

California Arbovirus Surveillance Bulletin #41

Week 49 Friday, December 7, 2012



Human Cases

A total of 12 new cases of West Nile virus (WNV) have been reported from the following 5 counties: Contra Costa (1), Los Angeles (6), Riverside (1), San Bernardino (2), and San Joaquin (2). As of December 6, 2012, a total of 446 human cases of WNV illness have been reported in 31 counties. Of the 446 case-patients, 289 (65%) had neuroinvasive illness. The median age of the 446 individuals is 55 years (range: 1-94 years); 257 (58%) are male. Dates of symptom onset for all patients ranged from May 23 to November 8, 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, 154 WNV cases had been reported from 22 counties.

National Comments: As of November 27, 2012, 5,245 cases had been reported nationwide from 48 states and the District of Columbia (DC). This is the highest number of cases reported through the last week of November since 2003. Eighty percent of the cases have been reported from 13 states (Texas, California, Louisiana, Illinois, Mississippi, Michigan, South Dakota, Oklahoma, Nebraska, Colorado, Arizona, Ohio, and New York). Of the 5,245 cases, 2,663 (51%) were classified as neuroinvasive disease, and 236 (4%) 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, 1,639 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

No positive mosquito pools were reported this week. 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

Two WNV seroconversions were reported this week from two flocks located in Los Angeles County. In 2012, 536 WNV antibody-positive chickens have been detected among 112 flocks in 22 counties. At this time last year, 388 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	23	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	145		270	339	131	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		91	70		
Placer	12		60	108	8	
Riverside	19		5	132	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	446	22	1,639	2,849	536	22

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2011 & 2012 YTD West Nile Virus Comparisons		
	2011	2012
Total # Dead Bird Reports	9,923	20,499
# Positive Counties	35	42
# Human Cases	154	446
# Horse Cases	15	22
# Positive Dead Birds / # Tested	684 / 2,452	1,639 / 4,382
# Positive Mosquito Pools / # Tested	2,087 / 32,671	2,849 / 32,820
# Seroconversions / # Tested	388 / 22,629	536 / 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	12	0	0	0	0	0
	YTD	446	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	71	0
	YTD	4,382	1,639
Squirrels	Week	0	0
	YTD	180	22

Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	78	2	0	0
	YTD	22,586	536	0	0
Mosquito Pools	Week	37	0	0	0
	YTD	32,820	2,849	0	0

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POSITIVES: WEEK 49

Humans

WNV Cases							
ID	Report Date	County/Local Health Jurisdiction	Age	Sex	Clin Pres	Onset Date	WNV Fatality?
12-0435	11/29/12	LOS ANGELES	70	F	WNND	10/05/12	NO
12-0436	11/29/12	LOS ANGELES	51	F	WNND	10/27/12	NO
12-0437	11/29/12	LOS ANGELES	58	M	WNND	09/24/12	NO
12-0438	11/29/12	LOS ANGELES	44	F	WNND	09/27/12	NO
12-0439	11/29/12	LOS ANGELES	47	F	WNND	09/30/12	NO
12-0440	11/29/12	LOS ANGELES	69	M	WNND	10/10/12	NO
12-0441	12/03/12	SAN BERNARDINO	54	F	WNF	10/23/12	NO
12-0442	12/05/12	SAN BERNARDINO	56	F	WNND	09/25/12	NO
12-0443	12/05/12	CONTRA COSTA	>18	F	WNND	10/18/12	NO
12-0444	12/05/12	SAN JOAQUIN	83	M	WNF	10/23/12	NO
12-0445	12/06/12	RIVERSIDE	67	F	N/A	11/02/12	NO
12-0446	12/06/12	SAN JOAQUIN	65	F	WNND	09/27/12	NO
Presumptive Viremic Blood Donors/Asymptomatic Infections							
BD12-0050	11/29/12	LOS ANGELES	24	F			

Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01
Los Angeles	LACW1002	Torrance	11/19/2012	WNV	1059
Los Angeles	LACW1005	El Segundo	11/19/2012	WNV	1078

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.

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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.

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.

Prepared by the Vector-Borne Disease Section (Infectious Diseases Branch), California Department of Public Health, 850 Marina Bay Parkway, Richmond, CA 94804. Questions concerning this bulletin should be addressed to Tina Feiszli by phone (510) 412-6253 or email: tina.feiszli@cdph.ca.gov.

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.