

California Arbovirus Surveillance Bulletin # 42

Week 50 Friday, December 12, 2008

Weekly and Year-To-Date Summaries

WEEKLY COMMENTS



Humans

Four new human cases of West Nile virus (WNV) illness were reported this week from Butte (1), Kern (1), Riverside (1) and San Bernardino (1). A total of 411 human WNV cases have been identified in the following 25 counties: Alameda (1), Butte (6), Calaveras (1), Colusa (1), Contra Costa (4), El Dorado (1), Fresno (3), Kern (2), Kings (1), Los Angeles (149, including 2 from Long Beach and 3 from Pasadena), Merced (1), Orange (68), Placer (6), Riverside (61), Sacramento (13), San Bernardino (28), San Diego (24), San Joaquin (12), Santa Clara (1), Shasta (1), Solano (1), Stanislaus (17), Tehama (4), Tulare (4) and Yolo (1). Of the 411 individuals, 268 (65%) developed neuroinvasive disease symptoms. The median age of the 411 individuals is 55 years (range: 3-94 years), and 258 (63%) are male. Thirteen WNV-related fatalities have been reported in Fresno (1), Los Angeles (5), Orange (2), Riverside (4) and San Bernardino (1) counties. A total of 70 WNV-positive blood donation samples have been reported this year; 21 of the individuals reported symptoms and were reclassified as cases.

Horses

No new equine cases were reported this week. In 2008, 32 horses from 14 counties have tested positive for WNV; 17 died or were euthanized as a result of their infection.

Dead Birds & Tree Squirrels**

Four WNV-positive dead birds were reported this week from Los Angeles (2) and San Diego (2) counties. In 2008, 2,527 WNV-positive dead birds have been detected in 46 counties.

There were no positive tree squirrels reported this week. In 2008, 32 tree squirrels have tested positive for WNV from seven counties.

**** State testing of dead birds/squirrels has been suspended until spring 2009.**

Mosquito Pools

One WNV-positive mosquito pool was reported this week from Los Angeles County. In 2008, 1,989 WNV-positive mosquito pools have been detected in 26 counties.

Sentinel Chickens

Four WNV seroconversions were reported this week from Los Angeles County. In 2008, 584 WNV seroconversions have been detected in chickens from 27 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, 2008

County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens	Squirrels
Alameda	1		12	1		1
Amador			3			
Butte	6		38	5	31	
Calaveras	1		1		9	
Colusa	1		3		1	
Contra Costa	4	3	88	31	15	6
Del Norte			1			
El Dorado	1		9			
Fresno	3	1	41	52	24	1
Glenn			17	1	5	
Humboldt			1			
Imperial				7	26	
Kern	2		10	7	18	
Kings	1		1		1	
Lake		1	2	3	1	
Lassen				1		
Los Angeles	149		480	505	133	14
Madera			3	1	2	
Marin			1			
Mendocino			1			
Merced	1	1	5		3	
Modoc			1			
Mono			2			
Monterey			6			
Napa			1			
Nevada			5			
Orange	68	2	636	361	3	4
Placer	6	1	4	27	11	
Riverside	61	9	39	118	118	
Sacramento	13	3	130	277	7	1
San Bernardino	28	2	174	170	61	5
San Diego	24	4	559	40	15	
San Joaquin	12		69	207	18	
San Luis Obispo			2			
San Mateo			2			
Santa Barbara			1			
Santa Clara	1		13	1		
Santa Cruz			3			
Shasta	1		7		3	
Solano	1		7	1	7	
Sonoma			11	2		
Stanislaus	17	2	45	75	38	
Sutter			2	12	9	
Tehama	4		6			
Trinity			1			
Tulare	4	1	51	64	20	
Ventura		1	24		4	
Yolo	1	1	9	19		
Yuba				1	1	
Totals	411	32	2,527	1,989	584	32

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2007 & 2008 YTD West Nile Virus Comparisons		
	2007 [^]	2008
Total # Dead Bird Reports	31,424	33,002
# Positive Counties	51	49
# Human Cases/ # Tested	379 / 1,275	411 / 1,223
# Horse Cases/ # Tested	28 / 332	32 / 304
# Positive Dead Birds/ # Tested	1392 / 5,694	2,527 / 5,927
# Positive Mosquito Pools/ # Tested	1006 / 27,524	1,989 / 30,584
# Positive Chicken Sera/ # Tested	510 / 28,874	584 / 29,541
# Positive Squirrels/ # Tested	26 / 219	32 / 298

[^]2007 data not available. Numbers reflect week 49.

2008 TEST SUMMARIES

Human & Horse Cases

		Number Tested	WNV		WEE		SLE		Other	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
Humans Tested*	Week	18	0	4	0	0	0	0	0	0
	YTD	1,223	0	411	0	0	0	0	0	0
Horses Tested	Week	0	0	0	0	0	0	0	0	0
	YTD	304	0	32	0	0	0	0	0	0

Dead Birds & Tree Squirrels

		Number Tested	WNV Positive
Dead Birds	Week	29	4
	YTD	5,927	2,527
Tree Squirrels	Week	0	0
	YTD	298	32

Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive
Chicken Sera	Week	613	4	0	0
	YTD	29,541	584	0	0
Mosquito Pools: RT-PCR	Week	40	1	0	0
	YTD	27,773	1,632	0	0
Mosquito Pools: RAMP	Week	0	0	N/A	N/A
	YTD	2,811	357	N/A	N/A

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POSITIVES: 12/8/08 – 12/12/08

Humans

County	Reported	Age	Sex	Clin Pres	Onset Date	WNV Fatality?
BUTTE	12/08/08	<18	M	WNND	09/19/08	NO
KERN	12/10/08	18	F	WNF	06/21/08	NO
RIVERSIDE	12/05/08	43	M	WNF	10/14/08	NO
SAN BERNARDINO	12/09/08	66	M	WNND	08/10/08	NO

Dead Birds and Tree Squirrels

County	City	Zip Code	Species	Reported	Tested	Result
Los Angeles	Santa Monica	90404	Cooper's Hawk	10/9/08	10/27/08	WNV
Los Angeles	Valencia	91355	Cooper's Hawk	10/10/08	10/27/08	WNV
San Diego	Fallbrook	92028	Sharp-shinned Hawk	12/1/08	12/3/08	WNV
San Diego	San Diego	92126	American Crow	12/4/08	12/5/08	WNV

Mosquito Pools

County	Site Code	Pool #	Species	# in Pool	Collected	Tested	City	Result
Los Angeles	GRLA2065	1467	Cx quinquefasciatus	41	12/4/08	12/12/08	Gardena	WNV

Sentinel Chickens

County	Site Code	City	Date Bled	Result	Band 01	Band 02
Los Angeles	GRLA2615	Newhall	11/18/08	WNV	3674	3680
Los Angeles	GRLA2615	Newhall	12/1/08	WNV	3676	
Los Angeles	GRLA2465	Los Angeles	11/17/08	WNV	3906	

NATIONAL COMMENTS

As of November 18, 2008, 1,301 human cases had been reported nationwide this year in the following 42 states: Alabama (21), Arizona (97), Arkansas (8), California (392), Colorado (77), Connecticut (8), Delaware (1), Florida (2), Georgia (7), Idaho (33), Illinois (19), Indiana (3), Iowa (9), Kansas (32), Kentucky (3), Louisiana (36), Maryland (14), Michigan (17), Minnesota (21), Mississippi (99), Missouri (18), Montana (5), Nebraska (49), Nevada (16), New Jersey (7), New Mexico (9), New York (44), North Dakota (43), Ohio (19), Oklahoma (7), Oregon (16), Pennsylvania (13), Rhode Island (1), South Dakota (39), Tennessee (12), Texas (60), Utah (25), Virginia (1), Washington (2), West Virginia (1), Wisconsin (7), and Wyoming (8). Of the 1,301 individuals, 602 (46%) had neuroinvasive illness. As of November 18, 34 fatalities had been reported in Arizona (4), California (12), Idaho (1), Iowa (1), Illinois (1), Mississippi (3), Missouri (1), New Jersey (1), New York (6), Ohio (1), Pennsylvania (1), Texas (1), and Wisconsin (1). At this time last year, 3,359 human cases had been reported nationwide.

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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).

*Human denominator data only includes specimens tested at VRDL and does not include additional negative specimens that are tested by local agencies only.

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, doves, pigeons, and chickens are no longer be accepted for testing. 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 VBDS Laboratory 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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