

California Arbovirus Surveillance Bulletin #33

Week 46 Friday, November 17, 2017



Weekly Update

Humans

West Nile Virus

A total of 11 new human cases of West Nile virus (WNV) illness were reported this week from the following 6 counties: Fresno (2), Kern (1), Los Angeles (2), Riverside (1), Stanislaus (4), and Sutter (1). To date this year, 465 human cases of WNV illness have been reported from 26 counties. Of the 465 case-patients, 343 (74%) had neuroinvasive disease and 25 fatalities have been reported from Kern (1), Los Angeles (17), Orange (2), San Bernardino (2), Stanislaus (1), and Yolo (2) counties. The median age of the individuals is 61 years (range: 4–96 years) and 301 (65%) are male. Dates of symptom onset ranged from March 16 to October 26. In addition to the 465 symptomatic cases, 32 asymptomatic WNV-positive blood donors have been reported from Fresno (1), Humboldt (1), Los Angeles (12), Orange (5), Placer (2), Riverside (1), San Bernardino (6), Stanislaus (3), and Tulare (1) counties. As of this date in 2016, 396 human WNV cases had been reported from 29 counties.

St. Louis Encephalitis Virus

One human case of St. Louis encephalitis virus (SLEV) disease has been reported this year from Kern County. At this time last year, 3 human cases of SLEV disease had been reported from 3 counties.

Dead Birds

A total of 10 WNV positive dead birds were reported this week from the following 5 counties: Lake (1), Los Angeles (2), Orange (3), San Diego (2), and San Luis Obispo (2). To date this year, 502 birds from 39 counties have tested positive for WNV. As of this date in 2016, 1,345 WNV positive birds had been reported from 33 counties.

Mosquito Pools

West Nile Virus

A total of 6 WNV positive mosquito pools were reported this week from 2 counties: Los Angeles (4) and San Bernardino (2). To date this year, 3,360 WNV positive mosquito pools have been reported from 26 counties. As of this date in 2016, 3,496 WNV positive mosquito pools had been reported from 31 counties.

St. Louis Encephalitis Virus

No new positives were reported this week. To date this year, 179 SLEV positive mosquito pools have been reported from 14 counties: Butte (1), Fresno (63), Imperial (3), Kern (18), Kings (21), Los Angeles (1), Madera (10), Merced (2), Placer (1), Riverside (23), San Bernardino (2), Stanislaus (27), Tulare (6), and Yuba (1). As of this date in 2016, 180 SLEV positive mosquito pools had been reported from 8 counties.

Sentinel Chickens

West Nile Virus

No WNV seroconversions were reported this week. To date this year, 304 WNV seroconversions have been reported from 18 counties. As of this date in 2016, 343 WNV seroconversions had been detected from 19 counties.

St. Louis Encephalitis Virus

No SLEV seroconversions were reported this week. To date this year, 9 SLEV positive chickens have been reported from Los Angeles (2), Merced (1), and San Bernardino (6) counties. As of this date in 2016, 4 SLEV seroconversions had been detected in 2 counties.

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YTD WNV Activity by Element and County, 2017					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda	1		2		
Butte	3		5	47	31
Calaveras					1
Colusa			1		
Contra Costa	4	1	19	9	7
El Dorado			2		
Fresno	7	1	5	167	
Glenn		1	2	12	1
Humboldt			1		
Imperial	3				
Inyo	4			9	
Kern	26	2	3	152	
Kings	1		1	79	
Lake			5	17	2
Lassen		3			
Los Angeles	243	1	100	575	144
Madera	2		1	62	
Marin			1		
Merced	1		1	40	19
Monterey			1		
Nevada			1		
Orange	34		55	276	
Placer			4	59	5
Plumas		1			
Riverside	25	4	41	196	
Sacramento	2	1	86	153	2
San Benito					1
San Bernardino	41		45	295	36
San Diego	2	1	41	9	
San Francisco	1		1		
San Joaquin	14	2	7	242	
San Luis Obispo			6		
San Mateo			1		
Santa Barbara			1	1	4
Santa Clara			12		
Santa Cruz			1		
Shasta	1		2		4
Solano	1		4	9	11
Sonoma			5	1	
Stanislaus	28		6	196	
Sutter	2		3	16	22
Tehama	1	1			4
Tuolumne		1			
Tulare	12		8	630	
Ventura	1		2	3	
Yolo	5		14	87	2
Yuba			6	18	8
Totals	465	20	502	3,360	304

Website Information: For updated information on WNV in California, please visit the California WNV website, www.westmile.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.westmilemaps.usgs.gov

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2016 & 2017 YTD West Nile Virus Comparisons		
	2016	2017
Total # Dead Bird Reports	8,953	7,425
# Positive Counties	38	47
# Human Cases	396	465
# Positive Dead Birds / # Tested	1,345 / 2,805	502 / 1,946
# Positive Mosquito Pools / # Tested	3,496 / 43,406	3,360 / 43,640
# Seroconversions / # Tested	343 / 10,813	304 / 10,998

TESTING SUMMARIES

Humans

		WNV	SLEV	WEEV
Human Cases	Week	11	0	0
	YTD	465	1	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	25	10
	YTD	1,946	502

Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	137	0	0	0
	YTD	10,998	304	9	0

Mosquitoes

		Positive / Total Tested					
		WNV	SLEV	WEEV	CHIK	DENV	ZIKA
Mosquito Pools	Week	6 / 307	0 / 307	0 / 307	0 / 41	0 / 41	0 / 41
	YTD	3,360 / 43,640	179 / 35,701	0 / 33,908	0 / 1,876	0 / 1,876	0 / 1,876

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New Positives

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Lake	Lake Co VCD	Clearlake Oaks	95453	American Coot	11/7/2017	WNV
Los Angeles	Los Angeles Co Veterinarian	Los Angeles	90066	American Crow	11/3/2017	WNV
Los Angeles	Los Angeles Co Veterinarian	West Hollywood	90046	American Crow	11/14/2017	WNV
Orange	Orange Co VCD	Anaheim	92806	American Crow	9/25/2017	WNV
Orange	Orange Co VCD	Lake Forest	92630	American Crow	11/2/2017	WNV
Orange	Orange Co VCD	Orange	92865	American Crow	11/2/2017	WNV
San Diego	San Diego Co VCP	El Cajon	92021	American Crow	11/15/2017	WNV
San Diego	San Diego Co VCP	El Cajon	92021	American Kestrel	11/6/2017	WNV
San Luis Obispo	San Luis Obispo Animal Services	Arroyo Grande	93420	American Crow	11/1/2017	WNV
San Luis Obispo	San Luis Obispo Animal Services	San Luis Obispo	93405	Western Scrub-Jay	11/1/2017	WNV

Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Los Angeles	GRLA2221	999	Cx. quinquefasciatus	Rowland Heights	13	GRVD	11/7/17	WNV
Los Angeles	GRLA2325	1008	Cx. quinquefasciatus	Boyle Heights	48	GRVD	11/9/17	WNV
Los Angeles	GRLA3038	5920	Cx. quinquefasciatus	Valley Village	18	GRVD	11/8/17	WNV
Los Angeles	LACW1048	366	Cx. quinquefasciatus	Inglewood	29	CO2	11/9/17	WNV
San Bernardino	WVAL2003	2720	Cx. erythrothorax	Chino	44	CO2	11/15/17	WNV
San Bernardino	WVAL7001	2684	Cx. quinquefasciatus	Montclair	31	GRVD	11/15/17	WNV

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.

Dead Birds

Oral swab samples from corvids are collected onto RNA preservation cards and tested by the UC Davis Arbovirus Research and Training laboratory (DART) for West Nile virus by the singleplex qRT-PCR Taqman assay and confirmed with a second primer set. Some local agencies test birds using the RAMP© test or conduct RT-PCR on tissue samples.

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 antibodies to West Nile, western equine encephalomyelitis, and St. Louis encephalitis viruses by EIA. Positive samples are confirmed by IFA, western-blot, or PRNT.

Mosquito Pools:

Mosquito pools submitted to DART are tested for West Nile, western equine encephalomyelitis, and St. Louis encephalitis viral RNA using a multiplex qRT-PCR. Invasive *Aedes* mosquitoes (*Ae. aegypti* and *Ae. albopictus*) are also tested for chikungunya, dengue, and Zika viral RNA by a separate qRT-PCR.

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