV	11/8/05	Probable	Asymptomatic	Stanislaus	58

Virus Positive From Mosquito Pools:

Results	Species	Date Collected	Site	Pool #	County	City	Date Received
WNV	Cx tarsalis	11/2/05	COAV0055	2900	Riverside	Mecca	11/8/05
WNV	Cx tarsalis	11/2/05	COAV0040	2906	Riverside	Mecca	11/8/05

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
****	WNV	SGVA0005	Los Angeles	CA	Irwindale	Santa Fe Dam	10/25/05	3474					
	WNV	SANB0007	San Bernardino	CA	Fontana	Fontana Sr. Ctr.	10/25/05	1334					
	WNV	SANB0008	San Bernardino	CA	Upland	Upland Crosswalls	10/25/05	1340					
	WNV	TRLK9703	Stanislaus	CA	Crows Landing	Vitoria's Dairy	10/31/05	1112					
	Flav +	SANB0016	San Bernardino	CA	Needles	Chemehuevi	10/27/05	1302					

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WNV Positive Dead Birds Reported (November 7-November 11)

Species	County	City	Date Collected	Date Tested	ZIP	Tested By
American Crow	Alameda	Livermore	11/02/05	11/07/05	94551	RT-PCR
American Crow	Los Angeles	Castaic	10/21/05	11/07/05	91384	RT-PCR
American Crow	Los Angeles	Northridge	10/26/05	11/07/05	91324	RT-PCR
American Crow	Orange	Irvine	10/11/05	10/11/05	92620	IHC
American Crow	Orange	Santa Ana San Juan	10/28/05	10/28/05	92701	IHC
American Crow	Orange	Capistrano	10/28/05	10/28/05	92675	IHC
American Crow	Santa Barbara	Goleta	10/27/05	11/07/05	93117	RT-PCR
American Crow	Ventura	Fillmore	10/26/05	11/07/05	93015	RT-PCR
Northern Flicker	Contra Costa	Pittsburg	10/26/05	11/07/05	94565	RT-PCR
Red-Shouldered Hawk	San Diego	Spring Valley	10/27/05	11/07/05	91978	RT-PCR
Western Scrub-Jay	Sonoma	Sebastopol	10/24/05	11/07/05	95472	RT-PCR

National Comments:

As of November 8, 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 2,653 human WNV cases have been reported in 2005 from 42 states. At this time in 2004, 2,282 cases had been reported from 40 states, DC, and NYC. In 2005, of the 2,490 cases with available data, the median age is 51 years (range: 3 months-98 years) and 1,405 (56%) of the cases are male. Forty-two percent of the cases are neuroinvasive. There have been 86 reported WNV-related fatalities. The median age of the 81 decedents where data is available was 77 years (range: 36-98 years).

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.

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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.

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].