

California Arbovirus Surveillance Bulletin #28

Week 41 Friday, October 14, 2022



WEEKLY UPDATE

Humans

West Nile virus

A total of 4 cases of West Nile virus (WNV) illness were reported this week from 3 counties: Kern (2), Sutter (1), and Tulare (1). **This is the first WNV human case reported from Sutter County this year.** In 2022, a total of 93 cases have been reported from 20 counties. Of the 93 cases, 72 (77%) had neuroinvasive illness and 6 (6%) were fatal. The median age of the cases was 61 years and 59 (63%) were male. The dates of symptom onset ranged from April 11 to September 20. In addition to the 93 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, 75 WNV cases had been reported from 21 counties.

St. Louis encephalitis virus

No human cases of St. Louis encephalitis virus (SLEV) were reported this week. 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 8 WNV positive dead birds were reported this week from 3 counties: Los Angeles (5), Sacramento (1), and Santa Clara (2). In 2022, 181 WNV positive dead birds have been reported from 23 counties. At this time last year, 207 WNV positive dead birds had been reported from 19 counties.

Mosquito Pools

West Nile virus

A total of 70 WNV positive mosquito pools were reported this week from 11 counties: Fresno (1), Kern (1), Los Angeles (31), Madera (2), Orange (1), Riverside (2), San Bernardino (3), San Joaquin (9), Santa Clara (1), Stanislaus (1), and Tulare (18). In 2022, 3,057 WNV positive mosquito pools have been reported from 25 counties. At this time last year, 2,247 WNV positive pools had been reported from 25 counties.

St. Louis encephalitis virus

A total of 11 SLEV positive mosquito pools were reported this week from 6 counties: Fresno (1), Imperial (1), Kern (4), Madera (1), Stanislaus (1), and Tulare (3). **This is the first report of environmental SLEV activity in Stanislaus County this year.** In 2022, 148 SLEV positive mosquito pools from 10 counties have been reported: Fresno (13), Imperial (6), Kern (11), Kings (27), Los Angeles (1), Madera (18), Riverside (55), San Joaquin (1), Stanislaus (1), and Tulare (15). At this time last year, 44 SLEV positive pools had been reported from 8 counties.

Sentinel Chickens

A total of 12 WNV positive chickens were reported from 1 county: Los Angeles (12). In 2022, 139 WNV positive chickens have been reported from 13 counties. At this time last year, 87 WNV positive chickens had been reported from 12 counties.

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2021 & 2022 YTD West Nile Virus Comparisons		
	2021	2022
Total No. Dead Bird Reports	4,729	4,377
No. Positive Counties	34	31
No. Human Cases	75	93
No. Positive Dead Birds / No. Tested	207 / 1,586	181 / 1,195
No. Positive Mosquito Pools / No. Tested	2,247 / 36,098	3,057 / 37,501
No. Seroconversions / No. Tested	87 / 5,216	139 / 4,702

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	293	
Imperial				1	
Kern	15	3		99	
Kings	5			105	
Lake			2	7	3
Los Angeles	12		44	505	29
Madera	3		2	132	
Merced	6		1	20	16
Napa				1	
Nevada		1	1		
Orange	3		1	32	
Placer	1		5	89	
Riverside			5	121	
Sacramento		2	40	42	6
San Bernardino			7	87	
San Joaquin	3	1	1	207	
San Luis Obispo		1			
Santa Clara	1		24	22	
Shasta	1		1	39	2
Solano	2		9	12	
Sonoma	1				
Stanislaus	9	1	1	69	
Sutter	1		4	31	16
Tehama	3	2			6
Tulare	6	3	2	1,025	10
Ventura			1		
Yolo	3		24	65	3
Yuba	1		1	12	13
Totals	93	14	181	3,057	139

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TESTING SUMMARIES

		WNV	SLEV	WEEV
Human Cases	Week	4	0	0
	YTD	93	8	0

Positive / Total Tested							
		WNV	SLEV	WEEV	CHIK	DENV	ZIKA

Dead Birds	Week	8 / 30
	YTD	181 / 1,195

Chicken Sera	Week	12 / 155	0 / 155	0 / 155
	YTD	139 / 4,702	0 / 4,702	0 / 4,702

Mosquito Pools	Week	70 / 1,853	11 / 1,708	0 / 1,707	0 / 0	0 / 0	0 / 0
	YTD	3,057 / 37,501	138 / 33,833	0 / 32,420	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 - SFS	Cerritos	90703	American Crow	10/3/2022	WNV
Los Angeles	Greater Los Angeles Co VCD - SFS	Diamond Bar	91765	Unknown - songbird	10/7/2022	WNV
Los Angeles	Los Angeles Co West VCD	Los Angeles	90048	American Crow	10/6/2022	WNV
Los Angeles	San Gabriel Valley MVCD	Alhambra	91803	American Crow	10/10/2022	WNV
Los Angeles	San Gabriel Valley MVCD	Claremont	91711	American Crow	10/7/2022	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95825	Yellow-billed Magpie	10/12/2022	WNV
Santa Clara	Santa Clara Co VCD	Palo Alto	94306	American Crow	9/30/2022	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95118	American Crow	10/6/2022	WNV

Mosquito Pools

County	Site code	Pool #	Species	City	# in Pool	Trap type	Collected	Virus
Fresno	CNSL 1242	167	Cx. quinquefasciatus	Fresno	50	GRVD	10/5/2022	SLEV
Fresno	CNSL 8209	688	Cx. quinquefasciatus	Fresno	50	GRVD	10/7/2022	WNV
Imperial	IMPR 64	432	Cx. tarsalis	Bombay Beach	17	BGSENT	10/11/2022	SLEV
Kern	DLNO 27	222	Cx. quinquefasciatus	Wasco	50	CO2	10/5/2022	SLEV
Kern	KERN 1105	488	Cx. tarsalis	Lost Hills	50	CO2	9/27/2022	WNV
Kern	KERN 115	495	Cx. tarsalis	Bakersfield	50	CO2	9/29/2022	SLEV

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Kern	KERN 31	519	Cx. tarsalis	Arvin	34	CO2	10/4/2022	SLEV
Kern	KERN 43	534	Cx. quinquefasciatus	Shafter	48	CO2	10/6/2022	SLEV
Los Angeles	GRLA 2081	870	Cx. quinquefasciatus	Lynwood	29	GRVD	10/4/2022	WNV
Los Angeles	GRLA 2093	871	Cx. quinquefasciatus	South Gate	39	GRVD	10/4/2022	WNV
Los Angeles	GRLA 2097	886	Cx. quinquefasciatus	La Mirada	50	GRVD	10/6/2022	WNV
Los Angeles	GRLA 2194	898	Cx. quinquefasciatus	South El Monte	50	GRVD	10/7/2022	WNV
Los Angeles	GRLA 2221	906	Cx. quinquefasciatus	Rowland Heights	50	GRVD	10/7/2022	WNV
Los Angeles	GRLA 2247	897	Cx. quinquefasciatus	Pico Rivera	50	GRVD	10/6/2022	WNV
Los Angeles	GRLA 2300	878	Cx. quinquefasciatus	Los Angeles	50	GRVD	10/5/2022	WNV
Los Angeles	GRLA 2346	896	Cx. quinquefasciatus	Montebello	50	GRVD	10/6/2022	WNV
Los Angeles	GRLA 2567	5984	Cx. quinquefasciatus	Woodland Hills	34	GRVD	10/6/2022	WNV
Los Angeles	GRLA 2574	5963	Cx. quinquefasciatus	Sherman Oaks	50	GRVD	10/4/2022	WNV
Los Angeles	GRLA 2580	5962	Cx. quinquefasciatus	Sherman Oaks	31	GRVD	10/4/2022	WNV
Los Angeles	GRLA 2592	5973	Cx. quinquefasciatus	San Marino	50	GRVD	10/4/2022	WNV
Los Angeles	GRLA 2637	5966	Cx. quinquefasciatus	Van Nuys	49	GRVD	10/4/2022	WNV
Los Angeles	GRLA 2651	5964	Cx. quinquefasciatus	Encino	50	GRVD	10/4/2022	WNV
Los Angeles	GRLA 2675	5995	Cx. quinquefasciatus	Granada Hills	12	GRVD	10/7/2022	WNV
Los Angeles	GRLA 3036	5989	Cx. quinquefasciatus	Canoga Park	44	GRVD	10/6/2022	WNV
Los Angeles	GRLA 3040	887	Cx. quinquefasciatus	La Mirada	50	GRVD	10/6/2022	WNV
Los Angeles	GRLA 3041	891	Cx. quinquefasciatus	Artesia	50	GRVD	10/6/2022	WNV
Los Angeles	GRLA 3043	901	Cx. quinquefasciatus	Avocado Heights	28	GRVD	10/7/2022	WNV
Los Angeles	GRLA 3048	894	Cx. quinquefasciatus	Pico Rivera	50	GRVD	10/6/2022	WNV
Los Angeles	GRLA 3049	877	Cx. quinquefasciatus	Downey	50	GRVD	10/4/2022	WNV
Los Angeles	GRLA 3058	869	Cx. quinquefasciatus	Lynwood	33	GRVD	10/4/2022	WNV
Los Angeles	GRLA 3059	868	Cx. quinquefasciatus	Paramount	50	GRVD	10/4/2022	WNV
Los Angeles	GRLA 3060	889	Cx. quinquefasciatus	Norwalk	50	GRVD	10/6/2022	WNV
Los Angeles	GRLA 3086	5975	Cx. quinquefasciatus	Highland Park	50	GRVD	10/4/2022	WNV
Los Angeles	SGVA 1032	1130	Cx. quinquefasciatus	Pasadena	23	GRVD	10/11/2022	WNV
Los Angeles	SGVA 1077	1109	Cx. quinquefasciatus	La Puente	48	GRVD	10/11/2022	WNV
Los Angeles	SGVA 285	1114	Cx. quinquefasciatus	Baldwin Park	35	GRVD	10/11/2022	WNV
Los Angeles	SGVA 62	1120	Cx. quinquefasciatus	Covina	50	GRVD	10/11/2022	WNV
Los Angeles	SGVA 695	1127	Cx. quinquefasciatus	Rosemead	50	GRVD	10/11/2022	WNV
Los Angeles	SGVA 887	1129	Cx. quinquefasciatus	Alhambra	18	GRVD	10/11/2022	WNV
Madera	MADR 3334	834	Cx. tarsalis	Madera	16	CO2	10/6/2022	SLEV
Madera	MADR 85	828	Cx. quinquefasciatus	Madera	49	CO2	10/5/2022	WNV
Madera	MADR 896	817	Cx. tarsalis	Mendota	50	CO2	10/4/2022	WNV
Orange	ORCO 355	3993	Cx. quinquefasciatus	Huntington Beach	30	GRVD	10/6/2022	WNV
Riverside	COAV 10	6045	Cx. tarsalis	Oasis	50	CO2	10/12/2022	WNV
Riverside	COAV 130	6180	Cx. quinquefasciatus	Oasis	33	CO2	10/12/2022	WNV
San Bernardino	WVAL 2005	1705	Cx. quinquefasciatus	Chino	14	CO2	10/11/2022	WNV
San Bernardino	WVAL 4461	1702	Cx. quinquefasciatus	Chino Hills	37	GRVD	10/11/2022	WNV
San Bernardino	WVAL 9001	1689	Cx. quinquefasciatus	Upland	8	GRVD	10/11/2022	WNV
San Joaquin	SJCM 8056	2250	Cx. tarsalis	Manteca	100	CO2	10/11/2022	WNV
San Joaquin	SJCM 8056	2251	Cx. tarsalis	Manteca	50	CO2	10/11/2022	WNV
San Joaquin	SJCM 8056	2252	Cx. tarsalis	Manteca	50	CO2	10/11/2022	WNV
San Joaquin	SJCM 8056	2253	Cx. tarsalis	Manteca	50	CO2	10/11/2022	WNV
San Joaquin	SJCM 8056	2254	Cx. tarsalis	Manteca	50	CO2	10/11/2022	WNV
San Joaquin	SJCM 8056	2255	Cx. tarsalis	Manteca	50	CO2	10/11/2022	WNV
San Joaquin	SJCM 8056	2256	Cx. tarsalis	Manteca	50	CO2	10/11/2022	WNV
San Joaquin	SJCM 8056	2257	Cx. tarsalis	Manteca	45	CO2	10/11/2022	WNV
San Joaquin	SJCM 8206	2270	Cx. tarsalis	Lodi	50	CO2	10/12/2022	WNV
Santa Clara	STCL 32239	3728	Cx. pipiens	Palo Alto	1	CO2-EVS	10/4/2022	WNV
Stanislaus	EAST 1088	22176	Cx. pipiens	Modesto	22	GRVD	9/15/2022	WNV
Stanislaus	TRLK 22197	1001	Cx. pipiens	Hickman	13	CO2	10/6/2022	SLEV
Tulare	DLTA 8413	4349	Cx. quinquefasciatus	Visalia	50	BGSENT	10/5/2022	WNV
Tulare	DLTA 8413	4353	Cx. quinquefasciatus	Visalia	50	BGSENT	10/5/2022	WNV
Tulare	DLTA 8413	4365	Cx. quinquefasciatus	Visalia	50	BGSENT	10/5/2022	WNV
Tulare	DLTA 8413	4368	Cx. quinquefasciatus	Visalia	50	BGSENT	10/5/2022	WNV
Tulare	DLTA 8413	4371	Cx. quinquefasciatus	Visalia	50	BGSENT	10/5/2022	WNV
Tulare	DLTA 842113	4282	Cx. quinquefasciatus	Visalia	50	CO2	10/5/2022	WNV
Tulare	DLTA 842113	4284	Cx. quinquefasciatus	Visalia	50	CO2	10/5/2022	SLEV
Tulare	DLTA 842113	4286	Cx. quinquefasciatus	Visalia	50	CO2	10/5/2022	WNV

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Tulare	DLTA 842113	4287	Cx. quinquefasciatus	Visalia	50	CO2	10/5/2022	WNV
Tulare	DLTA 842113	4288	Cx. quinquefasciatus	Visalia	50	CO2	10/5/2022	WNV
Tulare	DLTA 842113	4290	Cx. quinquefasciatus	Visalia	50	CO2	10/5/2022	SLEV
Tulare	DLTA 842132	4264	Cx. quinquefasciatus	Visalia	50	CO2	10/5/2022	WNV
Tulare	DLTA 84221	3903	Cx. quinquefasciatus	Visalia	50	BGSENT	9/27/2022	WNV
Tulare	DLTA 8423	4248	Cx. quinquefasciatus	Visalia	50	BGSENT	10/5/2022	WNV
Tulare	DLTA 8423	4250	Cx. quinquefasciatus	Visalia	50	BGSENT	10/5/2022	WNV
Tulare	DLTA 843232	4237	Cx. quinquefasciatus	Visalia	50	CO2	10/5/2022	WNV
Tulare	DLTA 843232	4241	Cx. quinquefasciatus	Visalia	50	CO2	10/5/2022	WNV
Tulare	DLTA 843232	4242	Cx. quinquefasciatus	Visalia	50	CO2	10/5/2022	WNV
Tulare	DLTA 843341	4141	Cx. quinquefasciatus	Visalia	50	CO2	10/5/2022	SLEV
Tulare	DLTA 950924	3870	Cx. quinquefasciatus	Visalia	27	CO2	9/27/2022	WNV
Tulare	DLTA 9611	4114	Cx. quinquefasciatus	Exeter	10	BGSENT	10/4/2022	WNV

Sentinel Chickens

County	Site Code	Nearest City	Date Bled	Virus	Band 01	Band 02	Band 03	Band 04
Los Angeles	LACW 001049	Inglewood	9/29/2022	WNV	1744	1745		
Los Angeles	LACW 001073	Los Angeles	9/27/2022	WNV	1746	1749	1750	
Los Angeles	LONG 000002	Long Beach	9/6/2022	WNV	1112	1114	1115	1116
Los Angeles	LONG 000003	Long Beach	9/19/2022	WNV	1127			
Los Angeles	LONG 000004	Long Beach	10/10/2022	WNV	1131	1137		

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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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