

California Arbovirus Surveillance Bulletin # 43

Week 48 Monday, December 7, 2009

Weekly Summary

WEEKLY COMMENTS



As of December 4, 2009, 42 counties in California have reported West Nile virus (WNV) activity. At this time last year, 49 counties had reported WNV activity.

Humans

One new WNV case was reported in California last week from San Joaquin County. In 2009, 102 human cases of West Nile virus have been identified in 18 counties: Butte (2), Contra Costa (5), El Dorado (1), Fresno (13), Kern (18), Kings (3), Los Angeles (20), Madera (1), Merced (1), Orange (3), Riverside (3), San Bernardino (1), San Diego (3), San Joaquin (8), Stanislaus (13), Tulare (4), Yolo (2), and Yuba (1). Of the 102 individuals, 58 (57%) developed neuroinvasive symptoms. The median age of the 102 individuals is 54 years (range: 7-88 years), and 64 (63%) are male. Four fatalities have been reported in Fresno (1), Los Angeles (1), Merced (1), and Stanislaus (1) counties. In addition, 23 WNV-positive blood donation samples have been reported this year; 7 of the individuals developed symptoms and were reclassified as cases. At this time last year, 399 cases from 25 counties had been reported.

Horses

No new cases have been reported. In 2009, 18 equine cases of WNV have been reported from 12 counties. Of the 18 cases, 8 have died or were euthanized as a result of their illness. At this time last year, 32 cases had been reported from 14 counties.

Dead Birds & Tree Squirrels

No positive birds were reported last week. In 2009, 508 birds from 36 counties have tested positive for WNV. At this time last year, 2,509 WNV positive dead birds had been reported from 46 counties.

No positive tree squirrels were reported last week. In 2009, 10 tree squirrels from 7 counties have tested positive for WNV. At this time last year, 32 WNV positive tree squirrels had been reported from 7 counties.

Mosquito Pools

One WNV positive mosquito pool was reported in California last week from Los Angeles County. In 2009, 1,064 mosquito pools have tested positive for WNV from 27 counties. At this time last year, 1,956 WNV positive mosquito pools had been reported from 26 counties.

Sentinel Chickens

No seroconversions were reported in California last week. In 2009, 442 chickens from 23 counties have tested positive for WNV antibodies. At this time last year, 580 WNV seroconversions had been reported from 27 counties. Last week was the final week of sentinel chicken testing in 2009; winter testing will resume in mid-January.

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, 2009

County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens	Squirrels
Alameda			10	1		
Amador			1			
Butte	2		13	5	36	
Colusa			2			
Contra Costa	5	1	43	17	13	2
El Dorado	1		9			
Fresno	13	1	62	136	17	1
Glenn			6		3	
Imperial				3	42	
Kern	18		28	138	104	1
Kings	3		9	105		
Lake			2	2	1	
Los Angeles	20	1	82	99	40	
Madera	1		11	3	7	
Merced	1	3	9	11	14	
Modoc			1			
Mono				1		
Monterey			4			
Napa					3	
Orange	3		10	15		
Placer			4	40	11	
Riverside	3	1	2	27	37	
Sacramento		2	28	36	2	1
San Bernardino	1		17	51	14	2
San Diego	3		38	5	5	
San Francisco			1			
San Joaquin	8	3	23	84	10	
San Luis Obispo			1			
San Mateo			1			
Santa Barbara			1			
Santa Clara			13	14		2
Santa Cruz			1			
Shasta		1	8	2		
Solano		1	3	2	13	
Stanislaus	13	2	28	94	25	
Sutter				25	11	
Tehama		1			2	1
Tulare	4	1	25	131	28	
Tuolumne			2			
Ventura			3			
Yolo	2		7	16	4	
Yuba	1			1		
Total	102	18	508	1064	442	10

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2009 & 2008 YTD West Nile Virus Comparisons		
	2008 [^]	2009
Total # Dead Bird Reports	32,451	15,233
# Positive Counties	49	42
# Human Cases / # Tested	399 / 1,159	102 / 925
# Horse Cases / # Tested	32 / 304	18 / 186
# Positive Dead Birds / # Tested	2,509 / 5,866	508 / 2,728
# Positive Mosquito Pools / # Tested	1,956 / 30,337	1,064 / 25,669
# Positive Chicken Sera / # Tested	580 / 28,928	442 / 24,866
# Positive Squirrels / # Tested	32 / 298	10 / 99

[^]2008 data for week 48 not available. Numbers reflect week 47.

TEST SUMMARIES

Human & Horse Cases

		Number Tested	WNV		WEE		SLE		Other	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
Humans Tested*	Week	32	0	1	0	0	0	0	0	0
	YTD	925	1	101	0	0	0	0	0	0
Horses Tested	Week	0	--	--	0	0	0	0	0	0
	YTD	186	0	18	0	0	0	0	0	0

Dead Birds & Tree Squirrels

		Number Tested	WNV Positive
Dead Birds	Week	0	--
	YTD	2,728	508
Tree Squirrels	Week	0	--
	YTD	99	10

Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	SLE Positive	WEE Positive
Chicken Sera	Week	68	0	0	0
	YTD	24,866	442	0	0
Mosquito Pools: RT-PCR	Week	136	1	0	0
	YTD	24,411	991	0	0
Mosquito Pools: RAMP	Week	0	0	N/A	N/A
	YTD	1,258	73	N/A	N/A

POSITIVES

Mosquitoes

County	Site Code	Pool #	# in Pool	Species	City	Collected	Tested	Virus	Method
Los Angeles	GRLA3052	2026	45	<i>Cx quinquefasciatus</i>	La Habra Heights	11/18/09	12/04/09	WNV	RTPCR

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NATIONAL COMMENTS

As of December 1, 2009, 637 human cases had been reported nationwide in the following 34 states: Arizona (18), Arkansas (4), California (101), Colorado (101), Florida (3), Georgia (4), Idaho (22), Illinois (4), Indiana (4), Iowa (5), Kansas (10), Kentucky (3), Louisiana (13), Maryland (2), Minnesota (4), Mississippi (51), Missouri (3), Montana (5), Nebraska (51), Nevada (12), New Jersey (2), New Mexico (8), New York (6), North Dakota (1), Ohio (2), Oklahoma (8), Oregon (7), South Carolina (3), South Dakota (21), Tennessee (7), Texas (103), Washington (36), Wisconsin (1), and Wyoming (12). Of the 637 individuals, 329 (52%) have neuroinvasive illness. A total of 28 fatalities had been reported as of December 1 in Arizona (1), California (4), Colorado (3), Georgia (1), Idaho (1), Indiana (1), Maryland (1), Mississippi (4), New Mexico (1), Oklahoma (1), Tennessee (1), Texas (7), Washington (1), and Wyoming (1).

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:

Dead birds and tree 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 West Nile virus 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 the California Department of Public Health Vector-Borne Disease Laboratory and tested for the presence of antibodies to West Nile, 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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