

California Arbovirus Surveillance Bulletin #27

Week 40 Friday, October 7, 2022



WEEKLY UPDATE

Humans

West Nile virus

A total of 9 cases of West Nile virus (WNV) illness were reported this week from 7 counties: Kern (3), Madera (1), Placer (1), Santa Clara (1), Shasta (1), Stanislaus (1), and Tehama (1). **These are the first WNV human cases reported from Placer, Santa Clara, and Shasta counties this year.** In 2022, a total of 90 cases have been reported from 19 counties. Of the 90 cases, 69 (77%) had neuroinvasive illness and 7 (8%) were fatal. The median age of the cases was 61 years and 56 (62%) were male. The dates of symptom onset ranged from April 11 to September 20. In addition to the 90 WNV cases, 10 asymptomatic WNV-positive blood donors have been reported from 5 counties: Fresno (3), Kern (1), Los Angeles (4), Orange (1), and San Joaquin (1). At this time last year, 70 WNV cases had been reported from 20 counties.

St. Louis encephalitis virus

A total of 2 human cases of St. Louis encephalitis virus (SLEV) was reported this week from Kern County. In 2022, 8 SLEV human cases have been reported from 4 counties: Fresno (1), Kern (3), Stanislaus (1), and Tulare (3). At this time last year, 1 SLEV case had been reported from one county.

Dead Birds

A total of 7 WNV positive dead birds were reported this week from 4 counties: Los Angeles (2), Riverside (2), Sacramento (2), and Sonoma (1). **This is the first environmental detection of WNV activity in Sonoma County this year.** In 2022, 173 WNV positive dead birds have been reported from 23 counties. At this time last year, 205 WNV positive dead birds had been reported from 19 counties.

Mosquito Pools

West Nile virus

A total of 62 WNV positive mosquito pools were reported this week from 12 counties: Fresno (1), Kern (1), Los Angeles (33), Madera (3), Placer (1), Riverside (3), Sacramento (2), San Bernardino (5), San Joaquin (1), Stanislaus (3), Tulare (8), and Yolo (1). In 2022, 2,987 WNV positive mosquito pools have been reported from 25 counties. At this time last year, 2,224 WNV positive pools had been reported from 25 counties.

St. Louis encephalitis virus

A total of 7 SLEV positive mosquito pools were reported this week from 5 counties: Fresno (1), Kern (1), Madera (2), Riverside (1), and Tulare (2). In 2022, 138 SLEV positive mosquito pools from 9 counties have been reported: Fresno (12), Imperial (5), Kern (7), Kings (27), Los Angeles (1), Madera (17), Riverside (55), San Joaquin (1), and Tulare (13). At this time last year, 43 SLEV positive pools had been reported from 8 counties.

Sentinel Chickens

A total of 4 WNV positive chickens were reported from 2 counties: Los Angeles (3) and Shasta (1). In 2022, 127 WNV positive chickens have been reported from 13 counties. At this time last year, 83 WNV positive chickens had been reported from 10 counties.

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2021 & 2022 YTD West Nile Virus Comparisons		
	2021	2022
Total No. Dead Bird Reports	4,629	4,262
No. Positive Counties	34	31
No. Human Cases	70	90
No. Positive Dead Birds / No. Tested	205 / 1,542	173 / 1,165
No. Positive Mosquito Pools / No. Tested	2,224 / 35,139	2,987 / 35,648
No. Seroconversions / No. Tested	83 / 5,066	127 / 4,547

YTD WNV Activity by Element and County, 2022					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Butte	3		2	39	27
Colusa					3
Contra Costa			1	2	5
Fresno	14		2	292	
Imperial				1	
Kern	13	3		98	
Kings	5			105	
Lake			2	7	3
Los Angeles	12		39	474	17
Madera	3		2	130	
Merced	6		1	20	16
Napa				1	
Nevada		1	1		
Orange	4		1	31	
Placer	1		5	89	
Riverside			5	119	
Sacramento		2	39	42	6
San Bernardino			7	84	
San Joaquin	3	1	1	198	
San Luis Obispo		1			
Santa Clara	1		22	21	
Shasta	1		1	39	2
Solano	2		9	12	
Sonoma	1				
Stanislaus	9	1	1	68	
Sutter			4	31	16
Tehama	3	2			6
Tulare	5	3	2	1,007	10
Ventura			1		
Yolo	3		24	65	3
Yuba	1		1	12	13
Totals	90	14	173	2,987	127

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TESTING SUMMARIES

		WNV	SLEV	WEEV
Human Cases	Week	9	2	0
	YTD	90	8	0

Positive / Total Tested						
	WNV	SLEV	WEEV	CHIK	DENV	ZIKA

Dead Birds	Week	7 / 40
	YTD	173 / 1,165

Chicken Sera	Week	4 / 163	0 / 163	0 / 163
	YTD	127 / 4,547	0 / 4,547	0 / 4,547

Mosquito Pools	Week	62 / 1,457	7 / 1,340	0 / 1,338	0 / 85	0 / 85	0 / 85
	YTD	2,987 / 35,648	138 / 32,125	0 / 30,713	0 / 436	0 / 436	0 / 436

POSITIVES

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Los Angeles	Greater Los Angeles Co VCD	Long Beach	90808	American Crow	9/26/2022	WNV
Los Angeles	Los Angeles Co West VCD	Santa Monica	90405	American Crow	9/22/2022	WNV
Riverside	Northwest Mosquito VCD	Norco	92860	American Crow	9/20/2022	WNV
Riverside	Northwest Mosquito VCD	Norco	92860	American Crow	9/21/2022	WNV
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95624	House Finch	10/3/2022	WNV
Sacramento	Sacramento-Yolo MVCD	Fair Oaks	95628	California Scrub-Jay	10/3/2022	WNV
Sonoma	Marin-Sonoma MVCD	Petaluma	94954	American Crow	9/30/2022	WNV

Mosquito Pools

County	Site code	Pool #	Species	City	# in Pool	Trap type	Collected	Virus
Fresno	FRWS 3212	391	Cx. quinquefasciatus	Firebaugh	50	BGSENT	10/4/2022	SLEV
Fresno	FRWS 3212	392	Cx. quinquefasciatus	Firebaugh	50	CO2	10/4/2022	WNV
Kern	DLNO 126	212	Cx. quinquefasciatus	Delano	31	BGSENT	9/28/2022	WNV
Kern	DLNO 44	221	Cx. quinquefasciatus	Delano	19	BGSENT	9/30/2022	SLEV
Los Angeles	GRLA 2007	5935	Cx. quinquefasciatus	Toluca Lake	50	GRVD	9/28/2022	WNV
Los Angeles	GRLA 2017	5934	Cx. quinquefasciatus	Studio City	50	GRVD	9/28/2022	WNV
Los Angeles	GRLA 2029	5931	Cx. quinquefasciatus	Canoga Park	31	GRVD	9/27/2022	WNV
Los Angeles	GRLA 2065	855	Cx. quinquefasciatus	Gardena	50	GRVD	9/28/2022	WNV
Los Angeles	GRLA 2278	863	Cx. quinquefasciatus	Long Beach	50	GRVD	9/29/2022	WNV
Los Angeles	GRLA 2465	5957	Cx. quinquefasciatus	Los Feliz	50	GRVD	9/30/2022	WNV
Los Angeles	GRLA 2500	5953	Cx. quinquefasciatus	Elysian Valley	50	GRVD	9/30/2022	WNV
Los Angeles	GRLA 2503	5954	Cx. quinquefasciatus	Elysian Valley	50	GRVD	9/30/2022	WNV
Los Angeles	GRLA 2521	5958	Cx. quinquefasciatus	Los Feliz	50	GRVD	9/30/2022	WNV
Los Angeles	GRLA 2552	5960	Cx. quinquefasciatus	Glendale	50	GRVD	9/30/2022	WNV

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Los Angeles	GRLA 2567	5921	Cx. quinquefasciatus	Woodland Hills	27	GRVD	9/27/2022	WNV
Los Angeles	GRLA 2635	5944	Cx. quinquefasciatus	Lake Balboa	25	GRVD	9/29/2022	WNV
Los Angeles	GRLA 2724	5930	Cx. quinquefasciatus	Winnetka	50	GRVD	9/27/2022	WNV
Los Angeles	GRLA 2889	861	Cx. quinquefasciatus	Lakewood	50	GRVD	9/29/2022	WNV
Los Angeles	GRLA 2957	858	Cx. quinquefasciatus	Hawaiian Gardens	50	GRVD	9/29/2022	WNV
Los Angeles	GRLA 3028	5927	Cx. quinquefasciatus	West Hills	18	BGSENT	9/27/2022	WNV
Los Angeles	GRLA 3036	5926	Cx. quinquefasciatus	Canoga Park	50	BGSENT	9/27/2022	WNV
Los Angeles	GRLA 3038	5938	Cx. quinquefasciatus	Valley Village	50	GRVD	9/28/2022	WNV
Los Angeles	GRLA 3039	5933	Cx. quinquefasciatus	Hollywood Hills	42	BGSENT	9/28/2022	WNV
Los Angeles	GRLA 3051	860	Cx. quinquefasciatus	Signal Hill	50	GRVD	9/29/2022	WNV
Los Angeles	GRLA 3076	5941	Cx. quinquefasciatus	Valley Glen	50	GRVD	9/28/2022	WNV
Los Angeles	GRLA 3078	5956	Cx. quinquefasciatus	Los Feliz	50	GRVD	9/30/2022	WNV
Los Angeles	GRLA 3080	5939	Cx. quinquefasciatus	North Hollywood	50	GRVD	9/28/2022	WNV
Los Angeles	GRLA 3098	5955	Cx. quinquefasciatus	Silver Lake	50	GRVD	9/30/2022	WNV
Los Angeles	GRLA 3102	5936	Cx. quinquefasciatus	Studio City	50	BGSENT	9/28/2022	WNV
Los Angeles	SGVA 1069	1073	Cx. quinquefasciatus	La Puente	50	GRVD	10/4/2022	WNV
Los Angeles	SGVA 285	1072	Cx. quinquefasciatus	Baldwin Park	17	GRVD	10/4/2022	WNV
Los Angeles	SGVA 29	1086	Cx. quinquefasciatus	Pomona	50	GRVD	10/4/2022	WNV
Los Angeles	SGVA 294	1089	Cx. quinquefasciatus	City of Industry	50	GRVD	10/4/2022	WNV
Los Angeles	SGVA 297	1097	Cx. quinquefasciatus	Monterey Park	17	GRVD	10/4/2022	WNV
Los Angeles	SGVA 385	1082	Cx. quinquefasciatus	Arcadia	50	GRVD	10/4/2022	WNV
Los Angeles	SGVA 479	1094	Cx. quinquefasciatus	Altadena	50	GRVD	10/4/2022	WNV
Los Angeles	SGVA 956	1090	Cx. quinquefasciatus	Walnut	21	GRVD	10/4/2022	WNV
Madera	MADR 3334	813	Cx. tarsalis	Madera	32	CO2	9/30/2022	WNV
Madera	MADR 3334	813	Cx. tarsalis	Madera	32	CO2	9/30/2022	SLEV
Madera	MADR 697	776	Cx. tarsalis	Firebaugh	50	CO2	9/27/2022	WNV
Madera	MADR 706	797	Cx. tarsalis	Madera	24	CO2	9/29/2022	SLEV
Madera	MADR 709	799	Cx. tarsalis	Madera	35	CO2	9/29/2022	WNV
Placer	PLCR 115	1760	Cx. tarsalis	Roseville	5	CO2	9/28/2022	WNV
Riverside	COAV 116	5843	Cx. tarsalis	North Shore	50	CO2	10/4/2022	SLEV
Riverside	COAV 200	5723	Cx. quinquefasciatus	Mecca	23	CO2	10/4/2022	WNV
Riverside	NWST 134	252	Cx. quinquefasciatus	Mira Loma	41	GRVD	10/4/2022	WNV
Riverside	NWST 76	248	Cx. quinquefasciatus	Riverside	50	GRVD	9/29/2022	WNV
Sacramento	SAYO 204051	5046	Cx. pipiens	Citrus Heights	17	CO2	9/30/2022	WNV
Sacramento	SAYO 233009	5163	Cx. pipiens	Elk Grove	50	CO2	10/4/2022	WNV
San Bernardino	WVAL 127	1652	Cx. quinquefasciatus	Ontario	42	GRVD	10/5/2022	WNV
San Bernardino	WVAL 379	1675	Cx. quinquefasciatus	Chino Hills	17	BGSENT	10/7/2022	WNV
San Bernardino	WVAL 4613	1643	Cx. quinquefasciatus	Upland	25	GRVD	10/5/2022	WNV
San Bernardino	WVAL 5004	1604	Cx. quinquefasciatus	Rancho Cucamonga	54	GRVD	10/4/2022	WNV
San Bernardino	WVAL 9005	1636	Cx. quinquefasciatus	Upland	52	GRVD	10/5/2022	WNV
San Joaquin	SJCM 8056	2157	Cx. tarsalis	Manteca	50	CO2	10/4/2022	WNV
Stanislaus	TRLK 1309	994	Cx. pipiens	Hughson	50	CO2	10/4/2022	WNV
Stanislaus	TRLK 19519	988	Cx. pipiens	Denair	50	CO2	10/4/2022	WNV
Stanislaus	TRLK 407	973	Cx. pipiens	Turlock	41	CO2	10/4/2022	WNV
Tulare	DLTA 8324	3996	Cx. tarsalis	Goshen	11	BGSENT	9/30/2022	WNV
Tulare	DLTA 84221	3902	Cx. quinquefasciatus	Visalia	50	BGSENT	9/27/2022	SLEV
Tulare	DLTA 84221	3902	Cx. quinquefasciatus	Visalia	50	BGSENT	9/27/2022	WNV
Tulare	DLTA 84221	3906	Cx. quinquefasciatus	Visalia	50	BGSENT	9/27/2022	WNV
Tulare	DLTA 84223	3829	Cx. quinquefasciatus	Visalia	17	BGSENT	9/22/2022	WNV
Tulare	DLTA 84253	3970	Cx. quinquefasciatus	Visalia	22	BGSENT	9/29/2022	WNV
Tulare	DLTA 8427	3925	Cx. quinquefasciatus	Visalia	39	BGSENT	9/28/2022	WNV
Tulare	DLTA 8507	3940	Cx. quinquefasciatus	Visalia	20	BGSENT	9/28/2022	WNV
Tulare	DLTA 8521	4004	Cx. quinquefasciatus	Visalia	50	BGSENT	9/30/2022	WNV
Tulare	DLTA 94122	3924	Cx. quinquefasciatus	Visalia	50	BGSENT	9/28/2022	SLEV
Yolo	SAYO 103007	5126	Cx. tarsalis	Dunnigan	9	CO2	10/4/2022	WNV

Sentinel Chickens

County	Site Code	Nearest City	Date Bled	Virus	Band 01	Band 02
Los Angeles	LACW 1010	Los Angeles	9/27/2022	WNV	1720	
Los Angeles	LACW 1026	Los Angeles	9/27/2022	WNV	1739	1740
Shasta	SHAS 5038	Shasta	10/3/2022	WNV	1355	

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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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