

California Arbovirus Surveillance Bulletin # 37

Week 43 Monday, October 31, 2005

Weekly Summary



Comments:

Humans: As of October 28, 2005, 887 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 (44), Madera (12), Merced (27), Nevada (4), Orange (17), Placer (35), Plumas (1), Riverside (96), Sacramento (172), 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 (87), Sutter (9), Tehama (4), Tulare (56), Tuolumne (1), Ventura (1), Yolo (12), and Yuba (6). Ninety-eight of the 887 infections were initially detected in asymptomatic individuals through screening done at blood banks; 40 individuals later developed symptoms. Eight of the 98 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 833 WNV cases with symptoms, 278 are classified as West Nile neuroinvasive disease cases, 480 as West Nile fever, and 75 are of unknown clinical presentation. The median age for all symptomatic cases where data is available is 50 years (range: 2-95 years). 458 (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 four new confirmed cases of equine WNV in Fresno (1); Sacramento (1); Tulare (1) and Tuolumne (1). Last week, we did not receive a report from DCFA; however, there were three confirmed horse cases from El Dorado (1); Merced (1); and Stanislaus (1) counties. The YTD total for the state is 451.

Dead Birds:

This week the hotline received 1,285 dead bird reports, for a YTD total of 105,318 reports. 34 out of 177 (29.1%) dead birds collected from 31 counties tested positive for WNV this week.

- 16 out of 92 (17.4%) dead birds tested positive via RT-PCR.
- 14 out of 19 (73.7%) corvids tested positive via VecTest.
- 4 out of 6 (66.7%) corvids tested positive via RAMP.

The WNV positive dead birds were collected from the following counties: Alameda (1); Calaveras (1); Contra Costa (4); El Dorado (2); Kings (1); Mendocino (1); Napa (4); San Diego (9); San Luis Obispo (1); Santa Clara (5); Sonoma (4); and Ventura (1).

The following bird species tested positive for WNV: American crow (18); American robin (1); common raven (1); finch (1); fox sparrow (1); golden-crowned sparrow (1); house finch (1); house sparrow (1); northern mockingbird (1); red-tailed hawk (1); and western scrub-jay (7). See "WNV Positive Dead Birds" table for details.

Since January 1, 2005, 2,951 of 8,502 dead birds have tested positive for WNV.

Mosquito Pools:

WNV: CVEC reported one WNV positive mosquito pool from Riverside County. The YTD total for the State is 1235.

WEE: CVEC also reported no WEE positive mosquito pools for this week. The YTD for the State is 50.

Sentinel Chickens: WNV: VRDL reported eight seroconversions among eight flocks from Fresno (1), Kern (1), Los Angeles (4), Stanislaus (1), and Ventura (1) counties. The current YTD total stands at 757 seroconversions. Additionally, there was one flavivirus positive seroconversion.

WEE: VRDL reported 19 WEE seroconversions from Kern (18) and Riverside (1) counties this week. The current YTD total stands at 127 seroconversions.

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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.

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	48	0	10	0	0	0	0	0	0
	YTD	1964	0	887	0	0	0	0	0	0
Horses Tested	Week	0	0	4	0	0	0	0	0	0
	YTD	920	0	451	0	0	0	0	0	0

Dead Birds

	Number Tested	WNV Positive
Week	177	34
YTD	8,502	2,051

Sentinel Chickens and Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive	Other Positive
	YTD	31254	757	127	0	0
Mosquito pools	Week	249	1	0	0	0
	YTD	19015	1235	50	0	0

*Total has been adjusted to include local agency submission



Human Positives Reported (October 24 – October 28):

Virus	Onset Date	Status	Diagnosis	County	Age
WNV	Unknown	Probable	Unknown	Kern	27
WNV	9/21	Probable	WNF	Merced	51
WNV	10/5	Probable	WNND	Merced	58
WNV	Unknown	Probable	WNF	Riverside	23
WNV	9/3	Probable	WNF*	San Bernardino	41
WNV	9/20	Probable	WNND	Riverside	50
WNV	10/14	Probable	WNND	Los Angeles	71
WNV	9/28	Probable	WNF	Sacramento	46
WNV	Week 35	Probable	Unknown	Tehama	>18
WNV	n/a	Probable	n/a	Los Angeles	18

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Virus Positive From Mosquito Pools:

Results	Species	Date Collected	Site	Pool #	County	City	Date Received
WN	Cx tarsalis	10/20/05	COAV0114	2829	Riverside	Mecca	10/26/05



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
	WNV	CNSL5004	Fresno	CA	Caruthers	S. Turner	10/17/05	16				
	WNV	WEST6203	Kern	CA	B.V. Lake	B.V. Lake	10/18/05	4573				
****	WNV	LACW1001	Los Angeles	CA	Rolling Hills Est.	Botanical Garden	10/10/05	3803				
****	WNV	LACW1022	Los Angeles	CA	Pacific Palisades	Will Roger SP	10/11/05	3883				
****	WNV	LACW1049	Los Angeles	CA	Inglewood	Inglewood cemetery	10/11/05	4722				
****	WNV	SGVA0002	Los Angeles	CA	Monterey Park	Monterey Park yard	9/12/05	2523				
	WNV	TRLK9701	Stanislaus	CA	Grayson	Dykzeul Dairy	10/17/05	578				
	WNV	VENT0500	Ventura	CA	Camarillo	Pancho Road	9/27/05	5756				
	WEE	KERN0101	Kern	CA	Lost Hills	Kern NWR	10/17/05	4302	4303	4304	4305	4391
	WEE	KERN0102	Kern	CA	Buttonwillow	Tracy RNCH	10/17/05	4314	4316	4317		
	WEE	KERN0105	Kern	CA	Bakersfield	Wible/Houghton	10/17/05	3717	4331	4336	4340	
****	WEE	KERN0107	Kern	CA	Arvin	John Dale	10/17/05	4352	4354			
	WEE	KERN0113	Kern	CA	Bakersfield	Kern River	10/17/05	4368	4395			
	WEE	ANTV5662	Los Angeles	CA	Lancaster	Lombardo	10/24/05	8839	8841			
	WEE	COAV0200	Riverside	CA	Mecca	Mecca	10/10/05	790				
	Flav +	MERC0001	Merced	CA	Merced	Veldhuis Dairy	10/17/05	4729				



WNV Positive Dead Birds Reported (October 24-28)

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Species	County	City	ZIP	Date Collected	Date Tested	Tested By
American Crow	Contra Costa	Pleasant Hill	94523	10/14/05	10/21/05	RT-PCR
American Crow	El Dorado	Shingle Springs	95682	10/17/05	10/24/05	RT-PCR
American Crow	Mendocino	Potter Valley	95469	10/17/05	10/24/05	RT-PCR
American Crow	Napa	Calistoga	94515	10/18/05	10/18/05	VecTest
American Crow	Napa	Napa	94559	10/14/05	10/14/05	VecTest
American Crow	San Diego	Lakeside	92040	10/12/05	10/24/05	RT-PCR
American Crow	San Diego	San Diego	92129	10/09/05	10/24/05	RT-PCR
American Crow	San Diego	Fallbrook	92028	10/21/05	10/21/05	VecTest
American Crow	San Diego	Oceanside	92057	10/17/05	10/17/05	VecTest
American Crow	San Diego	San Diego	92128	10/21/05	10/21/05	VecTest
American Crow	Santa Clara	Los Gatos	95032	10/13/05	10/13/05	VecTest
American Crow	Santa Clara	Los Gatos	95032	10/13/05	10/13/05	VecTest
American Crow	Santa Clara	San Jose	95129	10/13/05	10/13/05	VecTest
American Crow	Santa Clara	San Jose	95120	10/18/05	10/18/05	VecTest
American Crow	Santa Clara	Saratoga	95070	10/12/05	10/12/05	VecTest
American Crow	Sonoma	Santa Rosa	95401	10/13/05	10/13/05	RAMP
American Crow	Sonoma	Santa Rosa	95407	10/17/05	10/17/05	RAMP
American Crow	Ventura	Thousand Oaks	91361	10/18/05	10/24/05	RT-PCR
American Robin	El Dorado	South Lake Tahoe	96150	10/06/05	10/24/05	RT-PCR
Common Raven	San Diego	Alpine	91901	10/20/05	10/20/05	VecTest
Finch	Contra Costa	Martinez	94553	10/17/05	10/24/05	RT-PCR
Fox Sparrow	Sonoma	Camp Meeker	95419	10/10/05	10/24/05	RT-PCR
Golden-Crowned Sparrow	Calaveras	San Andreas	95249	10/11/05	10/24/05	RT-PCR
House Finch	San Diego	San Diego	92131	10/17/05	10/24/05	RT-PCR
House Sparrow	Sonoma	Petaluma	94954	10/10/05	10/24/05	RT-PCR
Northern Mockingbird	Kings	Hanford	93230	10/11/05	10/24/05	RT-PCR
Red-Tailed Hawk	San Luis Obispo	San Luis Obispo	93405	10/10/05	10/24/05	RT-PCR
Western Scrub-Jay	Alameda	Sunol	94586	10/20/05	10/20/05	RAMP
Western Scrub-Jay	Contra Costa	Concord	94521	10/13/05	10/24/05	RT-PCR
Western Scrub-Jay	Contra Costa	Antioch	94531	09/14/05	09/14/05	RAMP
Western Scrub-Jay	Napa	Calistoga	94515	10/18/05	10/18/05	VecTest
Western Scrub-Jay	Napa	Napa	94558	10/18/05	10/18/05	VecTest
Western Scrub-Jay	San Diego	San Diego	92105	10/07/05	10/24/05	RT-PCR
Western Scrub-Jay	San Diego	La Mesa	91941	10/14/05	10/14/05	VecTest

National Comments:

As of October 25, 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 2,435 human WNV cases have been reported in 2005 from 42 states. At this time in 2004, 2,231 cases had been reported from 40 states, DC, and NYC. In 2005, of the 2,282 cases with available data, the median age is 51 years (range: 3 months-98 years) and 1,284 (56%) of the cases are male. Nine hundred forty-one (41%) of the cases are neuroinvasive. There have been 73 reported WNV-related fatalities. The median age of the 69 decedents where data is available was 78 years (range: 36-96 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].