

California Arbovirus Surveillance Bulletin # 42

Week 51 Friday, December 21, 2007

Weekly and Year-To-Date Summaries

WEEKLY COMMENTS



Humans

As of December 21, 2007, 379 human cases of West Nile virus (WNV) have been identified from 30 counties: Butte (16), Colusa (2), Contra Costa (3), Fresno (17), Glenn (7), Imperial (3), Kern (138), Kings (7), Los Angeles (36), Madera (2), Mendocino (2), Merced (4), Napa (1), Orange (9), Placer (4), Riverside (17), Sacramento (25), San Bernardino (4), San Diego (16), San Joaquin (10), Santa Clara (4), Shasta (9), Solano (1), Sonoma (1), Stanislaus (21), Sutter (3), Tehama (4), Tulare (10), Ventura (1), and Yolo (2). The statewide incidence of reported WNV illness is 1.12 cases per 100,000 people. Of the 379 cases, 154 (41%) are classified as West Nile neuroinvasive disease, and 221 (58%) as West Nile fever. The clinical presentation of 4 (1%) cases is unknown. The median age of all cases is 55 years (range: 2-96 years), and 211 (56%) are male. Seventeen WNV-related fatalities have been reported from Colusa (1), Fresno (1), Kern (4), Kings (1), Los Angeles (3), Riverside (3), Sacramento (1), San Bernardino (1), San Joaquin (1), and Tulare (1) counties. A total of 48 WNV-positive blood donation samples have been reported; 19 of the individuals subsequently reported 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

Two new WNV-positive dead birds were reported from Orange County last week. This year, 1,394 dead birds from 50 counties have tested positive for WNV.

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

Mosquito Pools

No new positive mosquito pools were reported this week.

In 2007, 1,006 mosquito pools from 30 counties have tested positive for WNV and 16 mosquito pools from Fresno (1) and Kern (15) counties have tested positive for western equine encephalomyelitis virus (WEE).

Sentinel Chickens

No sentinel chickens were tested this week. In 2007, 510 sentinel chickens from 27 counties have tested positive for WNV. In addition, there have been 13 WEE seroconversions detected in chickens 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.

2007 & 2006 YTD West Nile Virus Comparisons		
	2007	2006
Total # Dead Bird Reports	31,867	45,658
# Positive Counties	51	54
# Human Cases/ # Tested	379 / 1,311	272 / 1,538
# Horse Cases/ # Tested	28 / 332	57 / 516
# Positive Dead Birds/ # Tested	1,394 / 5,852	1,398 / 5,851
# Positive Mosquito Pools/ # Tested	1,006 / 27,592	837 / 24,435
# Positive Chicken Sera/ # Tested	510 / 28,874	639 / 31,730
# Positive Squirrels/ # Tested	26 / 219	32 / 140

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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	3		28	28	5	5
El Dorado			7			2
Fresno	17	1	114	61	46	4
Glenn	7		36	1	8	
Humboldt			2			
Imperial	3			4	17	
Inyo			1			
Kern	138	4	124	206	82	
Kings	7	2	9	30	22	
Lake			3	8	2	
Lassen			2			
Los Angeles	36		164	91	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		43	27		
Placer	4	1	16	25	13	
Plumas			1			
Riverside	17		6	30	44	
Sacramento	25	2	142	135	19	2
San Bernardino	4		26	6	35	
San Diego	16	4	108	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	48	17	7	
Siskiyou		2	4			
Solano	1	1	3		7	
Sonoma	1	2	19	1		
Stanislaus	21		130	88	35	
Sutter	3		1	23	17	
Tehama	4	2	20	2	8	
Trinity			1			
Tulare	10	2	38	23	27	
Tuolumne			1			
Ventura	1		15		1	
Yolo	2		25	10	4	
Yuba			1	2	10	
Totals	379	28	1,394[^]	1,006	510	26

[^]Total has been adjusted to include positive birds not previously reported

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TEST SUMMARIES

Human & Horse Cases

		Number Tested	WNV		WEE		SLE		Other	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
Humans Tested	Week	36	0	1	0	0	0	0	0	0
	YTD	1,311	0	379	0	0	0	0	0	0
Horses Tested	Week	0	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	104	2
	YTD	5,852	1,394
Tree Squirrels	Week	0	0
	YTD	219	26

Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive
Chicken Sera	Week	0	0	0	0
	YTD	28,874	510	13	0
Mosquito Pools: RT-PCR	Week	68	0	0	0
	YTD	25,539	830	16	0
Mosquito Pools: RAMP	Week	0	0	N/A	N/A
	YTD	2,053	176	N/A	N/A

POSITIVES: 12-10-07 – 12-21-07

Dead Birds & Tree Squirrels

County	City	Zip Code	Species	Date Reported	Date Tested	Test Type
Orange	Anaheim	92804	House Finch	12/10/07	12/10/07	RT-PCR
Orange	Huntington Beach	92647	American Crow	12/10/07	12/10/07	RT-PCR

NATIONAL COMMENTS

As of December 11, 2007, a total of 3,404 human cases had been reported nationwide in the following 43 states: Alabama (23), Arizona (93), Arkansas (20), California (379), Colorado (555), Connecticut (5), Delaware (1), Florida (3), Georgia (49), Idaho (108), Illinois (96), Indiana (24), Iowa (29), Kansas (39), Kentucky (4), Louisiana (36), Maryland (10), Massachusetts (6), Michigan (13), Minnesota (99), Mississippi (126), Missouri (72), Montana (201), Nebraska (144), Nevada (11), New Jersey (1), New Mexico (60), New York (21), North Carolina (6), North Dakota (367), Ohio (23), Oklahoma (101), Oregon (26), Pennsylvania (9), Rhode Island (1), South Carolina (5), South Dakota (207), Tennessee (10), Texas (160), Utah (67), Virginia (3), Wisconsin (11), and Wyoming (180). Of the 3,404 cases reported, 1,130 (33%) had West Nile neuroinvasive disease (i.e. encephalitis or meningitis). The median age of the 3,389 cases where data was available was 51 years (range: 1 month-97 years), and 55% were male. A total of 98 human fatalities had been reported from Alabama (3), Arizona (2), Arkansas (1), California (16), Colorado (6), Florida (1), Georgia (2), Idaho (1), Iowa (2), Illinois (4), Indiana (1), Kansas (2), Louisiana (2), Michigan (2), Minnesota (2), Mississippi (3), Missouri (3), Montana (4), Nebraska (3), New Mexico (3), New York (2), North Dakota (2), Ohio (2), Oklahoma (8), South Dakota (6), Tennessee (1), Texas (11), 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
