

California Arbovirus Surveillance Bulletin #32

Week 46 Friday, November 17, 2023



WEEKLY UPDATE

Humans

West Nile virus

A total of 8 new human cases of West Nile virus (WNV) were reported this week from 6 counties: Los Angeles (3), Riverside (1), San Bernardino (1), San Mateo (1), Stanislaus (1), and Sutter (1). In 2023, a total of 324 human cases of WNV have been reported from 33 counties. Of the 324 cases, 235 (73%) had neuroinvasive disease and 10 (3%) were fatal. The median age of the case-patients was 59 years and 210 (65%) of the case-patients were male. The dates of symptom onset ranged from June 30 to October 9. In addition to the 324 WNV human cases, 24 asymptomatic WNV-positive blood donors have been reported from 14 counties: Amador (1), Butte (1), Contra Costa (1), Fresno (2), Kern (3), Kings (2), Los Angeles (5), Orange (1), Riverside (1), San Bernardino (2), San Joaquin (1), San Mateo (1), Stanislaus (1), and Yolo (2). At this time last year, 131 WNV human cases had been reported from 24 counties.

St. Louis encephalitis virus

No new human cases of St. Louis encephalitis virus (SLEV) were reported this week. In 2023, 13 SLEV human cases have been reported from 6 counties. At this time last year, 11 SLEV human cases had been reported from 6 counties.

Dead Birds

A total of 2 new WNV positive dead birds were reported from 1 county: San Mateo (2). In 2023, 848 WNV positive dead birds have been reported from 31 counties. At this time last year, 185 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 3 counties: Los Angeles (8), Riverside (1), and San Bernardino (1). In 2023, 4,502 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

No new WNV positive chickens were reported this week. In 2023, 185 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	4,708	6,520
No. Positive Counties	33	42
No. Human Cases	131	324
No. Positive Dead Birds / No. Tested	185 / 1,262	848 / 1,952
No. Positive Mosquito Pools / No. Tested	3,165 / 40,278	4,502 / 52,150
No. Seroconversions / No. Tested	145 / 5,154	185 / 3,664

YTD WNV Activity by Element and County, 2023					
County	Humans*	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda			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	2		4		
Fresno	17	2	1	232	
Glenn	4			1	
Imperial	1			3	
Inyo				2	
Kern	15	2		107	
Kings	8	1		70	
Lake	5		8	26	
Los Angeles	33		44	567	28
Madera	9	1	1	207	
Marin			2		
Merced	8	2		43	22
Monterey	1				
Napa		1	4	7	
Nevada	1		1		2
Orange	4	1	2	214	
Placer	6	1	43	177	
Riverside	14	3	69	182	
Sacramento	32	3	195	342	8
San Benito			1		6
San Bernardino	22	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	5		18	24	11
Sonoma			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	324	31	848	4,502	185

*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	
Madera		47	
Marin	1		
Merced		12	
Napa		1	
Placer		1	
Riverside		118	
San Joaquin		9	
Shasta		3	1
Stanislaus	5	23	
Tulare		228	
Yolo	1	3	
Totals	13	728	1

TESTING SUMMARIES

		WNV	SLEV	WEEV
Human Cases	Week	8	0	0
	YTD	324	13	0

		Positive / Total Tested					
		WNV	SLEV	WEEV	CHIK	DENV	ZIKA
Dead Birds	Week	2 / 5					
	YTD	848 / 1,952					
Chicken Sera	Week	0 / 102	0 / 102	0 / 102			
	YTD	185 / 3,664	1 / 3,664	0 / 3,664			
Mosquito Pools	Week	10 / 383	0 / 343	0 / 343	0 / 34	0 / 34	0 / 34
	YTD	4,502 / 52,150	728 / 46,980	0 / 46,980	0 / 1,101	0 / 1,101	0 / 1,101

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NEW POSITIVES

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
San Mateo	San Mateo Co MVCD	Redwood City	94061	American Crow	10/30/2023	WNV
San Mateo	San Mateo Co MVCD	Foster City	94404	American Crow	10/31/2023	WNV

Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap	Collected	Virus
Los Angeles	GRLA2574	6039	Cx. quinquefasciatus	Sherman Oaks	50	GRVD	11/7/2023	WNV
Los Angeles	GRLA2592	6048	Cx. quinquefasciatus	San Marino	22	GRVD	11/8/2023	WNV
Los Angeles	GRLA2655	6040	Cx. quinquefasciatus	Sepulveda Basin	50	GRVD	11/7/2023	WNV
Los Angeles	GRLA3037	6052	Cx. quinquefasciatus	La Crescenta	42	GRVD	11/8/2023	WNV
Los Angeles	GRLA3040	977	Cx. quinquefasciatus	La Mirada	11	GRVD	11/9/2023	WNV
Los Angeles	GRLA3132	6053	Cx. quinquefasciatus	Eagle Rock	38	GRVD	11/8/2023	WNV
Los Angeles	SGVA695	1203	Cx. quinquefasciatus	Rosemead	50	GRVD	11/14/2023	WNV
Los Angeles	SGVA956	1200	Cx. quinquefasciatus	Walnut	50	GRVD	11/14/2023	WNV
Riverside	COAV301	8225	Cx. quinquefasciatus	Bermuda Dunes	50	GRVD	11/14/2023	WNV
San Bernardino	WVAL2024	3267	Cx. quinquefasciatus	Chino Hills	32	GRVD	11/15/2023	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>.

Prepared by the Vector-Borne Disease Section (Infectious Diseases Branch), California Department of Public Health, 850 Marina Bay Parkway, Richmond, CA 94804. Questions concerning this bulletin should be addressed to Hannah Romo: Hannah.romo@cdph.ca.gov