

California Arbovirus Surveillance Bulletin # 38

Week 45 Friday, November 9, 2007

Weekly and Year-To-Date Summaries

WEEKLY COMMENTS



Humans

Four new human cases of West Nile virus (WNV) were reported this week from the following three counties: Fresno (1), Kern (2), and Riverside (1). A total of 371 WNV cases have been reported in 2007, for a statewide incidence of 1.1 cases per 100,000 people. Of the 371 cases reported, 213 (57%) are classified as West Nile fever, 153 (41%) are classified as neuroinvasive disease, and five are of unknown clinical presentation. The median age of all cases is 55 years (range: 2-96 years), and 207 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

Ten new WNV-positive dead birds were reported this week from the following seven counties: Marin (1), Orange (2), Sacramento (1), San Joaquin (1), Santa Clara (1), Sonoma (3), and Ventura (1). A total of 1,363 dead birds from 50 counties have tested positive for WNV this year.

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

Mosquito Pools

One new WNV-positive mosquito pool was reported this week from San Bernardino County. A total of 1,004 mosquito pools from 30 counties have tested positive for WNV in 2007.

No mosquito pools tested positive for western equine encephalomyelitis virus (WEE) this week. A total of 16 mosquito pools have tested positive for WEE this year from two counties: Fresno (1) and Kern (15).

Sentinel Chickens

Six new WNV seroconversions were reported this week from three counties: Butte (1), Los Angeles (4), and Tulare (1). A total of 501 sentinel chickens from 27 counties have tested positive for WNV this year.

Two new WEE seroconversions were reported this week from Kern County. A total of 13 chickens have tested positive for WEE this year 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	136	4	124	206	78	
Kings	7	2	9	30	26	
Lake			3	8	2	
Lassen			2			
Los Angeles	36		156	89	27	3
Madera	2		6	8	4	
Marin			4			
Mendocino	2		3			1
Merced	4		34	2	9	
Modoc			1			
Napa	1		2			
Nevada			5			
Orange	9		31	27		
Placer	3	1	16	25	13	
Plumas			1			
Riverside	16		6	30	41	
Sacramento	24	2	142	135	15	2
San Bernardino	4		26	6	35	
San Diego	16	4	105	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		82	10		6
Santa Cruz			6			
Shasta	9	3	46	17	7	
Siskiyou		2	4			
Solano	1	1	3		7	
Sonoma	1	2	16	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	371	28	1,363	1,004	501	26

* Does not include asymptomatic infections

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2007 & 2006 YTD West Nile Virus Comparisons		
	2007	2006*
Total # Dead Bird Reports	30,509	44,139
# Positive Counties	51	54
# Human Cases/ # Tested	371 / 1,180	269 / 1,402
# Horse Cases/ # Tested	28 / 315	53 / 454
# Positive Dead Birds/ # Tested	1,363 / 5,440	1,375 / 5,450
# Positive Mosquito Pools/ # Tested	1,004 / 27,067	829 / 23,697
# Positive Chicken Sera/ # Tested	501 / 27,434	631 / 30,678
# Positive Squirrels/ # Tested	26 / 212	32 / 135

* Denominator data for 2006 not available this week

TEST SUMMARIES

Human & Horse Cases

		Number Tested	WNV		WEE		SLE		Other	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
Humans Tested	Week	20	0	4	0	0	0	0	0	0
	YTD	1,180	0	371	0	0	0	0	0	0
Horses Tested	Week	0	0	0	0	0	0	0	0	0
	YTD	315	0	28	0	0	0	0	0	0

Dead Birds & Tree Squirrels

		Number Tested	WNV Positive
Dead Birds	Week	107	10
	YTD	5,440	1,363
Tree Squirrels	Week	5	0
	YTD	212	26

Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive
Chicken Sera	Week	411	6	2	0
	YTD	27,434	501	13	0
Mosquito Pools: RT-PCR	Week	278	1	0	0
	YTD	25,014	828*	16	0
Mosquito Pools: RAMP	Week	0	0	N/A	N/A
	YTD	2,053	176*	N/A	N/A

*Total adjusted to include pools not previously reported

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POSITIVES: 11/5/07 – 11/9/07

Dead Birds & Tree Squirrels

County	City	Zip	Species	Reported	Tested	Test Method
Marin	Ross	94957	Swainson's Thrush	10/24/2007	Positive	RT-PCR
Orange	Buena Park	90620	American Crow	11/5/2007	Positive	RT-PCR
Orange	Huntington Beach	92646	American Crow	11/5/2007	Positive	RT-PCR
Sacramento	Rio Linda	95673	Western Scrub-Jay	10/29/2007	Positive	RT-PCR
San Joaquin	Tracy	95376	American Crow	10/31/2007	Positive	VecTest
Santa Clara	Los Gatos	95032	American Crow	11/2/2007	Positive	VecTest
Sonoma	Santa Rosa	95403	Cedar Waxwing	10/25/2007	Positive	RT-PCR
Sonoma	Windsor	95492	Sharp-shinned Hawk	10/25/2007	Positive	RT-PCR
Sonoma	Windsor	95492	American Coot	10/26/2007	Positive	RT-PCR
Ventura	Ventura	93001	American Coot	10/25/2007	Positive	RT-PCR

Mosquito Pools

County	Site Code	Pool #	Species	# in Pool	Collected	City	Virus
San Bernardino	WVAL6012	671	Cx quinquefasciatus	23	9/26/07	Ontario	WNV

Sentinel Chickens

County	Site Code	City	Date Bled	Result	Band 01	Band 02	Band 03	Band 04
Butte	BUCO0003	Oroville	10/30/2007	WNV	1117			
Kern	KERN0113	Bakersfield	10/15/2007	WEE	1869			
Kern	KERN0111	Arvin	10/15/2007	WEE	1930			
Los Angeles	LACW1007	Baldwin Hills	10/31/2007	WNV	2057	2058	2060	2062
Tulare	TLRE0011	Mefford Field	10/24/2007	WNV	3303			

NATIONAL COMMENTS

As of November 6, 2007, a total of 3,265 human cases had been reported nationwide in the following 43 states: Alabama (20), Arizona (83), Arkansas (19), California (367), Colorado (555), Connecticut (5), Delaware (1), Florida (3), Georgia (46), Idaho (109), Illinois (93), Indiana (22), Iowa (24), Kansas (37), Kentucky (3), Louisiana (29), Maryland (10), Massachusetts (6), Michigan (13), Minnesota (99), Mississippi (121), Missouri (66), Montana (195), Nebraska (144), Nevada (11), New Jersey (1), New Mexico (60), New York (14), North Carolina (5), North Dakota (361), Ohio (19), Oklahoma (88), Oregon (22), Pennsylvania (8), Rhode Island (1), South Carolina (4), South Dakota (207), Tennessee (7), Texas (140), Utah (54), Virginia (3), Wisconsin (10), and Wyoming (180). Of the 3,265 cases reported, 1,059 (32%) had West Nile neuroinvasive disease (i.e. encephalitis or meningitis). The median age of the 3,262 cases where data was available was 51 years (range: 1 month-97 years), and 55% were male. A total of 92 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 (1), 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.

Prepared by the Vector-Borne Disease Section (Infectious Diseases Branch) and the Viral and Rickettsial Disease Laboratory Branch, California Department of Public Health, 850 Marina Bay Parkway, Richmond, CA 94804. Questions concerning this bulletin should be addressed to Tina Feiszli by phone (510) 412-6298, FAX (510) 412-6263, or email: tina.feiszli@cdph.ca.gov
