

California Arbovirus Surveillance Bulletin #34

Week 48 Friday, December 2, 2022



WEEKLY UPDATE

Humans

West Nile virus

A total of 17 human cases of West Nile virus (WNV) illness were reported this week from 6 counties: Fresno (8), Kern (3), Orange (1), Sacramento (3), Solano (1), and Stanislaus (1). In 2022, a total of 148 cases have been reported from 24 counties. Of the 148 cases, 115 (78%) had neuroinvasive illness and 12 (8%) were fatal. The median age of the cases was 60 years and 96 (65%) were male. The dates of symptom onset ranged from April 11 to November 2. In addition to the 148 WNV cases, 13 asymptomatic WNV-positive blood donors have been reported from 5 counties: Fresno (3), Kern (1), Los Angeles (7), Orange (1), and San Joaquin (1). At this time last year, 112 WNV cases had been reported from 27 counties.

St. Louis encephalitis virus

No new human cases of St. Louis encephalitis virus (SLEV) were reported this week. In 2022, 11 SLEV human cases have been reported from 6 counties: Fresno (1), Kern (3), Los Angeles (1), Sacramento (1), Stanislaus (1), and Tulare (4). At this time last year, 3 SLEV cases had been reported from 3 counties.

Dead Birds

One WNV positive dead bird was reported this week from Los Angeles County. In 2022, 186 WNV positive dead birds have been reported from 23 counties. At this time last year, 209 WNV positive dead birds had been reported from 19 counties.

Mosquito Pools

West Nile virus

No WNV positive mosquito pools were reported this week. In 2022, 3,165 WNV positive mosquito pools have been reported from 25 counties. At this time last year, 2,261 WNV positive pools had been reported from 25 counties.

St. Louis encephalitis virus

No SLEV positive mosquito pools were reported this week. In 2022, 153 SLEV positive mosquito pools from 10 counties have been reported: Fresno (14), Imperial (6), Kern (12), Kings (27), Los Angeles (1), Madera (18), Riverside (57), San Joaquin (1), Stanislaus (1), and Tulare (16). At this time last year, 45 SLEV positive pools had been reported from 8 counties.

Sentinel Chickens

No WNV positive sentinel chickens were reported this week. In 2022, 145 WNV positive chickens have been reported from 13 counties. At this time last year, 88 WNV positive chickens had been reported from 12 counties.

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2021 & 2022 YTD West Nile Virus Comparisons		
	2021	2022
Total No. Dead Bird Reports	5,086	4,802
No. Positive Counties	39	33
No. Human Cases	112	148
No. Positive Dead Birds / No. Tested	209 / 1,694	186 / 1,266
No. Positive Mosquito Pools / No. Tested	2,261 / 38,024	3,165 / 40,446
No. Seroconversions / No. Tested	88 / 5,823	145 / 5,229

YTD WNV Activity by Element and County, 2022					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Butte	3		2	39	27
Colusa	1				3
Contra Costa			1	2	5
Fresno	22		2	296	
Glenn	1				
Imperial				1	
Kern	20	3		99	
Kings	7	1		105	
Lake			2	7	3
Los Angeles	25	1	47	578	33
Madera	3		2	132	
Merced	7		1	20	16
Napa				1	
Nevada		1	1		
Orange	9		1	39	
Placer	2		5	89	
Riverside			5	125	
Sacramento	4	2	40	42	6
San Bernardino			7	100	
San Joaquin	4	1	1	208	
San Luis Obispo		1			
San Mateo	1				
Santa Clara	1		26	23	
Shasta	1		1	39	3
Solano	3		9	12	
Sonoma	1		1		
Stanislaus	15	1		70	
Sutter	1		4	31	16
Tehama	3	2			6
Tulare	10	3	2	1,030	10
Ventura			1		
Yolo	3		24	65	4
Yuba	1		1	12	13
Totals	148	16	186	3,165	145

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TESTING SUMMARIES

		WNV	SLEV	WEEV
Human Cases	Week	17	0	0
	YTD	148	11	0

Positive / Total Tested					
WNV	SLEV	WEEV	CHIK	DENV	ZIKA

Dead Birds	Week	1 / 4
	YTD	186 / 1,266

Chicken Sera	Week	0 / 75	0 / 75	0 / 75
	YTD	145 / 5,229	0 / 5,229	0 / 5,229

Mosquito Pools	Week	0 / 168	00 / 168	0 / 168	0 / 0	0 / 0	0 / 0
	YTD	3,165 / 40,446	153 / 36,682	0 / 35,267	0 / 666	0 / 666	0 / 666

POSITIVES

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Los Angeles	Long Beach Department of Health	Long Beach	90814	American Crow	11/9/2022	WNV

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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, <https://westnile.ca.gov>, or the California Vector-Borne Disease Surveillance System website, <https://maps.vectorsurv.org>.

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