

California Arbovirus Surveillance Bulletin #31

Week 45 Friday, November 9, 2023



WEEKLY UPDATE

Humans

West Nile virus

A total of 18 new human cases of West Nile virus (WNV) were reported this week from 9 counties: Contra Costa (1), Fresno (7), Kern (1), Los Angeles (1), Madera (2), Riverside (1), San Bernardino (1), Solano (1), and Stanislaus (3). In 2023, a total of 317 human cases of WNV have been reported from 33 counties. Of the 317 cases, 230 (73%) had neuroinvasive disease and 10 (3%) were fatal. The median age of the case-patients was 58 years and 203 (64%) of the case-patients were male. The dates of symptom onset ranged from June 30 to October 8. In addition to the 317 WNV human cases, 23 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 (5), Orange (1), Riverside (1), San Bernardino (2), San Joaquin (1), San Mateo (1), Stanislaus (1), and Yolo (2). At this time last year, 120 WNV human cases had been reported from 23 counties.

St. Louis encephalitis virus

A single (1) new human case of St. Louis encephalitis virus (SLEV) was reported this week from 1 county: Fresno (1). In 2023, 13 SLEV human cases have been reported from 6 counties. At this time last year, 10 SLEV human cases had been reported from 5 counties.

Dead Birds

A single (1) new WNV positive dead bird was reported from 1 county: San Diego (1). In 2023, 846 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 7 new WNV positive mosquito pools were reported from 1 county: Los Angeles (7). In 2023, 4,492 WNV positive mosquito pools have been reported from 31 counties. At this time last year, 3,162 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	4,665	6,465
No. Positive Counties	32	42
No. Human Cases	120	317
No. Positive Dead Birds / No. Tested	185 / 1,261	846 / 1,947
No. Positive Mosquito Pools / No. Tested	3,162 / 40,133	4,492 / 51,767
No. Seroconversions / No. Tested	145 / 5,084	185 / 3,562

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	3		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	30		44	559	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	13	3	69	181	
Sacramento	32	3	195	342	8
San Benito			1		6
San Bernardino	21	2	11	157	
San Diego			9	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	5		18	24	11
Sonoma			16	6	
Stanislaus	31	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	317	30	846	4,492	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	18	1	0
	YTD	317	13	0

		Positive / Total Tested					
		WNV	SLEV	WEEV	CHIK	DENV	ZIKA
Dead Birds	Week	1 / 5					
	YTD	846 / 1,947					
Chicken Sera	Week	0 / 18	0 / 18	0 / 18			
	YTD	185 / 3,562	1 / 3,562	0 / 3,562			
Mosquito Pools	Week	7 / 245	0 / 245	0 / 245	0 / 35	0 / 35	0 / 35
	YTD	4,492 / 51,767	728 / 46,637	0 / 46,637	0 / 1,067	0 / 1,067	0 / 1,067

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NEW POSITIVES

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
San Diego	San Diego Co VCP	Escondido	92027	American Crow	11/7/2023	WNV

Mosquito Pools

County	Site	Pool No	Species	City	Pool Size	Trap	Collected	Virus
Los Angeles	GRLA 2035	6021	Cx quinquefasciatus	Tarzana	50	GRVD	11/2/2023	WNV
Los Angeles	GRLA 2500	6027	Cx quinquefasciatus	Elysian Valley	50	GRVD	11/3/2023	WNV
Los Angeles	GRLA 2503	6028	Cx quinquefasciatus	Elysian Valley	50	GRVD	11/3/2023	WNV
Los Angeles	GRLA 2555	6019	Cx quinquefasciatus	Encino	50	GRVD	11/2/2023	WNV
Los Angeles	GRLA 2614	6011	Cx quinquefasciatus	Santa Clarita	50	GRVD	10/31/2023	WNV
Los Angeles	GRLA 3009	6012	Cx quinquefasciatus	Santa Clarita	50	GRVD	10/31/2023	WNV
Los Angeles	GRLA 3065	953	Cx quinquefasciatus	Willowbrook	50	GRVD	10/31/2023	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>.

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