

California Arbovirus Surveillance Bulletin #22

Week 38 Friday, September 24, 2021



Weekly Update

Humans

A total of 11 human cases of West Nile virus (WNV) illness were reported this week from 4 counties: Fresno (1), Los Angeles (5), Stanislaus (2), and Tulare (3). In 2021, a total of 57 WNV human cases have been reported from 17 counties. Of the 57 cases, 37 (65%) had neuroinvasive illness and 4 (7.0%) were fatal. The median age of the cases was 57 years, and 35 (61%) were male. Dates of symptom onset ranged from March 31 to September 8. In addition to the 57 cases, 13 asymptomatic WNV infections have been reported from Butte (1), Fresno (1), Kern (2), Kings (2), Los Angeles (3), Madera (1), Merced (1), San Bernardino (1), and San Joaquin (1) counties. At this time last year, 58 WNV cases had been reported from 15 counties.

Dead Birds

A total of 10 WNV positive dead birds were reported this week from 5 counties: Contra Costa (1), Los Angeles (3), Orange (4), Sacramento (1), and San Joaquin (1). **These are the first WNV positive birds reported from Orange County this year.** In 2021, 192 WNV positive dead birds have been reported from 18 counties. At this time last year, 248 WNV positive dead birds had been reported from 18 counties.

Mosquito Pools

West Nile virus

A total of 94 WNV positive mosquito pools were reported this week from 14 counties: Butte (1), Contra Costa (1), Fresno (2), Kern (4), Los Angeles (14), Merced (1), Orange (8), Placer (1), Riverside (5), Sacramento (12), San Joaquin (10), Solano (9), Tulare (23), and Yolo (3). In 2021, 2,126 WNV positive mosquito pools have been reported from 25 counties. At this time last year, 2,126 WNV positive mosquito pools had been reported from 27 counties.

St. Louis encephalitis virus

A total of 4 St. Louis encephalitis virus (SLEV) positive mosquito pools were reported this week from 4 counties: Merced (1), Riverside (1), Stanislaus (1), and Tulare (1). **This is the first SLEV positive mosquito pool reported from Merced County this year.** In 2021, 34 SLEV positive mosquito pools have been reported from 7 counties: Fresno (6), Imperial (3), Madera (1), Merced (1), Riverside (17), Stanislaus (2), and Tulare (4). At this time last year, 396 SLEV positive mosquito pools had been reported from 9 counties.

Sentinel Chickens

A total of 11 WNV positive chickens were reported this week from 5 counties: Butte (2), Lake (1), Sutter (3), Tehama (2), and Yolo (3). In 2021, 78 WNV positive chickens have been reported from 9 counties. At this time last year, 81 WNV positive chickens had been reported from 11 counties.

St. Louis encephalitis virus

No SLEV positive chickens were reported this week. In 2021, 2 SLEV positive chickens have been reported from Merced County. At this time last year, no SLEV positive chickens had been reported.

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YTD WNV Activity by Element and County, 2021					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Amador		1			
Butte	12		2	80	26
Contra Costa	1		2	8	
Fresno	4	2		211	
Glenn	2				
Kern	2			102	
Kings	1	1		30	
Lake				4	4
Los Angeles	8		41	208	
Madera	3			126	
Merced	5	1	1	7	19
Napa				1	
Nevada			1		
Orange			4	43	
Placer	1		3	63	
Riverside				103	
Sacramento		2	96	113	
San Bernardino			1	8	
San Joaquin	2	2	17	382	
San Luis Obispo	2				
Santa Clara			1	4	
Shasta	1			28	1
Solano	1		2	21	
Sonoma			1	1	
Stanislaus	5	1	2	140	
Sutter			1	18	11
Tehama					5
Tulare	6		7	362	7
Ventura			1		
Yolo	1		9	51	4
Yuba		1		12	1
Totals	57	11	192	2,126	78

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2020 & 2021 YTD West Nile Virus Comparisons		
	2020	2021
Total # Dead Bird Reports	4,433	4,364
# Positive Counties	32	31
# Human Cases	58	57
# Positive Dead Birds / # Tested	248 / 1,256	192 / 1380
# Positive Mosquito Pools / # Tested	2,126 / 31,968	2,126 / 32,173
# Seroconversions / # Tested	81 / 5,001	78 / 4,728

TESTING SUMMARIES

Humans

		WNV	SLEV	WEEV
Human Cases	Week	11	0	0
	YTD	57	0	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	37	10
	YTD	1,380	192

Sentinel Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	209	11	0	0
	YTD	4,728	78	2	0

Mosquitoes

		Positive / Total Tested					
		WNV	SLEV	WEEV	CHIK	DENV	ZIKA
Mosquito Pools	Week	94 / 2,162	4 / 1,933	0 / 1,753	0 / 0	0 / 0	0 / 0
	YTD	2,126 / 32,173	34 / 29,837	0 / 27,405	0 / 559	0 / 559	0 / 559

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NEW POSITIVES

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Contra Costa	Contra Costa MVCD	San Pablo	94806	American Crow	9/20/2021	WNV
Los Angeles	San Gabriel Valley MVCD	Pasadena	91107	House Finch	9/15/2021	WNV
Los Angeles	Greater Los Angeles Co VCD - Sylmar	Los Angeles	91040	Unknown - Crow or Raven	9/15/2021	WNV
Los Angeles	Greater Los Angeles Co VCD - Sylmar	Woodland Hills	91364	Lesser Goldfinch	9/17/2021	WNV
Orange	Orange Co VCD	Irvine	92618	Great Horned Owl	8/23/2021	WNV
Orange	Orange Co VCD	Yorba Linda	92886	Red-tailed Hawk	8/29/2021	WNV
Orange	Orange Co VCD	Placentia	92870	American Crow	9/3/2021	WNV
Orange	Orange Co VCD	Irvine	92618	Red-tailed Hawk	9/7/2021	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95818	American Crow	9/18/2021	WNV
San Joaquin	San Joaquin Co MVCD	Tracy	95376	American Crow	9/14/2021	WNV

Mosquitoes

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Butte	BUCO84	390	Cx. tarsalis	Nelson	35	CO2	9/14/2021	WNV
Contra Costa	CNTR7402	1758	Cx. tarsalis	Oakley	50	CO2	9/21/2021	WNV
Fresno	CNSL6240	748	Cx. quinquefasciatus	Caruthers	31	BGSENT	9/15/2021	WNV
Fresno	FRNO19	562	Cx. quinquefasciatus	Fresno	50	GRVD	9/22/2021	WNV
Kern	DLNO128	151	Cx. quinquefasciatus	Delano	50	GRVD	9/14/2021	WNV
Kern	DLNO163	165	Cx. quinquefasciatus	Delano	47	GRVD	9/17/2021	WNV
Kern	DLNO43	164	Cx. quinquefasciatus	McFarland	23	GRVD	9/17/2021	WNV
Kern	DLNO97	161	Cx. quinquefasciatus	Delano	50	CO2	9/16/2021	WNV
Los Angeles	GRLA2017	5690	Cx. quinquefasciatus	Studio City	17	GRVD	9/15/2021	WNV
Los Angeles	GRLA2029	5686	Cx. quinquefasciatus	Canoga Park	17	GRVD	9/15/2021	WNV
Los Angeles	GRLA2278	646	Cx. quinquefasciatus	Long Beach	50	GRVD	9/15/2021	WNV
Los Angeles	GRLA2890	649	Cx. quinquefasciatus	Lakewood	30	BGSENT	9/15/2021	WNV
Los Angeles	GRLA2952	631	Cx. quinquefasciatus	South Whittier	23	BGSENT	9/15/2021	WNV
Los Angeles	GRLA2953	634	Cx. quinquefasciatus	Santa Fe Springs	29	GRVD	9/15/2021	WNV
Los Angeles	GRLA2995	5683	Cx. quinquefasciatus	Woodland Hills	38	GRVD	9/15/2021	WNV
Los Angeles	GRLA3060	635	Cx. quinquefasciatus	Norwalk	37	GRVD	9/15/2021	WNV
Los Angeles	SGVA1056	971	Cx. quinquefasciatus	Glendora	26	GRVD	9/21/2021	WNV
Los Angeles	SGVA1117	976	Cx. quinquefasciatus	West Covina	50	GRVD	9/21/2021	WNV
Los Angeles	SGVA29	972	Cx. quinquefasciatus	Pomona	50	GRVD	9/21/2021	WNV
Los Angeles	SGVA451	1001	Cx. quinquefasciatus	Glendora	50	GRVD	9/21/2021	WNV
Los Angeles	SGVA64	978	Cx. quinquefasciatus	West Covina	49	GRVD	9/21/2021	WNV
Los Angeles	SGVA952	987	Cx. quinquefasciatus	San Dimas	50	GRVD	9/21/2021	WNV
Merced	MERC404	504	Cx. pipiens	Hilmar	44	CO2	9/17/2021	SLEV
Merced	MERC818438	509	Cx. pipiens	Merced	50	CO2	9/21/2021	WNV
Orange	ORCO1008	3974	Cx. quinquefasciatus	Fullerton	25	GRVD	9/21/2021	WNV
Orange	ORCO1008	3984	Cx. quinquefasciatus	Fullerton	51	GRVD	9/21/2021	WNV

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Orange	ORCO1008	4048	Cx. quinquefasciatus	Fullerton	50	GRVD	9/21/2021	WNV
Orange	ORCO1008	4094	Cx. quinquefasciatus	Fullerton	24	GRVD	9/21/2021	WNV
Orange	ORCO321	4051	Cx. quinquefasciatus	Anaheim	50	GRVD	9/21/2021	WNV
Orange	ORCO323	4123	Cx. quinquefasciatus	Buena Park	50	GRVD	9/21/2021	WNV
Orange	ORCO332	4121	Cx. quinquefasciatus	Fullerton	25	GRVD	9/21/2021	WNV
Orange	ORCO341	4056	Cx. quinquefasciatus	Stanton	50	GRVD	9/21/2021	WNV
Placer	PLCR1114	1827	Cx. tarsalis	Lincoln	50	CO2	9/21/2021	WNV
Riverside	COAV0	4378	Cx. tarsalis	Indio	50	CO2	9/23/2021	SLEV
Riverside	COAV121	4188	Cx. tarsalis	Mecca	50	CO2	9/21/2021	WNV
Riverside	COAV200	4178	Cx. tarsalis	Mecca	40	CO2	9/21/2021	WNV
Riverside	COAV40	4098	Cx. tarsalis	Mecca	50	CO2	9/21/2021	WNV
Riverside	COAV40	4099	Cx. tarsalis	Mecca	50	CO2	9/21/2021	WNV
Riverside	COAV58	4165	Cx. tarsalis	North Shore	50	CO2	9/21/2021	WNV
Sacramento	SAYO201006	6186	Cx. tarsalis	Sacramento	50	CO2	9/21/2021	WNV
Sacramento	SAYO213034	5925	Cx. tarsalis	Sacramento	1	CO2	9/17/2021	WNV
Sacramento	SAYO214004	5914	Cx. tarsalis	Fair Oaks	1	CO2	9/17/2021	WNV
Sacramento	SAYO233027	6134	Cx. tarsalis	Elk Grove	50	CO2	9/21/2021	WNV
Sacramento	SAYO233036	6139	Cx. pipiens	Elk Grove	48	CO2	9/21/2021	WNV
Sacramento	SAYO243004	5976	Cx. tarsalis	Elk Grove	10	CO2	9/17/2021	WNV
Sacramento	SAYO357458	6385	Cx. pipiens	Elk Grove	38	BGSENT	9/23/2021	WNV
Sacramento	SAYO392198	6081	Cx. pipiens	Fair Oaks	32	BGSENT	9/17/2021	WNV
Sacramento	SAYO392296	6305	Cx. pipiens	Elk Grove	50	BGSENT	9/21/2021	WNV
Sacramento	SAYO392302	6309	Cx. pipiens	Elk Grove	15	BGSENT	9/21/2021	WNV
Sacramento	SAYO392304	6300	Cx. pipiens	Elk Grove	30	BGSENT	9/21/2021	WNV
Sacramento	SAYO392312	6345	Cx. pipiens	Fair Oaks	31	BGSENT	9/21/2021	WNV
San Joaquin	SJCM8025	2159	Cx. tarsalis	Stockton	26	CO2	9/21/2021	WNV
San Joaquin	SJCM8027	2225	Cx. pipiens	Stockton	50	CO2	9/21/2021	WNV
San Joaquin	SJCM8056	2214	Cx. tarsalis	Manteca	50	CO2	9/21/2021	WNV
San Joaquin	SJCM8083	2279	Cx. pipiens	Escalon	15	CO2	9/23/2021	WNV
San Joaquin	SJCM8201	2282	Cx. tarsalis	Lockford	17	CO2	9/23/2021	WNV
San Joaquin	SJCM8206	2173	Cx. tarsalis	Lodi	50	CO2	9/21/2021	WNV
San Joaquin	SJCM8206	2177	Cx. pipiens	Lodi	50	CO2	9/21/2021	WNV
San Joaquin	SJCM8208	2263	Cx. tarsalis	Lodi	50	CO2	9/23/2021	WNV
San Joaquin	SJCM8208	2264	Cx. tarsalis	Lodi	39	CO2	9/23/2021	WNV
San Joaquin	SJCM8210	2289	Cx. pipiens	Escalon	50	CO2	9/23/2021	WNV
Solano	SOLA100004	331	Cx. tarsalis	Davis	50	CO2	9/22/2021	WNV
Solano	SOLA100004	332	Cx. tarsalis	Davis	34	CO2	9/22/2021	WNV
Solano	SOLA27	343	Cx. tarsalis	Dixon	50	CO2	9/22/2021	WNV
Solano	SOLA28	341	Cx. tarsalis	Dixon	50	CO2	9/22/2021	WNV
Solano	SOLA29	371	Cx. tarsalis	Dixon	50	CO2	9/22/2021	WNV
Solano	SOLA38	378	Cx. tarsalis	Dixon	50	CO2	9/22/2021	WNV
Solano	SOLA38	382	Cx. pipiens	Dixon	50	CO2	9/22/2021	WNV
Solano	SOLA8871	357	Cx. tarsalis	Dixon	50	CO2	9/22/2021	WNV
Solano	SOLA8871	359	Cx. tarsalis	Dixon	50	CO2	9/22/2021	WNV
Stanislaus	TRLK548	1016	Cx. tarsalis	Newman	50	CO2	9/21/2021	SLEV
Tulare	DLTA162326	2596	Cx. quinquefasciatus	Dinuba	42	GRVD	9/22/2021	SLEV
Tulare	DLTA640422	2412	Cx. quinquefasciatus	Dinuba	43	CO2	9/16/2021	WNV
Tulare	DLTA751732	2469	Cx. quinquefasciatus	Yetttem	50	CO2	9/21/2021	WNV
Tulare	DLTA751941	2522	Cx. quinquefasciatus	Patterson Tract	50	CO2	9/21/2021	WNV
Tulare	DLTA752914	2536	Cx. quinquefasciatus	Patterson Tract	50	CO2	9/21/2021	WNV
Tulare	DLTA7636	2583	Cx. quinquefasciatus	Woodlake	11	GRVD	9/22/2021	WNV
Tulare	DLTA8413	2384	Cx. quinquefasciatus	Visalia	50	BGSENT	9/15/2021	WNV
Tulare	DLTA841423	2366	Cx. quinquefasciatus	Visalia	50	CO2	9/15/2021	WNV
Tulare	DLTA841423	2569	Cx. quinquefasciatus	Visalia	50	CO2	9/22/2021	WNV

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Tulare	DLTA841423	2573	Cx. quinquefasciatus	Visalia	32	CO2	9/22/2021	WNV
Tulare	DLTA8419	2397	Cx. quinquefasciatus	Goshen	20	GRVD	9/15/2021	WNV
Tulare	DLTA842113	2374	Cx. quinquefasciatus	Visalia	50	CO2	9/15/2021	WNV
Tulare	DLTA842113	2377	Cx. quinquefasciatus	Visalia	37	CO2	9/15/2021	WNV
Tulare	DLTA842113	2378	Cx. tarsalis	Visalia	50	CO2	9/15/2021	WNV
Tulare	DLTA842113	2381	Cx. tarsalis	Visalia	50	CO2	9/15/2021	WNV
Tulare	DLTA84233	2425	Cx. quinquefasciatus	Visalia	30	BGSENT	9/16/2021	WNV
Tulare	DLTA84344	2443	Cx. quinquefasciatus	Visalia	50	BGSENT	9/17/2021	WNV
Tulare	DLTA84344	2445	Cx. quinquefasciatus	Visalia	50	BGSENT	9/17/2021	WNV
Tulare	DLTA9503	2393	Cx. quinquefasciatus	Visalia	11	BGSENT	9/15/2021	WNV
Tulare	DLTA960434	2426	Cx. quinquefasciatus	Exeter	23	CO2	9/17/2021	WNV
Tulare	TLRE192434	286	Cx. quinquefasciatus	Tulare	50	GRVD	9/9/2021	WNV
Tulare	TLRE192436	283	Cx. quinquefasciatus	Tulare	50	GRVD	9/8/2021	WNV
Tulare	TLRE202402	297	Cx. quinquefasciatus	Tulare	50	GRVD	9/16/2021	WNV
Tulare	TLRE232333	291	Cx. quinquefasciatus	Alpaugh	50	GRVD	9/14/2021	WNV
Yolo	SAYO135015	6254	Cx. tarsalis	Davis	50	CO2	9/21/2021	WNV
Yolo	SAYO145016	6202	Cx. tarsalis	Davis	42	CO2	9/21/2021	WNV
Yolo	SAYO145020	6242	Cx. pipiens	Davis	3	GRVD	9/21/2021	WNV

Sentinel Chickens

County	Site Code	Nearest City	Date Bled	Virus	Band 01	Band 02	Band 03
Butte	BUCO0002	Oroville	9/14/2021	WNV	2544	2545	
Lake	LAKE1000	Upper Lake	9/14/2021	WNV	1110		
Sutter	SUYA0014	Sutter	9/16/2021	WNV	1629	1631	1635
Tehama	TEHA0001	Red Bluff	9/15/2021	WNV	1687		
Tehama	TEHA0100	Corning	9/15/2021	WNV	1695		
Yolo	SAYO103013	Dunnigan	9/16/2021	WNV	1360		
Yolo	SAYO116006	Knights Landing	9/1/2021	WNV	1349	1350	

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.

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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, www.westnile.ca.gov, or the California Vectorborne Disease Surveillance System website, www.maps.calsurv.org. For national information on WNV and other arboviruses, please visit the CDC websites: www.cdc.gov and www.cdc.gov/arbovet/maps/ADB_Diseases_Map/index.html

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