

California Arbovirus Surveillance Bulletin #32

Week 45 Friday, November 11, 2022



WEEKLY UPDATE

Humans

West Nile virus

A total of 11 human cases of West Nile virus (WNV) illness were reported this week from 5 counties: Colusa (1), Kings (1), Los Angeles (6), Stanislaus (2), and Tulare (1). **This is the first WNV human case reported for Colusa County this year.** In 2022, a total of 120 cases have been reported from 23 counties. Of the 120 cases, 96 (80%) had neuroinvasive illness and 9 (8%) were fatal. The median age of the cases was 60 years and 77 (64%) were male. The dates of symptom onset ranged from April 11 to October 23. In addition to the 120 WNV cases, 10 asymptomatic WNV-positive blood donors have been reported from 5 counties: Fresno (3), Kern (1), Los Angeles (4), Orange (1), and San Joaquin (1). At this time last year, 101 WNV cases had been reported from 26 counties.

St. Louis encephalitis virus

A single (1) new case of St. Louis encephalitis virus (SLEV) was reported this week from Los Angeles County. **This is the first SLEV human case reported for Los Angeles County this year.** In 2022, 10 SLEV human cases have been reported from 5 counties: Fresno (1), Kern (3), Los Angeles (1), Stanislaus (1), and Tulare (4). At this time last year, 2 SLEV cases had been reported from 2 counties.

Dead Birds

No WNV positive dead birds were reported this week. In 2022, 185 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

A total of 11 WNV positive mosquito pools were reported this week from 3 counties: Los Angeles (9), Riverside (1), and San Bernardino (1). In 2022, 3,162 WNV positive mosquito pools have been reported from 25 counties. At this time last year, 2,259 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, 44 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	5,424	4,665
No. Positive Counties	39	32
No. Human Cases	160	120
No. Positive Dead Birds / No. Tested	338 / 1,523	185 / 1,261
No. Positive Mosquito Pools / No. Tested	2,622 / 39,723	3,162 / 40,133
No. Seroconversions / No. Tested	139 / 6,198	145 / 5,084

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	14		2	296	
Glenn	1				
Imperial				1	
Kern	16	3		99	
Kings	7	1		105	
Lake			2	7	3
Los Angeles	22	1	46	575	33
Madera	3		2	132	
Merced	7		1	20	16
Napa				1	
Nevada		1	1		
Orange	3		1	39	
Placer	2		5	89	
Riverside			5	125	
Sacramento	1	2	40	42	6
San Bernardino			7	100	
San Joaquin	4	1	1	208	
San Luis Obispo		1			
Santa Clara	1		26	23	
Shasta	1		1	39	3
Solano	2		9	12	
Sonoma	1		1		
Stanislaus	13	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	120	16	185	3,162	145

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TESTING SUMMARIES

		WNV	SLEV	WEEV
Human Cases	Week	11	1	0
	YTD	120	10	0

Positive / Total Tested							
		WNV	SLEV	WEEV	CHIK	DENV	ZIKA

Dead Birds	Week	0 / 28
	YTD	185 / 1,261

Chicken Sera	Week	0 / 67	0 / 67	0 / 67
	YTD	145 / 5,084	0 / 5,084	0 / 5,084

Mosquito Pools	Week	11 / 304	0 / 304	0 / 304	0 / 42	0 / 42	0 / 42
	YTD	3,162 / 40,133	153 / 36,369	0 / 34,954	0 / 666	0 / 666	0 / 666

POSITIVES

Mosquito Pools

County	Site code	Pool #	Species	City	# in Pool	Trap type	Collected	Virus
Los Angeles	GRLA 2512	6107	Cx. quinquefasciatus	Atwater Village	30	GRVD	11/2/2022	WNV
Los Angeles	GRLA 2937	6110	Cx. quinquefasciatus	Burbank	22	GRVD	11/2/2022	WNV
Los Angeles	GRLA 3032	1008	Cx. stigmatosoma	Carson	31	CO2	11/2/2022	WNV
Los Angeles	GRLA 3062	1013	Cx. quinquefasciatus	Los Angeles	11	GRVD	11/4/2022	WNV
Los Angeles	GRLA 3078	6106	Cx. quinquefasciatus	Los Feliz	45	GRVD	11/2/2022	WNV
Los Angeles	GRLA 3089	6115	Cx. quinquefasciatus	Glendale, CA	28	GRVD	11/3/2022	WNV
Los Angeles	GRLA 3098	6104	Cx. quinquefasciatus	Silver Lake	22	GRVD	11/2/2022	WNV
Los Angeles	LACW 1001	723	Cx. quinquefasciatus	Rolling Hills Estates	23	GRVD	11/1/2022	WNV
Los Angeles	LACW 1007	731	Cx. quinquefasciatus	Baldwin Hills	14	GRVD	11/3/2022	WNV
Riverside	COAV 131	7420	Cx. tarsalis	Oasis	50	OTHER	11/4/2022	WNV
San Bernardino	SANB 221	681	Cx. quinquefasciatus	Redlands	14	CO2	11/1/2022	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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