

California Arbovirus Surveillance Bulletin #34

Week 48 Friday, December 1, 2017



Weekly Update

Humans

West Nile Virus

A total of 24 human cases of West Nile virus (WNV) were reported this week from the following 6 counties: Fresno (2), Kern (1), Los Angeles (17), Riverside (2), Sacramento (1), and San Bernardino (1). To date this year, 489 human cases of WNV illness have been reported from 26 counties. Of the 489 case-patients, 363 (74%) had neuroinvasive disease and 26 fatalities have been reported from Kern (1), Los Angeles (17), Orange (3), San Bernardino (2), Stanislaus (1), and Yolo (2) counties. The median age of the individuals is 61 years (range: 4–96 years) and 318 (65%) are male. Dates of symptom onset ranged from March 16 to November 6. In addition to the 489 symptomatic cases, 36 asymptomatic WNV-positive blood donors have been reported from Fresno (1), Kern (1), Humboldt (1), Los Angeles (13), Orange (6), Placer (2), Riverside (1), Sacramento (1), San Bernardino (6), Stanislaus (3), and Tulare (1) counties. As of this date in 2016, 406 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 3 WNV positive dead birds were reported this week from the following 2 counties: Los Angeles (2), and Orange (1). To date this year, 505 birds from 39 counties have tested positive for WNV. As of this date in 2016, 1,346 WNV positive birds had been reported from 33 counties.

Mosquito Pools

West Nile Virus

A total of 10 WNV positive mosquito pools were reported this week from 2 counties: Los Angeles (6) and Orange (4). To date this year, 3,370 WNV positive mosquito pools have been reported from 26 counties. As of this date in 2016, 3,509 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

One new WNV seroconversion was reported this week from Los Angeles County. In 2017, 305 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	9	1	5	167	
Glenn		1	2	12	1
Humboldt			1		
Imperial	3				
Inyo	4			9	
Kern	27	2	3	152	
Kings	1		1	79	
Lake			5	17	2
Lassen		3			
Los Angeles	260	1	101	581	145
Madera	2		1	62	
Marin			1		
Merced	1		1	40	19
Monterey			1		
Nevada			1		
Orange	34		57	280	
Placer			4	59	5
Plumas		1			
Riverside	27	4	41	196	
Sacramento	3	1	86	153	2
San Benito					1
San Bernardino	42		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	489	20	505	3,370	305

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	9,040	7,545
# Positive Counties	38	47
# Human Cases	406	489
# Positive Dead Birds / # Tested	1,346 / 2,830	505 / 2,000
# Positive Mosquito Pools / # Tested	3,509 / 43,955	3,370 / 44,316
# Seroconversions / # Tested	343 / 10,925	305 / 11,029

TESTING SUMMARIES

Humans

		WNV	SLEV	WEEV
Human Cases	Week	24	0	0
	YTD	489	1	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	51	3
	YTD	2,000	505

Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	31	1	0	0
	YTD	11,029	305	9	0

Mosquitoes

		Positive / Total Tested					
		WNV	SLEV	WEEV	CHIK	DENV	ZIKA
Mosquito Pools	Week	10 / 676	0 / 187	0 / 187	0 / 63	0 / 63	0 / 63
	YTD	3,370 / 44,316	179 / 35,888	0 / 34,095	0 / 1,939	0 / 1,939	0 / 1,939

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New Positives

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Los Angeles	Los Angeles Co Veterinarian	Pacific Palisades	90272	American Crow	11/22/2017	WNV
Orange	Orange Co VCD	Anaheim	92801	American Crow	11/14/2017	WNV
Orange	Orange Co VCD	Irvine	92618	Rock Dove	8/11/2017	WNV

Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Los Angeles	GRLA2312	1028	Cx. quinquefasciatus	San Pedro	35	GRVD	11/17/17	WNV
Los Angeles	GRLA2476	5939	Cx. quinquefasciatus	Sunland	50	GRVD	11/17/17	WNV
Los Angeles	GRLA2957	1038	Cx. quinquefasciatus	Hawaiian Gardens	50	GRVD	11/21/17	WNV
Los Angeles	SGVA898	2564	Cx. quinquefasciatus	San Gabriel	25	GRVD	11/8/17	WNV
Los Angeles	SGVA898	2568	Cx. quinquefasciatus	San Gabriel	25	GRVD	11/8/17	WNV
Los Angeles	SGVA898	2569	Cx. quinquefasciatus	San Gabriel	25	GRVD	11/8/17	WNV
Orange	ORCO1005	5243	Cx. quinquefasciatus	Buena Park	14	BGSENT	10/31/17	WNV
Orange	ORCO1005	5432	Cx. quinquefasciatus	Buena Park	50	GRVD	11/9/17	WNV
Orange	ORCO34	5311	Cx. quinquefasciatus	Brea	20	GRVD	11/2/17	WNV
Orange	ORCO58	5227	Cx. quinquefasciatus	Laguna Niguel	9	GRVD	10/31/17	WNV

Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01
Los Angeles	LACW1012	Venice	11/14/2017	WNV	2559

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.

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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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