

California Arbovirus Surveillance Bulletin #31

Week 48 Friday, December 3, 2021



Weekly Update

Humans

West Nile virus

A total of 6 new human cases of West Nile virus (WNV) illness have been reported from Fresno (1), Kern (4), and San Mateo (1) counties. As of December 2, 2021, a total of 112 human cases of WNV illness have been reported from 27 counties. Of the 112 cases, 84 (75%) had neuroinvasive illness and 11 (9.8%) were fatal. The median age of the cases was 59 years, and 70 (63%) were male. Dates of symptom onset ranged from March 31 to October 11. In addition to the 112 cases, 17 asymptomatic WNV infections have been reported from Butte (1), Fresno (3), Kern (2), Kings (2), Los Angeles (3), Madera (1), Merced (1), San Bernardino (1), San Joaquin (1), Stanislaus (1), and Yolo (1) counties. At this time last year, 183 WNV cases had been reported from 23 counties.

St. Louis encephalitis virus

No new cases have been reported. As of December 2, 2021, a total of 3 human cases of St. Louis encephalitis virus (SLEV) disease have been reported from 3 counties: Fresno (1), Marin (1), and Stanislaus (1). At this time last year, 4 SLEV cases had been reported from 4 counties.

Dead Birds

No new WNV positive dead birds were reported this week. In 2021, 209 WNV positive dead birds have been reported from 19 counties. At this time last year, 339 WNV positive dead birds had been reported from 20 counties.

Mosquito Pools

West Nile virus

One new WNV positive mosquito pool has been reported from Orange County. In 2021, 2,261 WNV positive mosquito pools have been reported from 25 counties. At this time last year, 2,628 WNV positive mosquito pools had been reported from 28 counties.

St. Louis encephalitis virus

One new SLEV positive mosquito pool has been reported from Riverside County. In 2021, 45 SLEV positive mosquito pools have been reported from 8 counties: Fresno (7), Imperial (3), Kings (1), Madera (3), Merced (2), Riverside (23), Stanislaus (2), and Tulare (4). At this time last year, 510 SLEV positive mosquito pools had been reported from 9 counties.

Sentinel Chickens

West Nile virus

No new positives have been reported. In 2021, 88 WNV positive chickens have been reported from 12 counties. At this time last year, 139 WNV positive chickens had been reported from 16 counties.

St. Louis encephalitis virus

No new positives have been reported. In 2021, 2 SLEV positive chickens have been reported from Merced County. At this time last year, no SLEV positive chickens had been reported.

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YTD WNV Activity by Element and County, 2021					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda			2		
Amador		1			
Butte	13		2	80	27
Colusa					1
Contra Costa	2		4	8	
El Dorado	1				
Fresno	10	2		219	
Glenn	2				
Kern	7			103	
Kings	8	1		34	
Lake				4	4
Los Angeles	16		43	260	3
Madera	3			131	
Merced	5	1	1	10	19
Napa				1	
Nevada			2		
Orange	2		7	50	
Placer	2		5	63	
Riverside	3			111	
Sacramento	4	2	100	120	1
San Bernardino	1		1	9	
San Diego	2				
San Francisco	1				
San Joaquin	6	3	17	389	
San Luis Obispo	2				
San Mateo	1				
Santa Barbara	1				
Santa Clara			1	4	
Santa Cruz	1				
Shasta	3			28	3
Solano	2		2	22	
Sonoma			1	2	
Stanislaus	5	1	2	152	
Sutter			1	18	11
Tehama					5
Tulare	8		7	375	8
Ventura			1		
Yolo	1		10	56	4
Yuba		2		12	2
Totals	112	13	209	2,261	88

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2020 & 2021 YTD West Nile Virus Comparisons		
	2020	2021
Total # Dead Bird Reports	5,644	5,086
# Positive Counties	40	39
# Human Cases	183	112
# Positive Dead Birds / # Tested	339 / 1,537	209 / 1,694
# Positive Mosquito Pools / # Tested	2,628 / 40,083	2,261 / 38,024
# Seroconversions / # Tested	143 / 6,333	88 / 5,823

TESTING SUMMARIES

Humans

		WNV	SLEV	WEEV
Human Cases	Week	6	0	0
	YTD	112	3	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	3	0
	YTD	1,694	209

Sentinel Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	58	0	0	0
	YTD	5,823	88	2	0

Mosquitoes

		Positive / Total Tested					
		WNV	SLEV	WEEV	CHIK	DENV	ZIKA
Mosquito Pools	Week	1 / 134	1 / 95	0 / 95	0 / 3	0 / 3	0 / 3
	YTD	2,261 / 38,024	45 / 35,060	0 / 31,379	0 / 793	0 / 793	0 / 793

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NEW POSITIVES

Mosquitoes

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Orange	ORCO170	4944	Cx. quinquefasciatus	Anaheim	39	GRVD	11/9/2021	WNV
Riverside	COAV130	5699	Cx. tarsalis	Oasis	35	CO2	11/9/2021	SLEV

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 with a plaque reduction neutralization test (PRNT).

Dead Birds

Oral swab samples collected from bird carcasses are tested at the UC Davis Arbovirus Research and Training laboratory (DART) or at a local agency for West Nile virus by RT-qPCR.

Sentinel Chickens:

Dried blood spot samples from sentinel chickens are tested at the California Department of Public Health Vector-Borne Disease Laboratory for IgG antibodies to West Nile, St. Louis encephalitis, and western equine encephalomyelitis viruses by an EIA. Positive samples are confirmed by IFA, western-blot, or PRNT.

Mosquito Pools:

Mosquito pools are tested at DART or at a local agency for West Nile, western equine encephalomyelitis, and St. Louis encephalitis viral RNA using a multiplex RT-qPCR. Invasive *Aedes* mosquitoes (*Ae. aegypti* and *Ae. albopictus*) are also tested at DART for chikungunya, dengue, and Zika viral RNA by a separate RT-qPCR.

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.maps.calsurv.org. For national information on WNV and other arboviruses, please visit the CDC websites: www.cdc.gov and www.cdc.gov/arbovet/maps/ADB_Diseases_Map/index.html

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