

California Arbovirus Surveillance Bulletin # 38

Week 43 Monday, November 2, 2009

Weekly Summary

WEEKLY COMMENTS



As of October 30, 2009, 42 counties in California have reported West Nile virus (WNV) activity. At this time last year, 48 counties had reported WNV activity.

Humans

Five cases of WNV were reported in California last week from Los Angeles (1), Riverside (1), San Joaquin (1), Stanislaus (1), and Yuba (1) counties. This is the first reported case of WNV in Yuba County this year. In 2009, 95 human cases of West Nile virus have been identified in 17 counties: Butte (2), Contra Costa (5), El Dorado (1), Fresno (13), Kern (16), Kings (3), Los Angeles (19), Merced (1), Orange (3), Riverside (2), San Bernardino (1), San Diego (3), San Joaquin (6), Stanislaus (13), Tulare (4), Yolo (2), and Yuba (1). Of the 95 individuals, 53 (56%) developed neuroinvasive symptoms. The median age of the 95 individuals is 54 years (range: 7-88 years), and 60 (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, 345 cases from 24 counties had been reported.

Horses

No new cases were reported last week. In 2009, 17 equine cases of WNV have been reported from 11 counties: Contra Costa (1), Fresno (1), Los Angeles (1), Merced (3), Sacramento (2), San Joaquin (3), Shasta (1), Solano (1), Stanislaus (2), Tehama (1), and Tulare (1). Of the 17 cases, 7 have died or were euthanized as a result of their illness. At this time last year, 29 cases had been reported from 14 counties.

Dead Birds & Tree Squirrels

No positive birds were reported last week. In 2009, 497 birds from 36 counties have tested positive for WNV. At this time last year, 2,418 WNV positive dead birds had been reported from 45 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, 30 WNV positive tree squirrels had been reported from 7 counties.

Mosquito Pools

Five WNV positive mosquito pools were reported in California last week from Los Angeles (4) and Orange (1) counties. In 2009, 1,059 mosquito pools have tested positive for WNV from 27 counties. At this time last year, 1,921 WNV positive mosquito pools had been reported from 26 counties.

Sentinel Chickens

Fourteen WNV seroconversions were reported in California last week from the following 5 counties: Imperial (1), Riverside (7), San Bernardino (1), Solano (3), and Yolo (2). In 2009, 436 chickens from 23 counties have tested positive for WNV antibodies. At this time last year, 515 WNV seroconversions had been reported from 24 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, 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	16		28	138	104	1
Kings	3		9	105		
Lake			2	2	1	
Los Angeles	19	1	78	94	35	
Madera			11	3	7	
Merced	1	3	9	11	14	
Modoc			1			
Mono				1		
Monterey			4			
Napa					3	
Orange	3		9	15		
Placer			4	40	11	
Riverside	2		2	27	36	
Sacramento		2	25	36	2	1
San Bernardino	1		17	51	14	2
San Diego	3		35	5	5	
San Francisco			1			
San Joaquin	6	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	95	17	497	1059	436	10

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2009 & 2008 YTD West Nile Virus Comparisons		
	2008	2009
Total # Dead Bird Reports	31,320	14,709
# Positive Counties	48	42
# Human Cases / # Tested	345 / 1,048	95 / 856
# Horse Cases / # Tested	29 / 288	17 / 185
# Positive Dead Birds / # Tested	2,418 / 5,572	497 / 2,624
# Positive Mosquito Pools / # Tested	1,921 / 29,351	1,059 / 24,998
# Positive Chicken Sera / # Tested	515 / 27,139	436 / 23,325
# Positive Squirrels / # Tested	30 / 282	10 / 98

TEST SUMMARIES

Human & Horse Cases

		Number Tested	WNV		WEE		SLE		Other	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
Humans Tested*	Week	13	0	5	0	0	0	0	0	0
	YTD	856	1	94	0	0	0	0	0	0
Horses Tested	Week	3	0	0	0	0	0	0	0	0
	YTD	185	0	17	0	0	0	0	0	0

Dead Birds & Tree Squirrels

		Number Tested	WNV Positive
Dead Birds	Week	13	0
	YTD	2,624	497
Tree Squirrels	Week	0	--
	YTD	98	10

Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	SLE Positive	WEE Positive
Chicken Sera	Week	822	14	0	0
	YTD	23,325	436	0	0
Mosquito Pools: RT-PCR	Week	303	5	0	0
	YTD	23,785	986	0	0
Mosquito Pools: RAMP	Week	21	0	N/A	N/A
	YTD	1,213	73	N/A	N/A

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POSITIVES

Mosquitoes

County	Site Code	Pool #	Species	# in Pool	Collected	Tested	City	Virus	Method
Los Angeles	GRLA2100	1864	Cx quinquefasciatus	50	10/22/2009	10/29/2009	Norwalk	WNV	RTPCR
Los Angeles	GRLA2583	6076	Cx quinquefasciatus	50	10/23/2009	10/29/2009	Studio City	WNV	RTPCR
Los Angeles	GRLA2635	6062	Cx quinquefasciatus	50	10/22/2009	10/29/2009	Van Nuys	WNV	RTPCR
Los Angeles	GRLA2890	1877	Cx quinquefasciatus	50	10/22/2009	10/29/2009	Lakewood	WNV	RTPCR
Orange	ORCO0025	1366	Cx quinquefasciatus	5	10/22/2009	10/23/2009	Cypress	WNV	RTPCR

Sentinel Chickens

County	Site Code	Nearest City	Date Bled	Virus	Band 01	Band 02	Band 03	Band 04
Imperial	COAV5001	Niland	10/19/2009	WNV	3197			
Riverside	COAV0131	Oasis	10/19/2009	WNV	3160	3162	3164	3165
Riverside	COAV0204	Indio	10/5/2009	WNV	3096			
Riverside	COAV0204	Indio	10/19/2009	WNV	3101			
Riverside	NWST9226	Woodcrest	10/26/2009	WNV	2065			
San Bernardino	SANB0007	Fontana	9/21/2009	WNV	1741^			
Solano	SOLA0125	Cordelia	10/2/2009	WNV	1355			
Solano	SOLA0125	Cordelia	10/21/2009	WNV	1349	1359		
Yolo	SAYO6002	Woodland	9/14/2009	WNV	1903^			
Yolo	SAYO6002	Woodland	9/28/2009	WNV	1896			

^Previously reported as flavivirus positive. PRNT results confirmed WNV infection.

NATIONAL COMMENTS

No new update. As of October 20, 2009, 515 human cases had been reported nationwide in the following 34 states: Arizona (16), Arkansas (4), California (84), Colorado (51), Florida (3), Georgia (4), Idaho (8), Illinois (4), Indiana (3), Iowa (5), Kansas (9), Kentucky (3), Louisiana (13), Maryland (1), Minnesota (3), Mississippi (50), Missouri (2), Montana (4), Nebraska (41), Nevada (12), New Jersey (2), New Mexico (7), New York (4), North Dakota (1), Ohio (2), Oklahoma (8), Oregon (7), Pennsylvania (2), South Carolina (3), South Dakota (19), Tennessee (6), Texas (91), Washington (33), and Wyoming (10). Of the 515 individuals, 278 (54%) have neuroinvasive illness. The median age of the 515 individuals is 55 years (range: 10 months-91 years); 57% are male. A total of 23 fatalities had been reported as of October 20 in Arizona (1), California (3), Georgia (1), Idaho (1), Indiana (1), Mississippi (4), New Mexico (1), Oklahoma (1), Tennessee (1), Texas (7), Washington (1), and Wyoming (1).

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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:

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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