

California Arbovirus Surveillance Bulletin #33

Week 48 Friday, December 1, 2023



WEEKLY UPDATE

Humans

West Nile virus

A total of 19 new human cases of West Nile virus (WNV) were reported this week from 11 counties: Alameda (1), El Dorado (1), Fresno (1), Kings (1), Los Angeles (6), Orange (1), Riverside (3), Sacramento (2), San Joaquin (1), Solano (1), and Sonoma (1). In 2023, a total of 343 human cases of WNV have been reported from 35 counties.

These are the first WNV human cases reported from Alameda and Sonoma counties this year. Of the 343 cases, 253 (74%) had neuroinvasive disease and 11 (3%) were fatal. The median age of the case-patients was 59 years and 220 (64%) of the case-patients were male. The dates of symptom onset ranged from June 30 to November 2. In addition to the 343 WNV human cases, 30 asymptomatic WNV-positive blood donors have been reported from 16 counties: Amador (1), Butte (1), Contra Costa (1), Fresno (2), Kern (3), Kings (2), Los Angeles (5), Merced (1), Orange (1), Riverside (1), Sacramento (1), San Bernardino (2), San Joaquin (1), San Mateo (1), Stanislaus (1), and Yolo (6). At this time last year, 148 WNV human cases had been reported from 24 counties.

St. Louis encephalitis virus

A total of 3 new human cases of St. Louis encephalitis virus (SLEV) were reported this week from 3 counties: Los Angeles (1), Riverside (1), and Sacramento (1). **This is the first SLEV human case reported from Riverside County and the first SLEV human cases and SLEV activity reported from Los Angeles and Sacramento counties this year.** In 2023, 16 SLEV human cases have been reported from 9 counties. At this time last year, 11 SLEV human cases had been reported from 6 counties.

Dead Birds

A single (1) new WNV positive dead bird was reported from 1 county: Sacramento (1). In 2023, 849 WNV positive dead birds have been reported from 31 counties. At this time last year, 186 WNV positive dead birds had been reported from 23 counties.

Mosquito Pools

West Nile virus

A total of 10 new WNV positive mosquito pools were reported from 2 counties: Los Angeles (9) and Orange (1). In 2023, 4,512 WNV positive mosquito pools have been reported from 31 counties. At this time last year, 3,165 WNV positive mosquito pools had been reported from 26 counties.

St. Louis encephalitis virus

No new SLEV positive mosquito pools were reported this week. In 2023, 728 SLEV positive mosquito pools have been reported from 15 counties. At this time last year, 152 SLEV positive mosquito pools had been reported from 9 counties.

Sentinel Chickens

West Nile virus

A total of 2 new WNV positive chickens were reported this week from 1 county: Los Angeles (2). In 2023, 187 WNV positive chickens have been reported from 17 counties. At this time last year, 145 WNV positive chickens had been reported from 13 counties.

St. Louis encephalitis virus

No new SLEV positive chickens were reported this week. In 2023, 1 SLEV positive chicken has been reported from 1 county. At this time last year, no SLEV positive chickens had been reported.

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2022 & 2023 YTD West Nile Virus Comparisons		
	2022	2023
Total No. Dead Bird Reports	4,802	6,609
No. Positive Counties	33	42
No. Human Cases	148	343
No. Positive Dead Birds / No. Tested	186 / 1,266	849 / 1,953
No. Positive Mosquito Pools / No. Tested	3,165 / 40,446	4,512 / 52,375
No. Seroconversions / No. Tested	145 / 5,229	187 / 3,704

YTD WNV Activity by Element and County, 2023					
County	Humans*	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda	1		78	15	4
Butte	18	1	2	69	33
Calaveras	1				3
Colusa	1		2	2	2
Contra Costa	8		95	26	11
El Dorado	3		4		
Fresno	18	2	1	232	
Glenn	4			1	
Imperial	1			3	
Inyo				2	
Kern	15	2		107	
Kings	9	1		70	
Lake	5		8	26	
Los Angeles	39		44	576	30
Madera	9	1	1	207	
Marin			2		
Merced	8	2		43	22
Monterey	1				
Napa		1	4	7	
Nevada	1		1		2
Orange	5	1	2	215	
Placer	6	1	43	177	
Riverside	17	3	69	182	
Sacramento	34	3	196	342	8
San Benito			1		6
San Bernardino	23	2	11	158	
San Diego			9	1	
San Joaquin	14	2	20	607	
San Luis Obispo	2	2	1		
San Mateo	2	1	14		
Santa Clara	1	1	117	18	
Shasta	6		2	151	5
Siskiyou		1			
Solano	6		18	24	11
Sonoma	1		16	6	
Stanislaus	32	2	6	293	
Sutter	7		6	66	19
Tehama					4
Tulare	14	1	5	566	10
Ventura	1		4		
Yolo	25		67	294	10
Yuba	5	1		26	7
Totals	343	31	849	4,512	187

*Asymptomatic human infections are not included.

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YTD SLEV Activity by Element and County, 2023			
County	Humans	Mosquito Pools	Sentinel Chickens
Fresno	3	160	
Imperial		3	
Inyo		1	
Kern	2	75	
Kings	1	44	
Los Angeles	1		
Madera		47	
Marin	1		
Merced		12	
Napa		1	
Placer		1	
Riverside	1	118	
Sacramento	1		
San Joaquin		9	
Shasta		3	1
Stanislaus	5	23	
Tulare		228	
Yolo	1	3	
Totals	16	728	1

TESTING SUMMARIES

		WNV	SLEV	WEEV
Human Cases	Week	19	3	0
	YTD	343	16	0

		Positive / Total Tested					
		WNV	SLEV	WEEV	CHIK	DENV	ZIKA
Dead Birds	Week	1 / 1					
	YTD	849 / 1,953					
Chicken Sera	Week	2 / 40	0 / 40	0 / 40			
	YTD	187 / 3,704	1 / 3,704	0 / 3,704			
Mosquito Pools	Week	10 / 225	0 / 225	0 / 225	0 / 3	0 / 3	0 / 3
	YTD	4,512 / 52,375	728 / 47,205	0 / 47,205	0 / 1,104	0 / 1,104	0 / 1,104

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NEW POSITIVES

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Sacramento	Sacramento-Yolo MVCD	Wilton	95693	American Kestrel	11/9/2023	WNV

Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap	Collected	Virus
Los Angeles	GRLA 2548	6082	Cx quinquefasciatus	Sylmar	14	GRVD	11/15/2023	WNV
Los Angeles	GRLA 2950	6070	Cx quinquefasciatus	Sunland	30	GRVD	11/15/2023	WNV
Los Angeles	GRLA 3009	6078	Cx quinquefasciatus	Santa Clarita	45	GRVD	11/15/2023	WNV
Los Angeles	GRLA 3027	6059	Cx quinquefasciatus	Studio City	50	GRVD	11/14/2023	WNV
Los Angeles	GRLA 3058	991	Cx quinquefasciatus	Lynwood	33	GRVD	11/14/2023	WNV
Los Angeles	GRLA 3065	1004	Cx quinquefasciatus	Willowbrook	42	GRVD	11/15/2023	WNV
Los Angeles	GRLA 3088	6075	Cx quinquefasciatus	Pacoima	39	GRVD	11/15/2023	WNV
Los Angeles	GRLA 3097	6074	Cx quinquefasciatus	Arleta	50	GRVD	11/15/2023	WNV
Los Angeles	GRLA 3102	6058	Cx quinquefasciatus	Studio City	24	GRVD	11/14/2023	WNV
Orange	ORCO 327	5117	Cx quinquefasciatus	Brea	38	GRVD	11/2/2023	WNV

Sentinel chickens

County	Site Code	Nearest City	Date Bled	Virus	Band 01	Band 02
Los Angeles	LONG 3	Long Beach	10/23/2023	WNV	2926	2927

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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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