

California Arbovirus Surveillance Bulletin # 39

Week 46 Friday, November 16, 2007

Weekly and Year-To-Date Summaries

WEEKLY COMMENTS



Humans

Four new human cases of West Nile virus (WNV) were reported this week from Kern (1), Los Angeles (1), Placer (1), and Riverside (1) counties. A total of 375 WNV cases have been reported in 2007, for a statewide incidence of 1.1 cases per 100,000 people. Of the 375 cases reported, 217 (58%) are classified as West Nile fever, 154 (41%) are classified as neuroinvasive disease, and four are of unknown clinical presentation. The median age of all cases is 55 years (range: 2-96 years), and 211 cases (56%) are male. Sixteen WNV-related fatalities have been reported in 2007 from Colusa (1), Fresno (1), Kern (4), Kings (1), Los Angeles (3), Riverside (3), Sacramento (1), San Joaquin (1), and Tulare (1) counties. Forty-eight WNV-positive blood donation samples have been reported this year; 19 of the individuals subsequently developed symptoms and were reclassified as cases.

Horses

No new equine cases were reported this week. To date in 2007, 28 horses from 14 counties have tested positive for WNV, of which 14 were euthanized or died.

Dead Birds & Tree Squirrels

Five new WNV-positive dead birds were reported this week from the following five counties: Los Angeles (1), Orange (1), San Diego (1), Santa Clara (1), and Sonoma (1). A total of 1,368 dead birds from 50 counties have tested positive for WNV this year.

No positive tree squirrels were reported this week. In 2007, 26 tree squirrels from 10 counties have tested positive for WNV.

Mosquito Pools

No positive mosquito pools were reported this week. In 2007, 1,004 mosquito pools from 30 counties have tested positive for WNV. In addition, 16 mosquito pools have tested positive for western equine encephalomyelitis virus (WEE) from Fresno (1) and Kern (15) counties.

Sentinel Chickens

Nine new WNV seroconversions were reported this week from three counties: Merced (2), Riverside (3), and Sacramento (4). In 2007, 510 sentinel chickens from 27 counties have tested positive for WNV. In addition, there have been 13 WEE seroconversions detected in chickens from Kern (10) and Los Angeles (3) counties.

Website Information For updated information on WNV in California, please visit the California WNV website, www.westnile.ca.gov, or the California Vectorborne Disease Surveillance System website, www.calsurv.org. For national information on WNV and other arboviruses, please visit the CDC website, www.cdc.gov, and the USGS website, www.westnilemaps.usgs.gov.

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YTD WNV Activity by Element and County, 2007						
County	Humans*	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens	Squirrels
Alameda			18	1		1
Amador			1	1		
Butte	16		27	5	32	
Calaveras			3			
Colusa	2		4	1	2	
Contra Costa	2		28	28	5	5
El Dorado			7			2
Fresno	17	1	113	61	46	4
Glenn	7		36	1	8	
Humboldt			2			
Imperial	3			4	17	
Inyo			1			
Kern	137	4	124	206	82	
Kings	7	2	9	30	22	
Lake			3	8	2	
Lassen			2			
Los Angeles	37		157	89	27	3
Madera	2		6	8	4	
Marin			4			
Mendocino	2		3			1
Merced	4		34	2	11	
Modoc			1			
Napa	1		2			
Nevada			5			
Orange	9		32	27		
Placer	4	1	16	25	13	
Plumas			1			
Riverside	17		6	30	44	
Sacramento	24	2	142	135	19	2
San Bernardino	4		26	6	35	
San Diego	16	4	106	6	1	
San Francisco			1			
San Joaquin	10	1	46	154	24	1
San Luis Obispo		1	9			
San Mateo			2			1
Santa Barbara			1			
Santa Clara	4		83	10		6
Santa Cruz			6			
Shasta	9	3	46	17	7	
Siskiyou		2	4			
Solano	1	1	3		7	
Sonoma	1	2	17	1		
Stanislaus	21		130	88	35	
Sutter	2		1	23	17	
Tehama	4	2	20	2	8	
Trinity			1			
Tulare	10	2	37	23	27	
Tuolumne			1			
Ventura	1		15		1	
Yolo	1		25	10	4	
Yuba			1	2	10	
Totals	375	28	1,368	1,004	510	26

* Does not include asymptomatic infections

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2007 & 2006 YTD West Nile Virus Comparisons		
	2007	2006
Total # Dead Bird Reports	30,810	44,769
# Positive Counties	51	54
# Human Cases/ # Tested	375 / 1,195	270 / 1,451
# Horse Cases/ # Tested	28 / 332	56 / 473
# Positive Dead Birds/ # Tested	1,368 / 5,497	1,385 / 5,548
# Positive Mosquito Pools/ # Tested	1,004 / 27,258	831/ 24,067
# Positive Chicken Sera/ # Tested	510 / 28,027	635 / 30,768
# Positive Squirrels/ # Tested	26 / 213	32 / 137

TEST SUMMARIES

Human & Horse Cases

		Number Tested	WNV		WEE		SLE		Other	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
Humans Tested	Week	15	0	4	0	0	0	0	0	0
	YTD	1,195	0	375	0	0	0	0	0	0
Horses Tested	Week	17	0	0	0	0	0	0	0	0
	YTD	332	0	28	0	0	0	0	0	0

Dead Birds & Tree Squirrels

		Number Tested	WNV Positive
Dead Birds	Week	57	5
	YTD	5,497	1,368
Tree Squirrels	Week	1	0
	YTD	213	26

Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive
Chicken Sera	Week	593	9	0	0
	YTD	28,027	510	13	0
Mosquito Pools: RT-PCR	Week	191	0	0	0
	YTD	25,205	828	16	0
Mosquito Pools: RAMP	Week	0	0	N/A	N/A
	YTD	2,053	176	N/A	N/A

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POSITIVES: 11/12/07 – 11/16/07

Dead Birds & Tree Squirrels

County	City	Zip	Species	Reported	Tested	Test Method
Los Angeles	Covina	91724	American Crow	11/1/07	11/13/07	RT-PCR
Orange	Santa Ana	92705	Hermit Thrush	10/30/07	11/13/07	RT-PCR
San Diego	El Cajon	92020	American Crow	11/5/07	11/13/07	VecTest
Santa Clara	Los Gatos	95032	American Crow	11/7/07	11/13/07	VecTest
Sonoma	Santa Rosa	95401	American Crow	10/30/07	11/13/07	RT-PCR

Sentinel Chickens

County	Site Code	City	Date Bled	Result	Band 01	Band 02
Merced	MERC0001	Merced	11/5/2007	WNV	2285	
Merced	MERC0006	Merced	10/22/2007	WNV	2280	
Riverside	COAV0035	Mecca	11/5/2007	WNV	1317	1320
Riverside	COAV0200	Mecca	1/5/2007	WNV	1272	
Sacramento	SAYO7001	Galt	9/11/2007	WNV	2633	2636
Sacramento	SAYO7007	Sacramento	9/18/2007	WNV	2640	
Sacramento	SAYO7007	Sacramento	8/27/2007	WNV	2639	

NATIONAL COMMENTS

As of November 13, 2007, a total of 3,304 human cases had been reported nationwide in the following 43 states: Alabama (22), Arizona (85), Arkansas (19), California (371), Colorado (555), Connecticut (5), Delaware (1), Florida (3), Georgia (47), Idaho (109), Illinois (93), Indiana (22), Iowa (24), Kansas (39), Kentucky (3), Louisiana (29), Maryland (10), Massachusetts (6), Michigan (13), Minnesota (99), Mississippi (124), Missouri (68), Montana (197), Nebraska (144), Nevada (11), New Jersey (1), New Mexico (60), New York (14), North Carolina (5), North Dakota (361), Ohio (21), Oklahoma (92), Oregon (26), Pennsylvania (9), Rhode Island (1), South Carolina (4), South Dakota (207), Tennessee (7), Texas (144), Utah (60), Virginia (3), Wisconsin (10), and Wyoming (180). Of the 3,304 cases reported, 1,082 (33%) had West Nile neuroinvasive disease (i.e. encephalitis or meningitis). The median age of the 3,289 cases where data was available was 51 years (range: 1 month-97 years), and 55% were male. A total of 93 human fatalities had been reported from Alabama (3), Arizona (1), Arkansas (1), California (16), Colorado (6), Florida (1), Georgia (2), Idaho (1), Iowa (2), Illinois (4), Indiana (1), Kansas (2), Michigan (2), Minnesota (2), Mississippi (3), Missouri (2), Montana (4), Nebraska (3), New Mexico (3), New York (2), North Dakota (2), Ohio (2), Oklahoma (8), South Dakota (6), Tennessee (1), Texas (10), Utah (2), and Wyoming (1). For the latest updates about WNV activity in the United States, please visit the CDC WNV website at <http://www.cdc.gov/ncidod/dvbid/westnile/index.htm>.

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TEST PROTOCOLS

Humans:

Specimens are tested by local laboratories with an IgM or IgG immunofluorescent assay (IFA) and/or an IgM enzyme immunoassay (EIA). Specimens with inconclusive results are forwarded to the California Department of Public Health Viral and Rickettsial Disease Laboratory (VRDL) for further testing or confirmation by plaque reduction neutralization test (PRNT).

Horses:

Serum or brain tissue specimens from horses displaying neurological symptoms are submitted to the California Animal Health and Safety Laboratory (CAHFS) and tested by EIA and PRNT.

Dead Birds and Tree Squirrels:

All bird and tree squirrel 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 and squirrels are necropsied at CAHFS laboratory at University of California, Davis. Oral swabs from American Crows and kidney tissue from all other dead birds and squirrels are forwarded to the UC Davis Center for Vectorborne 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, Erin Parker, can be reached directly at (510) 412-6254.

Sentinel Chickens:

Dried blood spot specimens from sentinel chickens are submitted to VRDL and 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. Positive samples are confirmed by western-blot or PRNT.

Mosquito Pools:

Mosquito pools are submitted to CVEC and 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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