

California Arbovirus Surveillance Bulletin # 40

Week 45 Monday, November 16, 2009

Weekly Summary

WEEKLY COMMENTS



As of November 13, 2009, 42 counties in California have reported West Nile virus (WNV) activity. At this time last year, 48 counties had reported WNV activity.

Humans

One new case of WNV was reported in California last week from San Joaquin County. In 2009, 99 human cases of West Nile virus have been identified in 17 counties: Butte (2), Contra Costa (5), El Dorado (1), Fresno (13), Kern (18), Kings (3), Los Angeles (19), Merced (1), Orange (3), Riverside (3), San Bernardino (1), San Diego (3), San Joaquin (7), Stanislaus (13), Tulare (4), Yolo (2), and Yuba (1). Of the 99 individuals, 56 (57%) developed neuroinvasive symptoms. The median age of the 99 individuals is 54 years (range: 7-88 years), and 61 (62%) 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, 380 cases from 25 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, 31 cases had been reported from 14 counties.

Dead Birds & Tree Squirrels

Six WNV positive dead birds were reported in California last week from Los Angeles (2), Sacramento (2), and San Diego (2) counties. In 2009, 504 birds from 36 counties have tested positive for WNV. At this time last year, 2,488 WNV positive dead birds had been reported from 45 counties.

No positive tree squirrels were reported in California 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

No positive mosquito pools were reported in California last week. In 2009, 1,062 mosquito pools have tested positive for WNV from 27 counties. At this time last year, 1,953 WNV positive mosquito pools had been reported from 26 counties.

Sentinel Chickens

Four WNV seroconversions were reported in California last week from Los Angeles (3) and Riverside (1) counties. In 2009, 441 chickens from 23 counties have tested positive for WNV antibodies. At this time last year, 564 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	18		28	138	104	1
Kings	3		9	105		
Lake			2	2	1	
Los Angeles	19	1	80	97	39	
Madera			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		2	27	37	
Sacramento		2	27	36	2	1
San Bernardino	1		17	51	14	2
San Diego	3		37	5	5	
San Francisco			1			
San Joaquin	7	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	99	17	504	1062	441	10

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2009 & 2008 YTD West Nile Virus Comparisons		
	2008	2009
Total # Dead Bird Reports	32,022	14,975
# Positive Counties	48	42
# Human Cases / # Tested	380 / 1,116	99 / 888
# Horse Cases / # Tested	31 / 303	17 / 185
# Positive Dead Birds / # Tested	2,488 / 5,795	504 / 2,695
# Positive Mosquito Pools / # Tested	1,953 / 29,978	1,062 / 25,249
# Positive Chicken Sera / # Tested	564 / 28,273	441 / 24,232
# Positive Squirrels / # Tested	32 / 297	10 / 98

TEST SUMMARIES

Human & Horse Cases

		Number Tested	WNV		WEE		SLE		Other	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
Humans Tested*	Week	15	0	1	0	0	0	0	0	0
	YTD	888	1	98	0	0	0	0	0	0
Horses Tested	Week	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	41	6
	YTD	2,695	504
Tree Squirrels	Week	0	--
	YTD	98	10

Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	SLE Positive	WEE Positive
Chicken Sera	Week	608	4	0	0
	YTD	24,232	441	0	0
Mosquito Pools: RT-PCR	Week	123	0	0	0
	YTD	23,991	989	0	0
Mosquito Pools: RAMP	Week	0	0	N/A	N/A
	YTD	1,258	73	N/A	N/A

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POSITIVES

Dead Birds

County	Agency	City	Zip	Species	Reported	Collected	Virus	Method
Los Angeles	Greater LA Co VCD	La Mirada	90639	House Sparrow	10/19/2009	11/12/2009	WNV	RT-PCR
Los Angeles	Greater LA Co VCD	Sherman Oaks	91423	American Crow	10/22/2009	11/12/2009	WNV	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95830	Savannah Sparrow	10/22/2009	11/12/2009	WNV	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Rio Linda	95673	Yellow-billed Magpie	10/22/2009	11/12/2009	WNV	RT-PCR
San Diego	San Diego Co VCP	San Diego	92111	American Crow	10/22/2009	11/5/2009	WNV	RT-PCR
San Diego	San Diego Co VCP	San Diego	92111	American Crow	10/30/2009	11/5/2009	WNV	RT-PCR

Sentinel Chickens

County	Site Code	City	Date Bled	Band 01	Band 02	Band 03
Los Angeles	GRLA2056	Long Beach	11/3/2009	2782	2783	2787
Riverside	COAV131	Oasis	11/2/2009	3157		

NATIONAL COMMENTS

As of November 10, 2009, 602 human cases had been reported nationwide in the following 34 states: Arizona (18), Arkansas (4), California (98), Colorado (99), Florida (3), Georgia (4), Idaho (8), Illinois (4), Indiana (3), Iowa (5), Kansas (10), Kentucky (3), Louisiana (13), Maryland (2), Minnesota (4), Mississippi (50), Missouri (3), Montana (5), Nebraska (41), 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 (20), Tennessee (7), Texas (100), Washington (36), Wisconsin (1), and Wyoming (12). Of the 602 individuals, 322 (53%) have neuroinvasive illness. A total of 26 fatalities had been reported as of November 10 in Arizona (1), California (4), Colorado (3), Georgia (1), Idaho (1), Indiana (1), Mississippi (3), 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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