

California Arbovirus Surveillance Bulletin #23

Week 39 Friday, October 1, 2021



Weekly Update

Humans

West Nile virus

A total of 5 human cases of West Nile virus (WNV) illness were reported this week from 4 counties: Butte (1), Los Angeles (1), Placer (1), and San Diego (2). **These are the first WNV cases reported from San Diego County this year.** In 2021, a total of 62 WNV human cases have been reported from 17 counties. Of the 62 cases, 42 (68%) had neuroinvasive illness and 4 (6.5%) were fatal. The median age of the cases was 58 years, and 40 (65%) were male. Dates of symptom onset ranged from March 31 to September 17. In addition to the 62 cases, 14 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), San Joaquin (1), and Stanislaus (1) counties. At this time last year, 91 WNV cases had been reported from 18 counties.

St. Louis encephalitis virus

A human case of St. Louis encephalitis virus (SLEV) disease was reported this week from Fresno County. This is the first human case of SLEV disease reported in California in 2021. At this time last year, one SLEV case had been reported from one county.

Dead Birds

A total of 6 WNV positive dead birds were reported this week from 3 counties: Alameda (1), Placer (1), and Sacramento (4). **This is the first detection of WNV from Alameda County this year.** In 2021, 198 WNV positive dead birds have been reported from 19 counties. At this time last year, 261 WNV positive dead birds had been reported from 18 counties.

Mosquito Pools

West Nile virus

A total of 65 WNV positive mosquito pools were reported this week from 13 counties: Fresno (4), Kern (1), Kings (2), Los Angeles (22), Madera (2), Orange (3), Riverside (4), Sacramento (4), San Bernardino (1), San Joaquin (3), Stanislaus (8), Tulare (8), and Yolo (3). In 2021, 2,191 WNV positive mosquito pools have been reported from 25 counties. At this time last year, 2,295 WNV positive mosquito pools had been reported from 27 counties.

St. Louis encephalitis virus

A total of 2 SLEV positive mosquito pools were reported this week from 2 counties: Kings (1) and Riverside (1). **This is the first detection of SLEV activity in Kings County this year.** In 2021, 36 SLEV positive mosquito pools have been reported from 8 counties: Fresno (6), Imperial (3), Kings (1), Madera (1), Merced (1), Riverside (18), Stanislaus (2), and Tulare (4). At this time last year, 449 SLEV positive mosquito pools had been reported from 9 counties.

Sentinel Chickens

West Nile virus

One WNV positive chicken was reported this week from Tulare County. In 2021, 79 WNV positive chickens have been reported from 9 counties. At this time last year, 92 WNV positive chickens had been reported from 13 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
Alameda			1		
Amador		1			
Butte	13		2	80	26
Contra Costa			2	8	
Fresno	4	2		215	
Glenn	2				
Kern	2			103	
Kings	1	1		32	
Lake				4	4
Los Angeles	9		41	230	
Madera	3			128	
Merced	5	1	1	7	19
Napa				1	
Nevada			1		
Orange			4	46	
Placer	2		4	63	
Riverside				107	
Sacramento		2	100	117	
San Bernardino			1	9	
San Diego	2				
San Joaquin	2	2	17	385	
San Luis Obispo	2				
Santa Clara			1	4	
Shasta	2			28	1
Solano	1		2	21	
Sonoma			1	1	
Stanislaus	5	1	2	148	
Sutter			1	18	11
Tehama					5
Tulare	6		7	370	8
Ventura			1		
Yolo	1		9	54	4
Yuba		2		12	1
Totals	62	12	198	2,191	79

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2020 & 2021 YTD West Nile Virus Comparisons		
	2020	2021
Total # Dead Bird Reports	4,617	4,500
# Positive Counties	32	33
# Human Cases	91	62
# Positive Dead Birds / # Tested	261 / 1,301	198 / 1,420
# Positive Mosquito Pools / # Tested	2,295 / 33,558	2,191 / 33,726
# Seroconversions / # Tested	92 / 5,173	79 / 4,924

TESTING SUMMARIES

Humans

		WNV	SLEV	WEEV
Human Cases	Week	5	1	0
	YTD	62	1	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	40	6
	YTD	1,420	198

Sentinel Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	196	1	0	0
	YTD	4,924	79	2	0

Mosquitoes

		Positive / Total Tested						
Mosquito Pools		WNV	SLEV	WEEV	CHIK	DENV	ZIKA	
		Week	65 / 1,553	2 / 1,332	0 / 1,226	0 / 78	0 / 78	0 / 78
		YTD	2,191 / 33,726	36 / 31,169	0 / 28,631	0 / 637	0 / 637	0 / 637

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NEW POSITIVES

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Alameda	Alameda Co MAD	Pleasanton	94566	American Crow	9/22/2021	WNV
Placer	Placer MVCD	Roseville	95747	California Scrub-Jay	9/27/2021	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95821	House Finch	9/24/2021	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95822	House Finch	9/26/2021	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95823	American Crow	9/24/2021	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95826	American Robin	9/25/2021	WNV

Mosquitoes

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Fresno	CNSL3271	320	Cx. quinquefasciatus	Reedley	50	GRVD	9/22/2021	WNV
Fresno	CNSL5039	319	Cx. quinquefasciatus	Kingsburg	49	GRVD	9/21/2021	WNV
Fresno	CNSL5256	751	Cx. quinquefasciatus	Kingsburg	50	GRVD	9/21/2021	WNV
Fresno	CNSL8179	321	Cx. quinquefasciatus	Fresno	35	GRVD	9/22/2021	WNV
Kern	DLNO2	175	Cx. quinquefasciatus	Delano	36	CO2	9/23/2021	WNV
Kings	KNGS3122	193	Cx. tarsalis	Hanford	50	CO2	9/24/2021	WNV
Kings	KNGS3131	181	Cx. tarsalis	Stratford	50	CO2	9/21/2021	WNV
Kings	KNGS5519	197	Cx. pipiens	Hanford	39	BGSENT	9/23/2021	SLEV
Los Angeles	GRLA2194	655	Cx. quinquefasciatus	South El Monte	50	GRVD	9/21/2021	WNV
Los Angeles	GRLA2270	664	Cx. quinquefasciatus	Bellflower	45	GRVD	9/23/2021	WNV
Los Angeles	GRLA3086	5700	Cx. quinquefasciatus	Highland Park	19	GRVD	9/21/2021	WNV
Los Angeles	SGVA1000	1018	Cx. quinquefasciatus	Azusa	43	GRVD	9/28/2021	WNV
Los Angeles	SGVA1032	1049	Cx. quinquefasciatus	Pasadena	10	GRVD	9/29/2021	WNV
Los Angeles	SGVA1075	1034	Cx. quinquefasciatus	South Pasadena	32	GRVD	9/28/2021	WNV
Los Angeles	SGVA1224	1004	Cx. quinquefasciatus	West Covina	27	GRVD	9/23/2021	WNV
Los Angeles	SGVA148	1005	Cx. quinquefasciatus	El Monte	50	GRVD	9/23/2021	WNV
Los Angeles	SGVA286	1039	Cx. quinquefasciatus	Baldwin Park	50	GRVD	9/29/2021	WNV
Los Angeles	SGVA291	1035	Cx. quinquefasciatus	El Monte	25	GRVD	9/28/2021	WNV
Los Angeles	SGVA297	1006	Cx. quinquefasciatus	Monterey Park	50	GRVD	9/23/2021	WNV
Los Angeles	SGVA316	1055	Cx. quinquefasciatus	Duarte	50	GRVD	9/29/2021	WNV
Los Angeles	SGVA385	1047	Cx. quinquefasciatus	Arcadia	50	GRVD	9/29/2021	WNV
Los Angeles	SGVA450	1043	Cx. quinquefasciatus	La Puente	50	GRVD	9/29/2021	WNV
Los Angeles	SGVA475	1029	Cx. quinquefasciatus	Temple City	20	GRVD	9/28/2021	WNV
Los Angeles	SGVA688	1032	Cx. quinquefasciatus	Alhambra	50	GRVD	9/28/2021	WNV
Los Angeles	SGVA695	1013	Cx. quinquefasciatus	Rosemead	50	GRVD	9/23/2021	WNV
Los Angeles	SGVA887	1036	Cx. quinquefasciatus	Alhambra	50	GRVD	9/28/2021	WNV
Los Angeles	SGVA952	1023	Cx. quinquefasciatus	San Dimas	29	GRVD	9/28/2021	WNV
Los Angeles	SGVA961	1009	Cx. quinquefasciatus	Alhambra	50	GRVD	9/23/2021	WNV
Los Angeles	SGVA996	1011	Cx. quinquefasciatus	South Pasadena	50	GRVD	9/23/2021	WNV
Los Angeles	SGVA996	1031	Cx. quinquefasciatus	South Pasadena	50	GRVD	9/28/2021	WNV
Madera	MADR195	474	Cx. quinquefasciatus	Madera	50	CO2	9/21/2021	WNV
Madera	MADR3334	482	Cx. quinquefasciatus	Madera	42	CO2	9/22/2021	WNV
Orange	ORCO1005	4377	Cx. quinquefasciatus	Buena Park	14	BGSENT	9/30/2021	WNV

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Orange	ORCO1008	4220	Cx. quinquefasciatus	Fullerton	47	GRVD	9/28/2021	WNV
Orange	ORCO218	4214	Cx. quinquefasciatus	Anaheim	18	GRVD	9/28/2021	WNV
Riverside	COAV130	4518	Cx. tarsalis	Oasis	50	CO2	9/28/2021	WNV
Riverside	COAV23	4486	Cx. tarsalis	Thermal	50	CO2	9/28/2021	WNV
Riverside	COAV23	4531	Cx. tarsalis	Thermal	50	CO2	9/30/2021	SLEV
Riverside	COAV37	4420	Cx. tarsalis	Mecca	50	CO2	9/28/2021	WNV
Riverside	COAV37	4422	Cx. tarsalis	Mecca	50	CO2	9/28/2021	WNV
Sacramento	SAYO201006	6631	Cx. tarsalis	Sacramento	48	CO2	9/28/2021	WNV
Sacramento	SAYO224012	6451	Cx. pipiens	Rancho Cordova	21	GRVD	9/24/2021	WNV
Sacramento	SAYO244004	6563	Cx. tarsalis	Galt	38	CO2	9/24/2021	WNV
Sacramento	SAYO254034	6438	Cx. pipiens	Galt	50	CO2	9/24/2021	WNV
San Bernardino	WVAL5020	1401	Cx. quinquefasciatus	Rancho Cucamonga	12	BGSENT	10/1/2021	WNV
San Joaquin	SJCM8083	2393	Cx. pipiens	Escalon	32	CO2	9/30/2021	WNV
San Joaquin	SJCM8206	2333	Cx. tarsalis	Lodi	50	CO2	9/28/2021	WNV
San Joaquin	SJCM8235	2386	Cx. pipiens	Escalon	23	CO2	9/30/2021	WNV
Stanislaus	EAST1093	21310	Cx. pipiens	Oakdale	20	GRVD	9/8/2021	WNV
Stanislaus	EAST2023	21313	Cx. pipiens	Modesto	14	CO2	9/9/2021	WNV
Stanislaus	EAST2023	21325	Cx. pipiens	Modesto	27	GRVD	9/16/2021	WNV
Stanislaus	TRLK1302	1122	Cx. pipiens	Turlock	38	CO2	9/28/2021	WNV
Stanislaus	TRLK1308	1141	Cx. pipiens	Turlock	50	CO2	9/28/2021	WNV
Stanislaus	TRLK21244	1114	Cx. pipiens	Ceres	50	CO2	9/23/2021	WNV
Stanislaus	TRLK21245	1100	Cx. pipiens	Ceres	50	CO2	9/23/2021	WNV
Stanislaus	TRLK407	1131	Cx. pipiens	Turlock	44	CO2	9/28/2021	WNV
Tulare	DLTA63084	2635	Cx. stigmatosoma	Dinuba	26	CO2	9/23/2021	WNV
Tulare	DLTA8413	2777	Cx. quinquefasciatus	Visalia	44	BGSENT	9/29/2021	WNV
Tulare	DLTA84131	2727	Cx. quinquefasciatus	Visalia	50	CO2	9/29/2021	WNV
Tulare	DLTA841632	2765	Cx. quinquefasciatus	Visalia	50	CO2	9/29/2021	WNV
Tulare	DLTA8530	2690	Cx. quinquefasciatus	Visalia	47	BGSENT	9/27/2021	WNV
Tulare	DLTA94031	2677	Cx. quinquefasciatus	Visalia	50	BGSENT	9/24/2021	WNV
Tulare	DLTA94122	2771	Cx. quinquefasciatus	Visalia	15	GRVD	9/29/2021	WNV
Tulare	DLTA950924	2618	Cx. quinquefasciatus	Visalia	47	CO2	9/23/2021	WNV
Yolo	SAYO115008	6637	Cx. tarsalis	Woodland	25	CO2	9/28/2021	WNV
Yolo	SAYO125016	6532	Cx. pipiens	Woodland	39	GRVD	9/24/2021	WNV
Yolo	SAYO146006	6676	Cx. tarsalis	Davis	18	CO2	9/28/2021	WNV

Sentinel Chickens

County	Site Code	Nearest City	Date Bled	Virus	Band 01
Tulare	TLRE0008	Tulare	9/17/2021	WNV	1755

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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, 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/arbonet/maps/ADB_Diseases_Map/index.html

Prepared by the Vector-Borne Disease Section (Infectious Diseases Branch), California Department of Public Health, 850 Marina Bay Parkway, Richmond, CA 94804. Questions concerning this bulletin should be addressed to Tina Feiszli: Tina.Feiszli@cdph.ca.gov.