

California Arbovirus Surveillance Bulletin #34

Week 49 Friday, Dec 6, 2024



WEEKLY UPDATE

Humans

West Nile virus

A total of 6 new human cases of West Nile virus (WNV) disease were reported this week from 4 counties: Fresno (1), Los Angeles (3), Sutter (1), and Tulare (1). **This is the first WNV positive human case from Sutter County this year.** In 2024, 123 human cases of WNV disease were reported from 24 counties. Of the 123 cases, 95 (77%) had neuroinvasive disease and 12 (10%) were fatal. The median age of the case-patients was 60 years and 80 (65%) of the case-patients were male. The dates of symptom onset ranged from May 28 to October 24. In addition to the 123 cases of WNV disease, 16 asymptomatic WNV-positive blood donors have been reported from 7 counties: Butte (1), Contra Costa (1), Fresno (3), Los Angeles (6), San Bernardino (2), Santa Clara (2), and Stanislaus (1). At this time last year, 354 human cases of WNV disease had been reported from 36 counties.

St. Louis encephalitis virus

No human cases of St. Louis encephalitis virus (SLEV) disease have been reported. At this time last year, 17 human cases of SLEV disease had been reported from 9 counties.

Dengue virus

Locally acquired and travel associated dengue cases are indicated in the CDPH Weekly Update on Number of Dengue Infections: <https://westnile.ca.gov/pdfs/WeeklyUpdateDengueInfectionsCA.pdf>

Dead Birds

A total of 2 new WNV positive dead birds were reported this week from 2 counties: Fresno (1) and San Diego (1). In 2024, 535 WNV positive dead birds have been reported from 22 counties. At this time last year, 849 WNV positive dead birds had been reported from 31 counties.

Mosquito Pools

West Nile virus

A total of 3 new WNV positive mosquito pools were reported this week from 1 county: Tulare (3). In 2024, 2,006 WNV positive mosquito pools have been reported from 25 counties. At this time last year, 4,518 WNV positive mosquito pools had been reported from 31 counties.

St. Louis encephalitis virus

No new SLEV positive mosquito pools were reported this week. In 2024, 34 SLEV positive mosquito pools have been reported from 5 counties: Fresno (14), Imperial (1), Kings (3), Madera (4), and Tulare (12). At this time last year, 728 SLEV positive mosquito pools had been reported from 15 counties.

Sentinel Chickens

A single (1) new WNV positive sentinel chicken was reported this week from 1 county: Los Angeles (1). In 2024, 159 WNV positive sentinel chickens have been reported from 16 counties. At this time last year, 187 WNV positive sentinel chickens had been reported from 17 counties.

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2023 & 2024 YTD West Nile Virus Comparisons		
	2023	2024
Total No. Dead Bird Reports	7,030	6,434
No. Positive Counties	42	32
No. Human Cases	354	123
No. Positive Dead Birds / No. Tested	849 / 1,953	535 / 1,789
No. Positive Mosquito Pools / No. Tested	4,518 / 52,375	2,006 / 48,241
No. Seroconversions / No. Tested	187 / 3,704	159 / 4,889

YTD WNV Activity by Element and County, 2024					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda			53	20	2
Butte	11		4	70	28
Calaveras	1				
Colusa	1		1		2
Contra Costa	3		6	10	8
Fresno	16		2	208	
Glenn	1				
Imperial				3	
Kern	12			48	
Kings	6			87	
Lake			3	13	7
Los Angeles	23	1	17	205	42
Madera			1	110	
Merced	3		1	44	12
Nevada					1
Orange	1		1	52	
Placer		1	4	93	
Riverside	4		4	217	
Sacramento	5	1	66	53	1
San Bernardino	5		10	76	
San Diego	2	1	8		
San Joaquin	2	1	6	188	
San Mateo			36		
Santa Clara	3		301	34	
Shasta	1			37	2
Solano			2	13	8
Stanislaus	5			56	
Sutter	1			32	20
Tehama	2	1			6
Tulare	2		1	239	10
Yolo	9		6	66	3
Yuba	4	1	2	32	7
Totals	123	7	535	2,006	159

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TESTING SUMMARIES

		WNV	SLEV	WEEV
Human Cases	Week	6	0	0
	YTD	123	0	0

Positive / Total Tested							
		WNV	SLEV	WEEV	CHIK	DENV	ZIKA

Dead Birds	Week	2 / 11
	YTD	535 / 1,789

Chicken Sera	Week	1 / 47	0 / 47	0 / 47
	YTD	159 / 4,889	0 / 4,889	0 / 4,889

Mosquito Pools	Week	3 / 20	0 / 20	0 / 20	0 / 7	0 / 7	0 / 7
	YTD	2,006 / 48,241	34 / 44,593	0 / 44,616	0 / 1,453	0 / 1,453	0 / 1,453

POSITIVES

Dead Birds

County	Submitting Agency	City	Zip Code	Species	Date Reported	Virus
Fresno	Central CAHFS	Selma	93662	Great Horned Owl	9/4/2024	WNV
San Diego	San Diego Co VCP	Escondido	92025	American Crow	11/20/2024	WNV

Mosquito Pools

County	Site	Pool No	Species	City	Pool Size	Trap	Collected	Virus
Tulare	DLTA 300019	4413	Cx quinquefasciatus	Visalia	50	BGSENT	10/9/2024	WNV
Tulare	DLTA 83222	4437	Cx stigmatosoma	Goshen	42	BGSENT	10/9/2024	WNV
Tulare	DLTA 8436	4387	Cx quinquefasciatus	Visalia	38	BGSENT	10/8/2024	WNV

Sentinel Chickens

County	Site Code	Nearest City	Date Bled	Virus	Band 01
Los Angeles	LACW 1004	Lawndale	11/19/2024	WNV	3017

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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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