

California Arbovirus Surveillance Bulletin # 1

Week 1 Friday, January 7, 2005

Weekly Summary

An American crow collected by Santa Clara County Vector Control District on January 3, 2005 tested positive for West Nile virus (WNV) via Vec-Test. This is the first indication of WNV in California in 2005.

California Weekly Summary Comments: ** This is an update of the pending test results in 2004******

Humans:

As of December 31, 2004, a total of 822 WNV infections have been reported from the following local health jurisdictions: Los Angeles (328), San Bernardino (195), Riverside (113), Orange (64), Kern (60), Fresno (15), Tehama (10), Butte (7), Shasta (6), Glenn (3), Tulare (3), Ventura (2), Imperial (1), Lake (1), Lassen (1), Merced (1), Placer (1), Sacramento (3), San Diego (2), San Joaquin (3), Santa Clara (1), San Luis Obispo (1), and Yolo (1) counties. Sixty-six of the 822 WNV infections were initially detected in asymptomatic individuals through screening done at blood banks – 14 of these individuals later became symptomatic.

Of the 770 WNV cases with symptoms, 371 are classified as West Nile fever cases, 275 are classified as West Nile neuroinvasive disease, and 124 are of unknown status. The median age for all cases where data was available is 52 years (range: 2-94 years). Median age for West Nile fever cases is 50 years (range 7-89 years). Median age for West Nile neuroinvasive disease cases = 58 years (range: 4-91 years). Sixty-two per cent (478/770) of the cases are male. There have been 25 fatalities to date in California in Los Angeles (13), San Bernardino (5), Orange (3), Riverside (2), Kern (1), and Tehama (1) counties. The median age of the 25 fatalities was 76 years (range: 57-91 years).

Equids:

The California Department of Food & Agriculture reported no new WNV equine cases. The YTD total stands at 536 positive cases.

Dead Birds:

The hotline received 93,056 dead bird reports in 2004. The UC Davis Center for Vectorborne Diseases (CVEC) reported 2 out of 56 dead birds were reported to have tested positive for WNV by RT-PCR on December 22, 2004. The dead birds were an American crow from Fresno County and a Cooper's hawk from Lake County. A total of 56 dead birds were tested, thus 3.6% (2/56) of the birds tested were WNV positive. No additional American crows were tested via Vec-Test in 2004. The YTD total for 2004 stands at 3,218* positive bird carcasses of 5,655* tested, thus 56.9% (3218/5655) of the birds tested were WNV positive.

*These numbers will change as more results from the end of December become available.

Mosquito Pools:

CVEC reported no positive pools. The YTD total stands at 1136 positive pools.

Chickens:

Four WNV chicken seroconversions were detected in two flocks from Los Angeles (1) and San Bernardino (3) counties. Of the four seroconversions, 3 came from a new flock in San Bernardino County. The current YTD total stands at 815 WNV 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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TESTING SUMMARIES

Humans and Equines

		Number Tested	WNV Positive		WEE Positive		SLE Positive		Other Positive	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
Individuals Tested	Week	n/a	0	0	0	0	0	0	0	0
	YTD	2340	0	822	0	0	0	0	0	0
Suspect Equine Cases	Week	n/a	0	0	0	0	0	0	0	0
	YTD	1419	0	536	0	0	0	0	0	0

Dead Birds

	Number Tested	WNV Positive
Week	56	2
YTD	5,655	3,218

Sentinel Chickens and Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive	Other Positive
	YTD	32,992	815	0	0	0
Mosquito pools	Week	0	0	0	0	0
	YTD	14,698	1136	0	0	0

*This total has been adjusted to include local agency submission

POSITIVES

Chicken Seroconversions Reported by DHS:

Virus	County	State	Acode	City	Location
WNV	Los Angeles	CA	LACW1002	Torrance	Madrona Marsh
Bands: 2134					Probable Seroconversion Date: 20-December-04
**** WNV	San Bernardino	CA	SANB0009	Victorville	Mojave Narrows Region
Bands: 3022, 3026, 3028					Probable Seroconversion Date: 29-November-04

****Indicates a new flock

Dead Birds Tested Positive for WNV as of December 22, 2004

Species	County	City	ZIP	Date Collected	Date Tested
American Crow	Fresno	Fresno	95458	12/07/04	12/21/04
Cooper's Hawk	Lake	Lucerne	93727	12/06/04	12/21/04

***Indicates Vec-Test

Dead Birds Tested Positive for WNV in 2005

Species	County	City	ZIP	Date Collected	Date Tested
***American Crow	Santa Clara	San Jose	95215	1/03/05	1/03/05

***Indicates Vec-Test

National Comments:

As of December 28, 2004, a total of 2448 human WNV cases have been reported in 40 states, DC and New York City. A total of 888 the cases were classified as neuroinvasive; 1011 WN fever; and 549 were unknown. There have been 87 WNV-related fatalities nationwide in 2004.

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Dead Birds:

Dead bird kidney tissues are tested at CVEC using the PCR Taqman assay, subsequent to carcass necropsy at the California Animal Health and Food Safety (CAHFS) Laboratories. 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) 412-6251.

All bird species (except chickens, doves, and pigeons) from all zip codes are being accepted for testing except from a limited number of agencies. Positive Vec-tests from oral swabs from crows are no longer confirmed. Other bird species tested by RT-PCR using singleplex and confirmed with a second primer set.

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) and IgM Capture – Enzyme Linked Immunosorbent Assay (MAC-ELISA)) on specimens from sentinel chickens in which antibodies are detected in new geographic areas. The VRDL also forwards selected serum to the UC Davis Center for Vectorborne Diseases (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. There will be an elimination of *in situ* EIA testing for all mosquito species.

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].