

California Arbovirus Surveillance Bulletin #30

Week 44 Friday, November 3, 2023



WEEKLY UPDATE

Humans

West Nile virus

A total of 13 new human cases of West Nile virus (WNV) were reported this week from 9 counties: Calaveras (1), Kings (1), Madera (1), Orange (1), Sacramento (3), San Bernardino (1), San Joaquin (1), Stanislaus (1), and Yolo (3). **This is the first WNV positive human case from Calaveras County this year.** In 2023, a total of 299 human cases of WNV have been reported from 33 counties. Of the 299 cases, 217 (73%) had neuroinvasive disease and 10 (3%) were fatal. The median age of the case-patients was 58 years and 190 (64%) of the case-patients were male. The dates of symptom onset ranged from June 30 to October 3. In addition to the 299 WNV human cases, 22 asymptomatic WNV-positive blood donors have been reported from 14 counties: Amador (1), Butte (1), Contra Costa (1), Fresno (2), Kern (2), Kings (2), Los Angeles (4), Orange (1), Riverside (1), San Bernardino (2), San Joaquin (1), San Mateo (1), Stanislaus (1), and Yolo (2). At this time last year, 109 WNV human cases had been reported from 22 counties.

St. Louis encephalitis virus

A total of 4 new human cases of St. Louis encephalitis virus (SLEV) were reported this week from 2 counties: Kings (1) and Stanislaus (3). In 2023, 12 SLEV human cases have been reported from 6 counties. **This is the first WNV positive human case from Kings County this year.** At this time last year, 9 SLEV human cases had been reported from 4 counties.

Dead Birds

A total of 2 new WNV positive dead birds were reported from 2 counties: Contra Costa (1) and San Diego (1). In 2023, 845 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 61 new WNV positive mosquito pools were reported from 7 counties: Contra Costa (1), Lake (1), Los Angeles (19), Orange (32), Riverside (5), San Bernardino (1), and Santa Clara (2). In 2023, 4,485 WNV positive mosquito pools have been reported from 31 counties. At this time last year, 3,151 WNV positive mosquito pools had been reported from 26 counties.

St. Louis encephalitis virus

A single (1) new SLEV positive mosquito pool was reported from 1 county: Riverside (1). 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	4,607	6,397
No. Positive Counties	32	42
No. Human Cases	109	299
No. Positive Dead Birds / No. Tested	185 / 1,233	845 / 1,942
No. Positive Mosquito Pools / No. Tested	3,151 / 39,829	4,485 / 51,522
No. Seroconversions / No. Tested	145 / 5,017	185 / 3,544

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	7		95	26	11
El Dorado	3		4		
Fresno	10	2	1	232	
Glenn	4			1	
Imperial	1			3	
Inyo				2	
Kern	14	2		107	
Kings	8	1		70	
Lake	5		8	26	
Los Angeles	29		44	552	28
Madera	7	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	12	3	69	181	
Sacramento	32	3	195	342	8
San Benito			1		6
San Bernardino	20	2	11	157	
San Diego			8	1	
San Joaquin	14	2	20	607	
San Luis Obispo	2	2	1		
San Mateo	1		12		
Santa Clara	1	1	117	18	
Shasta	6		2	151	5
Siskiyou		1			
Solano	4		18	24	11
Sonoma			16	6	
Stanislaus	28	2	6	293	
Sutter	6		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	299	30	845	4,485	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	2	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	12	728	1

TESTING SUMMARIES

		WNV	SLEV	WEEV
Human Cases	Week	13	4	0
	YTD	299	12	0

		Positive / Total Tested					
		WNV	SLEV	WEEV	CHIK	DENV	ZIKA
Dead Birds	Week	2 / 15					
	YTD	845 / 1,942					
Chicken Sera	Week	0 / 46	0 / 46	0 / 46			
	YTD	185 / 3,544	1 / 3,544	0 / 3,544			
Mosquito Pools	Week	61 / 692	1 / 627	0 / 627	0 / 67	0 / 67	0 / 67
	YTD	4,485 / 51,522	728 / 46,392	0 / 46,392	0 / 1,032	0 / 1,032	0 / 1,032

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NEW POSITIVES

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Contra Costa	Contra Costa MVCD	El Sobrante	94803	Sharp-shinned Hawk	10/26/2023	WNV
San Diego	San Diego Co VCP	San Diego	92128	California Scrub-Jay	10/30/2023	WNV

Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap	Collected	Virus
Contra Costa	CNTR 2302	1949	Cx tarsalis	Martinez	50	CO2	10/31/2023	WNV
Lake	LAKE 226	443	Cx tarsalis	Lower Lake	1	CO2	10/19/2023	WNV
Los Angeles	GRLA 2017	5980	Cx quinquefasciatus	Studio City	48	GRVD	10/26/2023	WNV
Los Angeles	GRLA 2033	5977	Cx quinquefasciatus	Tujunga	47	GRVD	10/25/2023	WNV
Los Angeles	GRLA 2194	936	Cx quinquefasciatus	South El Monte	12	GRVD	10/27/2023	WNV
Los Angeles	GRLA 2299	933	Cx quinquefasciatus	Los Angeles	27	GRVD	10/26/2023	WNV
Los Angeles	GRLA 2323	926	Cx quinquefasciatus	Los Angeles	50	GRVD	10/26/2023	WNV
Los Angeles	GRLA 2497	5975	Cx quinquefasciatus	La Canada Flintridge	20	GRVD	10/25/2023	WNV
Los Angeles	GRLA 2550	5998	Cx quinquefasciatus	Mission Hills	50	GRVD	10/27/2023	WNV
Los Angeles	GRLA 2918	5991	Cx quinquefasciatus	Sunland	25	GRVD	10/27/2023	WNV
Los Angeles	GRLA 3038	5981	Cx quinquefasciatus	Valley Village	50	GRVD	10/26/2023	WNV
Los Angeles	GRLA 3039	5982	Cx quinquefasciatus	Hollywood Hills	32	BGSENT	10/26/2023	WNV
Los Angeles	GRLA 3042	939	Cx quinquefasciatus	Hacienda Heights	42	GRVD	10/27/2023	WNV
Los Angeles	GRLA 3044	937	Cx quinquefasciatus	South El Monte	50	GRVD	10/27/2023	WNV
Los Angeles	GRLA 3066	5987	Cx quinquefasciatus	Valley Glen	50	BGSENT	10/26/2023	WNV
Los Angeles	GRLA 3079	5986	Cx quinquefasciatus	Sun Valley	32	BGSENT	10/26/2023	WNV
Los Angeles	GRLA 3084	928	Cx quinquefasciatus	Commerce	50	GRVD	10/26/2023	WNV
Los Angeles	GRLA 3089	5973	Cx quinquefasciatus	Glendale	50	GRVD	10/25/2023	WNV
Los Angeles	SGVA 1022	1149	Cx quinquefasciatus	Azusa	50	GRVD	10/31/2023	WNV
Los Angeles	SGVA 451	1162	Cx quinquefasciatus	Glendora	50	GRVD	11/2/2023	WNV
Los Angeles	SGVA 956	1166	Cx quinquefasciatus	Walnut	50	GRVD	11/2/2023	WNV
Orange	ORCO 1009	4950	Cx quinquefasciatus	Garden Grove	46	GRVD	10/24/2023	WNV
Orange	ORCO 1015	4942	Cx quinquefasciatus	Orange	39	GRVD	10/24/2023	WNV
Orange	ORCO 1015	4952	Cx quinquefasciatus	Orange	43	GRVD	10/24/2023	WNV
Orange	ORCO 1015	4955	Cx quinquefasciatus	Orange	31	GRVD	10/24/2023	WNV
Orange	ORCO 1015	5036	Cx quinquefasciatus	Orange	29	GRVD	10/31/2023	WNV
Orange	ORCO 1023	4944	Cx quinquefasciatus	Villa Park	33	GRVD	10/24/2023	WNV
Orange	ORCO 1023	4956	Cx quinquefasciatus	Villa Park	18	GRVD	10/24/2023	WNV
Orange	ORCO 1023	5040	Cx quinquefasciatus	Villa Park	29	GRVD	10/31/2023	WNV
Orange	ORCO 1023	5041	Cx quinquefasciatus	Villa Park	28	GRVD	10/31/2023	WNV
Orange	ORCO 1023	5043	Cx quinquefasciatus	Villa Park	10	GRVD	10/31/2023	WNV
Orange	ORCO 1033	5029	Cx quinquefasciatus	Tustin	42	GRVD	10/26/2023	WNV
Orange	ORCO 217	5008	Cx quinquefasciatus	Santa Ana	29	GRVD	10/26/2023	WNV
Orange	ORCO 217	5017	Cx quinquefasciatus	Santa Ana	22	BGSENT	10/26/2023	WNV
Orange	ORCO 218	4959	Cx quinquefasciatus	Anaheim	42	GRVD	10/24/2023	WNV
Orange	ORCO 218	4964	Cx quinquefasciatus	Anaheim	36	GRVD	10/24/2023	WNV
Orange	ORCO 218	4971	Cx quinquefasciatus	Anaheim	34	GRVD	10/25/2023	WNV
Orange	ORCO 218	4972	Cx quinquefasciatus	Anaheim	34	GRVD	10/25/2023	WNV
Orange	ORCO 218	4975	Cx quinquefasciatus	Anaheim	40	GRVD	10/25/2023	WNV
Orange	ORCO 218	4977	Cx quinquefasciatus	Anaheim	39	GRVD	10/25/2023	WNV
Orange	ORCO 218	4978	Cx quinquefasciatus	Anaheim	35	GRVD	10/25/2023	WNV
Orange	ORCO 218	4979	Cx quinquefasciatus	Anaheim	35	GRVD	10/25/2023	WNV
Orange	ORCO 218	5066	Cx quinquefasciatus	Anaheim	35	GRVD	11/1/2023	WNV
Orange	ORCO 218	5071	Cx quinquefasciatus	Anaheim	26	GRVD	11/1/2023	WNV
Orange	ORCO 22	4928	Cx erythrothorax	Irvine	50	CO2	10/20/2023	WNV
Orange	ORCO 29	4998	Cx quinquefasciatus	Santa Ana	15	GRVD	10/25/2023	WNV
Orange	ORCO 3	5021	Cx quinquefasciatus	Garden Grove	50	GRVD	10/26/2023	WNV
Orange	ORCO 300	5083	Cx quinquefasciatus	Westminster	40	GRVD	11/1/2023	WNV
Orange	ORCO 319	9639	Aedes aegypti	Buena Park	44	BGSENT	10/18/2023	WNV
Orange	ORCO 337	4949	Cx quinquefasciatus	Anaheim	22	GRVD	10/24/2023	WNV
Orange	ORCO 345	5018	Cx quinquefasciatus	Santa Ana	46	GRVD	10/26/2023	WNV
Orange	ORCO 362	5076	Cx quinquefasciatus	Garden Grove	40	GRVD	11/1/2023	WNV
Orange	ORCO 7	5080	Cx quinquefasciatus	Seal Beach	32	GRVD	11/1/2023	WNV

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Riverside	COAV 114	7675	Cx tarsalis	North Shore	20	CO2	10/31/2023	WNV
Riverside	COAV 121	7699	Cx tarsalis	Mecca	45	CO2	10/31/2023	WNV
Riverside	COAV 230020	7587	Cx quinquefasciatus	Mecca	50	BGSENT	10/31/2023	WNV
Riverside	COAV 533	7769	Cx tarsalis	Mecca	50	CO2	10/31/2023	SLEV
Riverside	COAV 538	7554	Cx quinquefasciatus	Thermal	11	CO2	10/27/2023	WNV
Riverside	COAV 539	7550	Cx quinquefasciatus	Thermal	8	CO2	10/27/2023	WNV
San Bernardino	WVAL 127	3158	Cx quinquefasciatus	Ontario	5	GRVD	10/31/2023	WNV
Santa Clara	STCL 31103	3498	Cx pipiens	San Jose	18	CO2-EVS	10/19/2023	WNV
Santa Clara	STCL 31322	3517	Cx pipiens	Campbell	3	BGSENT	10/19/2023	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