

California Arbovirus Surveillance Bulletin #42

Week 50 Friday, December 14, 2012



This is the last arbobulletin for 2012. As of December 14, 2012, 42 counties have reported West Nile virus activity. No other arbovirus activity has been reported in California in 2012.

WEEKLY UPDATE

Human Cases

A total of 8 new cases of West Nile virus (WNV) were reported this week from Fresno (1) and Los Angeles (7) counties. As of December 13, 2012, a total of 453 human cases of WNV illness have been reported in 31 counties. Of the 453 case-patients, 295 (65%) had neuroinvasive illness. The median age of the 453 individuals is 55 years (range: 1-94 years); 263 (58%) are male. Dates of symptom onset for all patients ranged from May 23 to December 2, 2012. A total of 16 WNV-related fatalities have been reported to date in Fresno (2), Glenn (1), Kern (2), Los Angeles (5), Merced (1), Placer (1), Sacramento (2), San Bernardino (1), and Sutter (1) counties. A total of 61 WNV-positive blood donors have been reported this year; 18 individuals developed symptoms and were reclassified as cases.

At this time last year, 155 WNV cases had been reported from 23 counties.

National Comments: As of December 11, 2012, 5,387 cases had been reported nationwide from 48 states and the District of Columbia (DC). This is the highest number of cases reported through the second week of December since 2003. Eighty percent of the cases have been reported from 13 states (Texas, California, Louisiana, Illinois, Mississippi, South Dakota, Michigan, Oklahoma, Nebraska, Colorado, Arizona, Ohio, and New York) and a third of all cases have been reported from Texas. Of the 5,387 cases, 2,734 (51%) were classified as neuroinvasive disease, and 243 (5%) patients died.

Horses

No new equine cases were reported this week. In 2012, 22 horses from 13 counties have tested positive for WNV; 8 (36%) died or were euthanized as a result of their illness. At this time last year, 15 equine cases of WNV from 7 counties had been reported.

Dead Birds & Squirrels

No WNV positive dead birds or squirrels were reported this week. In 2012, 1,640 dead birds and 22 squirrels have tested WNV positive from 39 and 6 counties, respectively. At this time last year, 684 dead birds from 26 counties and 24 tree squirrels from 6 counties had tested positive for WNV.

Mosquito Pools

One WNV positive mosquito pool was reported this week from Riverside County. In 2012, 2,849 mosquito pools from 28 counties have tested positive for WNV. At this time last year, 2,087 mosquito pools had tested positive for WNV from 26 counties.

Sentinel Chickens

No seroconversions were reported this week. In 2012, 540 WNV antibody-positive chickens have been detected among 112 flocks in 22 counties. At this time last year, 391 WNV positive chickens had been detected among 69 flocks in 15 counties.

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YTD WNV Activity by Element and County, 2012						
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens	Squirrels
Alameda	2		15			1
Butte	10	1	53	27	45	2
Calaveras		1				
Colusa	3		5		6	
Contra Costa	4		66	19	7	
El Dorado			5			
Fresno	24	3	25	147		
Glenn	7	1	16	4	8	
Imperial	1			4	10	
Kern	25	2	14	571	74	
Kings	4		2	102		
Lake	1		10	23	4	
Los Angeles	151		270	339	135	15
Madera	1	1	2	14		
Marin			1			
Mendocino			6			
Merced	13	1	42	4	14	
Monterey	1					
Napa			1	1		
Nevada			3			
Orange	39		92	69		
Placer	12		60	108	8	
Riverside	19		5	133	63	
Sacramento	29	2	466	487	36	1
San Bernardino	30		39	58	45	
San Diego	1		1			
San Francisco	1		1			
San Joaquin	13	2	56	169		
San Luis Obispo			1			
San Mateo			5			
Santa Clara			19	3		2
Santa Cruz			1			
Shasta	1	5	36	17	6	1
Solano	2		28	3	2	
Sonoma			8	3	1	
Stanislaus	25	1	51	210	8	
Sutter	8		29	19	38	
Tehama	4		5			
Tulare	7		54	144	11	
Ventura	4		38	2	2	
Yolo	6	1	98	154	4	
Yuba	5	1	11	15	13	
Totals	453	22	1,640	2,849	540	22

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2011 & 2012 YTD West Nile Virus Comparisons		
	2011	2012
Total # Dead Bird Reports	9,838	20,608
# Positive Counties	36	42
# Human Cases	155	453
# Horse Cases	15	22
# Positive Dead Birds / # Tested	684 / 2,471	1,640 / 4,387
# Positive Mosquito Pools / # Tested	2,087 / 32,671	2,849 / 32,884
# Seroconversions / # Tested	391 / 22,629	540 / 22,586
# Positive Squirrels / # Tested	24 / 108	22 / 180

TESTING SUMMARIES

Humans and Horses

		WNV		WEEV		SLEV	
		Local	Imported	Local	Imported	Local	Imported
Human Cases	Week	8	0	0	0	0	0
	YTD	453	0	0	0	0	0
Horse Cases	Week	0	0	0	0	0	0
	YTD	22	0	0	0	0	0

Dead Birds & Squirrels

		Number Tested	WNV Positive (recent only)
Dead Birds	Week	4	0
	YTD	4,387	1,640
Squirrels	Week	0	0
	YTD	180	22

Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	0	0	0	0
	YTD	22,586	540	0	0
Mosquito Pools	Week	64	1	0	0
	YTD	32,884	2,849	0	0

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POSITIVES: WEEK 50

Humans

WNV Cases							
ID	Report Date	County/Local Health Jurisdiction	Age	Sex	Clin Pres	Onset Date	WNV Fatality?
12-0447	12/06/12	LOS ANGELES	86	F	WNND	11/18/12	NO
12-0448	12/06/12	LOS ANGELES	28	M	WNND	11/25/12	NO
12-0449	12/06/12	LOS ANGELES	59	M	WNND	10/01/12	NO
12-0450	12/06/12	LOS ANGELES	58	M	WNND	11/21/12	NO
12-0451	12/10/12	FRESNO	62	M	WNF	10/03/12	NO
12-0452	12/12/12	PASADENA CITY	40	M	N/A	12/02/12	NO
12-0453	12/13/12	LOS ANGELES	55	F	WNND	11/08/12	NO
12-0454	12/13/12	LOS ANGELES	65	M	WNND	10/22/12	NO

Mosquito Pools

County	Site Code	Pool #	City	Species	# in Pool	Trap Type	Collected	Virus	Test Method
Riverside	COAV0123	3388	Mecca	Cx. tarsalis	50	CO2	12/04/2012	WNV	RTPCR

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.

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.

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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 (WEEV), and St. Louis encephalitis (SLEV) 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 WEEV, SLEV, 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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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.