

California Arbovirus Surveillance Bulletin #31

Week 44 Friday, November 4, 2022



WEEKLY UPDATE

Humans

West Nile virus

A total of 4 human cases of West Nile virus (WNV) illness were reported this week from 4 counties: Placer (1), Sacramento (1), San Joaquin (1), and Stanislaus (1). **This is the first WNV human case reported for Sacramento County this year.** In 2022, a total of 109 cases have been reported from 22 counties. Of the 109 cases, 85 (79%) had neuroinvasive illness and 7 (6%) were fatal. The median age of the cases was 60 years and 69 (64%) were male. The dates of symptom onset ranged from April 11 to October 19. In addition to the 109 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, 98 WNV cases had been reported from 25 counties.

St. Louis encephalitis virus

No new cases of St. Louis encephalitis virus (SLEV) were reported this week. In 2022, 9 SLEV human cases have been reported from 4 counties: Fresno (1), Kern (3), Stanislaus (1), and Tulare (4). At this time last year, 1 SLEV case had been reported from one county.

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 23 WNV positive mosquito pools were reported this week from 5 counties: Los Angeles (13), Orange (7), Riverside (1), San Bernardino (1), and Santa Clara (1). In 2022, 3,151 WNV positive mosquito pools have been reported from 25 counties. At this time last year, 2,258 WNV positive pools had been reported from 25 counties.

St. Louis encephalitis virus

A single (1) SLEV positive mosquito pool was reported this week from Riverside County. 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

A single (1) WNV positive chicken was reported this week from Los Angeles County. 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	4,917	4,607
No. Positive Counties	37	32
No. Human Cases	98	109
No. Positive Dead Birds / No. Tested	209 / 1,660	185 / 1,233
No. Positive Mosquito Pools / No. Tested	2,258 / 37,432	3,151 / 39,829
No. Seroconversions / No. Tested	88 / 5,558	145 / 5,017

YTD WNV Activity by Element and County, 2022					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Butte	3		2	39	27
Colusa					3
Contra Costa			1	2	5
Fresno	14		2	296	
Glenn	1				
Imperial				1	
Kern	16	3		99	
Kings	6	1		105	
Lake			2	7	3
Los Angeles	16	1	46	566	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	124	
Sacramento	1	2	40	42	6
San Bernardino			7	99	
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	11	1		70	
Sutter	1		4	31	16
Tehama	3	2			6
Tulare	9	3	2	1,030	10
Ventura			1		
Yolo	3		24	65	4
Yuba	1		1	12	13
Totals	109	16	185	3,151	145

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TESTING SUMMARIES

		WNV	SLEV	WEEV
Human Cases	Week	4	0	0
	YTD	109	9	0

Positive / Total Tested							
		WNV	SLEV	WEEV	CHIK	DENV	ZIKA

Dead Birds	Week	0 / 11
	YTD	185 / 1,233

Chicken Sera	Week	1 / 71	0 / 71	0 / 71
	YTD	145 / 5,017	0 / 5,017	0 / 5,017

Mosquito Pools	Week	23 / 557	1 / 461	0 / 461	0 / 38	0 / 38	0 / 38
	YTD	3,151 / 39,829	153 / 36,065	0 / 34,650	0 / 624	0 / 624	0 / 624

POSITIVES

Mosquito Pools

County	Site code	Pool #	Species	City	# in Pool	Trap type	Collected	Virus
Los Angeles	GRLA 2007	6078	Cx. quinquefasciatus	Toluca Lake	28	GRVD	10/25/2022	WNV
Los Angeles	GRLA 2021	6087	Cx. quinquefasciatus	Reseda	19	GRVD	10/25/2022	WNV
Los Angeles	GRLA 2023	6089	Cx. quinquefasciatus	Reseda	42	GRVD	10/25/2022	WNV
Los Angeles	GRLA 2145	983	Cx. quinquefasciatus	Long Beach	50	GRVD	10/25/2022	WNV
Los Angeles	GRLA 2957	982	Cx. quinquefasciatus	Hawaiian Gardens	50	GRVD	10/25/2022	WNV
Los Angeles	GRLA 3071	992	Cx. quinquefasciatus	East Los Angeles	16	GRVD	10/28/2022	WNV
Los Angeles	GRLA 3074	997	Cx. quinquefasciatus	Lincoln Heights	33	GRVD	10/28/2022	WNV
Los Angeles	GRLA 3133	6094	Cx. quinquefasciatus	San Fernando	50	GRVD	10/28/2022	WNV
Los Angeles	LACW 1002	720	Cx. tarsalis	Torrance	13	CO2	10/25/2022	WNV
Los Angeles	SGVA 148	1217	Cx. quinquefasciatus	El Monte	50	GRVD	11/1/2022	WNV
Los Angeles	SGVA 451	1212	Cx. quinquefasciatus	Glendora	50	GRVD	11/1/2022	WNV
Los Angeles	SGVA 695	1207	Cx. quinquefasciatus	Rosemead	50	GRVD	11/1/2022	WNV
Los Angeles	SGVA 896	1209	Cx. quinquefasciatus	La Verne	50	GRVD	11/1/2022	WNV
Orange	ORCO 238	4432	Cx. quinquefasciatus	Anaheim	44	GRVD	10/27/2022	WNV
Orange	ORCO 29	4430	Cx. quinquefasciatus	Santa Ana	46	CO2	10/27/2022	WNV
Orange	ORCO 29	4435	Cx. quinquefasciatus	Santa Ana	37	GRVD	10/27/2022	WNV
Orange	ORCO 29	4521	Cx. quinquefasciatus	Santa Ana	37	GRVD	11/2/2022	WNV
Orange	ORCO 317	4469	Cx. quinquefasciatus	Fullerton	38	GRVD	11/1/2022	WNV
Orange	ORCO 325	4253	Cx. quinquefasciatus	La Habra	31	GRVD	10/18/2022	WNV
Orange	ORCO 343	4222	Cx. quinquefasciatus	Orange	42	GRVD	10/18/2022	WNV
Riverside	COAV 54	7188	Cx. tarsalis	North Shore	50	CO2	11/1/2022	WNV
Riverside	COAV 58	7101	Cx. tarsalis	North Shore	50	CO2	11/1/2022	SLEV
San Bernardino	SANB 343	655	Cx. quinquefasciatus	San Bernadino	7	GRVD	10/25/2022	WNV
Santa Clara	STCL 32074	3840	Cx. pipiens	Palo Alto	14	CO2-EVS	10/14/2022	WNV

Sentinel Chickens

County	Site Code	Nearest City	Date Bled	Virus	Band 01
Los Angeles	LACW 1002	Torrance	10/25/2022	WNV	1681

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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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