

California Arbovirus Surveillance Bulletin #37

Week 46 Friday, November 15, 2013



WEEKLY UPDATE

Human Cases

West Nile virus

A total of 10 new cases of West Nile virus (WNV) illness were reported this week from the following five counties: Kern (1), Los Angeles (5), San Bernardino (2), Santa Barbara (1), and Yuba (1). **This is the first indication of WNV activity in Santa Barbara County this year.** As of November 12, 2013, a total of 349 cases of WNV illness have been reported in 30 counties. Of the 349 case-patients, 233 (67%) had neuroinvasive illness. The median age of the 349 individuals for whom data are available is 56 years (range: 1 - 93 years); 219 (63%) are male. Dates of symptom onset range from May 22 to October 18, 2013. 12 WNV-related fatalities have been reported in Glenn (1), Los Angeles (7), Sacramento (1), San Joaquin (1), San Bernardino (1), and Yuba (1) counties. A total of 57 WNV-positive blood donors have been reported this year; 10 developed symptoms and were classified as case-patients. At this time last year, 417 cases had been reported from 31 counties.

National Comments: As of November 12, 2013, 2,215 cases had been reported nationwide from 46 states. Of these, 1,180 (50%) were classified as neuroinvasive disease, and 95 (4%) died.

Horses

No new equine cases were reported this week. In 2013, 13 horses from seven counties have tested positive for WNV; five have died as a result of their infection. At this time last year, 22 horses had tested positive for WNV from 13 counties.

Dead Birds & Squirrels

A total of 11 WNV positive birds were reported this week from the following 3 counties: Alameda (2), Los Angeles (4), and Santa Clara (5). An additional dead bird tested positive for chronic WNV infection from Santa Clara County. In 2013, 1,227 dead birds have tested positive for WNV from 38 counties and 8 dead squirrels have tested positive for WNV from 6 counties. At this time last year, 1,632 dead birds and 22 squirrels tested positive for recent WNV infection from 39 and 6 counties, respectively.

Mosquito Pools

Two WNV positive mosquito pools were reported this week from San Bernardino County. In 2013, 2,520 mosquito pools from 27 counties have tested positive for WNV. At this time last year, 2,839 mosquito pools from 28 counties had tested positive for WNV.

Sentinel Chickens

No new seroconversions were reported this week. In 2013, 480 WNV antibody-positive chickens have been detected among 111 flocks in 26 counties. At this time last year, 532 WNV antibody-positive chickens had been detected among 111 flocks in 22 counties.

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YTD WNV Activity by Element and County, 2013						
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens	Squirrels
Alameda			20			
Butte	23		42	33	57	
Colusa	2		1		8	
Contra Costa	5	1	68	13	7	1
El Dorado	1					
Fresno	6		11	66		
Glenn	9		8	16	9	
Humboldt			1			
Kern	22	2	2	181	12	
Kings	1		12	78		
Lake			10	62	6	
Los Angeles	143		310	415	148	3
Madera	3		7	16	2	
Marin	2		6		1	
Mendocino			2			
Merced			38	8	21	
Napa	1		2			
Nevada			6		2	
Orange	9		39	47		1
Placer	5	3	39	89	13	
Riverside	35	1	22	81	43	
Sacramento	9	3	179	384	6	
San Benito		1			1	
San Bernardino	13		37	244	29	1
San Diego			7			
San Francisco	1					
San Joaquin	7		34	163		
San Luis Obispo			1	1		
Santa Barbara	1					
Santa Clara	2		71	25	2	
Santa Cruz			1	1		
Shasta	1		38	15	21	1
Siskiyou	1					
Solano	1		13	1	12	
Sonoma			36	5	2	
Stanislaus	16	2	13	158	8	
Sutter	9		16	61	35	
Tehama			3		8	
Trinity			1			
Tulare	4		6	97	5	
Ventura	2		8			1
Yolo	7		106	246	11	
Yuba	8		11	14	11	
Totals	349	13	1,227	2,520	480	8

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2012 & 2013 YTD West Nile Virus Comparisons		
	2012	2013
Total # Dead Bird Reports	20,225	14,358
# Positive Counties	42	43
# Human Cases	417	349
# Horse Cases	22	13
# Positive Dead Birds / # Tested	1,632 / 4,263	1,227 / 3,202
# Positive Mosquito Pools / # Tested	2,839 / 32,585	2,520 / 30,249
# Seroconversions / # Tested	532 / 22,184	480 / 16,561
# Positive Squirrels / # Tested	22 / 178	8 / 97

TESTING SUMMARIES

Humans and Horses

		WNV		WEEV		SLEV	
		Local	Imported	Local	Imported	Local	Imported
Human Cases	Week	10	0	0	0	0	0
	YTD	349	0	0	0	1	0
Horse Cases	Week	0	0	0	0	0	0
	YTD	13	0	0	0	0	0

Dead Birds & Squirrels

		Number Tested	WNV Positive (recent only)
Dead Birds	Week	18	11
	YTD	3,202	1,227
Tree Squirrels	Week	0	0
	YTD	97	8

Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	256	0	0	0
	YTD	16,561	480	0	0
Mosquito Pools	Week	68	2	0	0
	YTD	30,249	2,520	0	0

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POSITIVES

Dead Birds

County	Agency	City	Zip	Species	Reported	Virus	Type of Infection	Method
Alameda	Alameda Co MAD	Pleasanton	94588	American Crow	10/25/2013	WNV	Recent	RAMP
Alameda	Alameda Co MAD	Pleasanton	94588	American Crow	10/25/2013	WNV	Recent	RAMP
Los Angeles	Greater LA Co VCD - SFS	Gardena	90248	American Crow	10/3/2013	WNV	Recent	RT-PCR
Los Angeles	Greater LA Co VCD - SFS	Whittier	90606	American Crow	9/26/2013	WNV	Recent	RT-PCR
Los Angeles	Greater LA Co VCD - SFS	Cerritos	90703	Common Raven	10/3/2013	WNV	Recent	RT-PCR
Los Angeles	Greater LA Co VCD - SFS	Lakewood	90713	American Crow	10/30/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	Sunnyvale	94086	Western Scrub-Jay	10/28/2013	WNV	Chronic	RT-PCR
Santa Clara	Santa Clara Co VCD	Sunnyvale	94086	American Crow	11/7/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	Palo Alto	94303	American Crow	10/24/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	San Jose	95118	Western Scrub-Jay	11/4/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	San Jose	95127	American Crow	10/28/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	San Jose	95128	American Crow	11/7/2013	WNV	Recent	RT-PCR

Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap	Collected	Virus	Method
San Bernardino	WVAL6004	1401	Cx. quinquefasciatus	Ontario	50	GRVD	11/08/2013	WNV	RT-PCR
San Bernardino	WVAL6005	1422	Cx. quinquefasciatus	Ontario	38	GRVD	11/13/2013	WNV	RT-PCR

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:

Oral swab samples from corvids are collected onto RNase cards and tested by the UC Davis Center for Vectorborne Diseases (CVEC) for West Nile virus by 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