

California Arbovirus Surveillance Bulletin #14

Week 29 Friday, July 17, 2020



Weekly Update

Humans

No new human cases were reported this week. In 2020, 2 human cases of West Nile virus (WNV) illness have been reported from 2 counties: Los Angeles (1) and Stanislaus (1). Of the 2 cases, 1 (50%) had neuroinvasive illness; no fatalities have been reported. In addition, one asymptomatic WNV-positive blood donor has been reported from Stanislaus County. At this time last year, 2 human WNV cases had been reported from 2 counties.

Dead Birds

A total of 7 WNV positive dead birds were reported this week from 2 counties: Fresno (1), and Sacramento (6). In 2020, a total of 41 WNV positive dead birds have been reported from 9 counties. At this time last year, 28 WNV positive dead birds had been reported from 8 counties.

Mosquito Pools

West Nile virus

A total of 72 WNV positive mosquito pools were reported this week from 14 counties: Fresno (15), Kern (2), Kings (2), Lake (1), Los Angeles (11), Merced (5), Orange (6), Riverside (1), Sacramento (4), San Joaquin (10), Stanislaus (11), Sutter (1), Tulare (2), and Yolo (1). **This is the first detection of WNV activity in Lake County and the first positive mosquito pools from Orange and Yolo counties this year.** In 2020, a total of 251 WNV positive mosquito pools have been reported from 18 counties. At this time last year, 802 WNV positive mosquito pools had been reported from 15 counties.

St. Louis encephalitis virus

A total of 20 St. Louis encephalitis virus (SLEV) positive mosquito pools were reported this week from 3 counties: Fresno (13), Kern (2), and Riverside (5). In 2020, a total of 88 SLEV positive mosquito pools have been reported from Fresno (22), Imperial (7), Kern (4), and Riverside (55) counties. At this time last year, 45 SLEV positive mosquito pools had been reported from 4 counties.

Sentinel Chickens

No new seroconversions were reported this week. In 2020, one WNV seroconversion has been reported from Merced County. At this time last year, no seroconversions had been reported.

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2019 & 2020 YTD West Nile Virus Comparisons		
	2019	2020
Total # Dead Bird Reports	3,046	2,706
# Positive Counties	17	20
# Human Cases	2	2
# Positive Dead Birds / # Tested	28 / 898	41 / 670
# Positive Mosquito Pools / # Tested	802 / 18,977	251 / 16,460
# Seroconversions / # Tested	0 / 4,069	1 / 2,784

YTD WNV Activity by Element and County, 2020					
County	Humans*	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Amador		1			
Fresno			4	38	
Imperial				1	
Kern				3	
Kings				3	
Lake				1	
Los Angeles	1		6	25	
Madera				2	
Merced			1	10	1
Napa			1		
Orange			1	6	
Riverside				27	
Sacramento			18	10	
San Diego				1	
San Joaquin			1	14	
Santa Clara			5	7	
Stanislaus	1		4	89	
Sutter				3	
Tulare				10	
Yolo				1	
Totals	2	1	41	251	1

**Does not include asymptomatic infections*

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TESTING SUMMARIES

Humans

		WNV	SLE	WEE
Human Cases	Week	0	0	0
	YTD	2	0	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	79	7
	YTD	670	41

Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	299	0	0	0
	YTD	2,784	1	0	0

Mosquitoes

		Positive / Total Tested					
		WNV	SLEV	WEEV	CHIK	DENV	ZIKA
Mosquito Pools	Week	72 / 1,636	20 / 1,504	0 / 1,417	0 / 13	0 / 13	0 / 13
	YTD	251 / 16,460	88 / 16,240	0 / 15,246	0 / 97	0 / 97	0 / 97

NEW POSITIVES

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Fresno	Fresno MVCD	Fresno	93702	Unknown - songbird	7/2/2020	WNV
Sacramento	Sacramento-Yolo MVCD	Carmichael	95608	American Crow	7/13/2020	WNV
Sacramento	Sacramento-Yolo MVCD	Carmichael	95608	Northern Mockingbird	7/13/2020	WNV
Sacramento	Sacramento-Yolo MVCD	Carmichael	95608	Yellow-billed Magpie	7/11/2020	WNV
Sacramento	Sacramento-Yolo MVCD	Carmichael	95608	Yellow-billed Magpie	7/11/2020	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95819	California Scrub-Jay	7/13/2020	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95864	California Scrub-Jay	7/11/2020	WNV

Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Fresno	CNSL1068	687	Cx. quinquefasciatus	Fresno	50	GRVD	7/7/2020	SLEV
Fresno	CNSL1068	688	Cx. tarsalis	Fresno	27	BGSENT	7/7/2020	SLEV
Fresno	CNSL1068	687	Cx. quinquefasciatus	Fresno	50	GRVD	7/7/2020	WNV
Fresno	CNSL1068	688	Cx. tarsalis	Fresno	27	BGSENT	7/7/2020	WNV

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Fresno	CNSL1177	368	Cx. quinquefasciatus	Clovis	50	GRVD	7/7/2020	SLEV
Fresno	CNSL1177	368	Cx. quinquefasciatus	Clovis	50	GRVD	7/7/2020	WNV
Fresno	CNSL1253	686	Cx. quinquefasciatus	Fresno	50	GRVD	7/7/2020	SLEV
Fresno	CNSL1253	686	Cx. quinquefasciatus	Fresno	50	GRVD	7/7/2020	WNV
Fresno	CNSL1317	374	Cx. quinquefasciatus	Fresno	17	GRVD	7/7/2020	WNV
Fresno	CNSL1397	384	Cx. quinquefasciatus	Clovis	39	GRVD	7/8/2020	SLEV
Fresno	CNSL1454	703	Cx. quinquefasciatus	Fresno	50	GRVD	7/9/2020	WNV
Fresno	CNSL1460	697	Cx. quinquefasciatus	Clovis	50	GRVD	7/8/2020	SLEV
Fresno	CNSL1563	369	Cx. quinquefasciatus	Clovis	50	GRVD	7/7/2020	SLEV
Fresno	CNSL1563	369	Cx. quinquefasciatus	Clovis	50	GRVD	7/7/2020	WNV
Fresno	CNSL1586	383	Cx. quinquefasciatus	Clovis	50	GRVD	7/8/2020	SLEV
Fresno	CNSL1586	383	Cx. quinquefasciatus	Clovis	50	GRVD	7/8/2020	WNV
Fresno	CNSL1693	696	Cx. quinquefasciatus	Fresno	50	GRVD	7/8/2020	SLEV
Fresno	CNSL1693	696	Cx. quinquefasciatus	Fresno	50	GRVD	7/8/2020	WNV
Fresno	CNSL1728	386	Cx. quinquefasciatus	Clovis	50	GRVD	7/8/2020	SLEV
Fresno	CNSL1856	702	Cx. quinquefasciatus	Fresno	22	GRVD	7/9/2020	WNV
Fresno	CNSL6074	705	Cx. quinquefasciatus	Caruthers	50	GRVD	7/10/2020	WNV
Fresno	CNSL8079	396	Cx. quinquefasciatus	Clovis	37	GRVD	7/10/2020	SLEV
Fresno	CNSL8079	396	Cx. quinquefasciatus	Clovis	37	GRVD	7/10/2020	WNV
Fresno	CNSL9205	370	Cx. quinquefasciatus	Fresno	22	GRVD	7/7/2020	SLEV
Fresno	FRNO172	261	Cx. quinquefasciatus	Fresno	23	BGSENT	7/16/2020	WNV
Fresno	FRNO19	258	Cx. quinquefasciatus	Fresno	50	GRVD	7/15/2020	SLEV
Fresno	FRNO207	252	Cx. quinquefasciatus	Fresno	41	GRVD	7/14/2020	WNV
Fresno	FRWS5110	130	Cx. tarsalis	Tranquility	50	CO2	7/14/2020	WNV
Kern	KERN1002	332	Cx. quinquefasciatus	Bakersfield	25	GRVD	7/10/2020	SLEV
Kern	KERN1002	332	Cx. quinquefasciatus	Bakersfield	25	GRVD	7/10/2020	WNV
Kern	KERN2025	323	Cx. quinquefasciatus	Bakersfield	48	GRVD	7/8/2020	SLEV
Kern	KERN2025	323	Cx. quinquefasciatus	Bakersfield	48	GRVD	7/8/2020	WNV
Kings	KNGS3004	256	Cx. tarsalis	Lemoore	50	CO2	7/10/2020	WNV
Kings	KNGS3108	211	Cx. tarsalis	Island	50	CO2	7/7/2020	WNV
Lake	LAKE305	148	Cx. tarsalis	Middletown	19	CO2	7/14/2020	WNV
Los Angeles	GRLA2017	5389	Cx. quinquefasciatus	Toluca Lake	50	GRVD	7/8/2020	WNV
Los Angeles	GRLA2222	312	Cx. quinquefasciatus	Rowland Heights	50	GRVD	7/10/2020	WNV
Los Angeles	GRLA2724	5376	Cx. quinquefasciatus	Winnetka	50	GRVD	7/7/2020	WNV
Los Angeles	GRLA3027	5385	Cx. quinquefasciatus	Studio City	50	GRVD	7/8/2020	WNV
Los Angeles	GRLA3038	5391	Cx. quinquefasciatus	Valley Village	50	GRVD	7/8/2020	WNV
Los Angeles	GRLA3051	302	Cx. quinquefasciatus	Signal Hill	50	GRVD	7/9/2020	WNV
Los Angeles	GRLA3066	5394	Cx. quinquefasciatus	Valley Glen	50	GRVD	7/8/2020	WNV
Los Angeles	GRLA3069	5392	Cx. quinquefasciatus	Valley Village	50	GRVD	7/8/2020	WNV
Los Angeles	GRLA3076	5395	Cx. quinquefasciatus	Valley Glen	50	GRVD	7/8/2020	WNV
Los Angeles	GRLA3080	5393	Cx. quinquefasciatus	North Hollywood	50	GRVD	7/8/2020	WNV
Los Angeles	GRLA3102	5390	Cx. quinquefasciatus	Studio City	50	GRVD	7/8/2020	WNV
Merced	MERC1222	213	Cx. tarsalis	Merced	50	CO2	7/8/2020	WNV
Merced	MERC201720	298	Cx. pipiens	Hilmar	11	CO2	7/16/2020	WNV
Merced	MERC201860	261	Cx. tarsalis	Merced	19	BGSENT	7/10/2020	WNV
Merced	MERC201866	266	Cx. tarsalis	Merced	33	BGSENT	7/10/2020	WNV
Merced	MERC711	285	Cx. tarsalis	McSwain	50	CO2	7/15/2020	WNV
Orange	ORCO1006	2442	Cx. quinquefasciatus	Cypress	42	GRVD	7/14/2020	WNV
Orange	ORCO1009	2419	Cx. quinquefasciatus	Garden Grove	40	GRVD	7/14/2020	WNV
Orange	ORCO1020	2507	Cx. quinquefasciatus	Seal Beach	35	GRVD	7/14/2020	WNV
Orange	ORCO202	2521	Cx. quinquefasciatus	Fullerton	14	GRVD	7/14/2020	WNV
Orange	ORCO300	2497	Cx. quinquefasciatus	Westminster	41	GRVD	7/14/2020	WNV
Orange	ORCO50	2509	Cx. quinquefasciatus	Buena Park	34	GRVD	7/14/2020	WNV
Riverside	COAV0	3113	Cx. quinquefasciatus	Indio	24	GRVD	7/16/2020	SLEV

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Riverside	COAV0	3103	Cx. tarsalis	Indio	50	CO2	7/14/2020	SLEV
Riverside	COAV27	3097	Cx. tarsalis	Thermal	24	CO2	7/14/2020	SLEV
Riverside	COAV344	3024	Cx. quinquefasciatus	La Quinta	49	BGSENT	7/14/2020	SLEV
Riverside	COAV58	3109	Cx. tarsalis	North Shore	22	CO2	7/14/2020	SLEV
Riverside	COAV58	3108	Cx. tarsalis	North Shore	50	CO2	7/14/2020	WNV
Sacramento	SAYO205029	2474	Cx. pipiens	Orangevale	16	GRVD	7/10/2020	WNV
Sacramento	SAYO214013	2477	Cx. pipiens	Carmichael	20	GRVD	7/10/2020	WNV
Sacramento	SAYO215016	2484	Cx. pipiens	Orangevale	6	GRVD	7/10/2020	WNV
Sacramento	SAYO234001	2591	Cx. tarsalis	Sacramento	50	CO2	7/14/2020	WNV
San Joaquin	SJCM8083	915	Cx. tarsalis	Escalon	19	CO2	7/14/2020	WNV
San Joaquin	SJCM8106	918	Cx. pipiens	Escalon	17	CO2	7/14/2020	WNV
San Joaquin	SJCM8106	917	Cx. tarsalis	Escalon	5	CO2	7/14/2020	WNV
San Joaquin	SJCM8161	911	Cx. pipiens	Ripon	19	CO2	7/14/2020	WNV
San Joaquin	SJCM8210	923	Cx. pipiens	Escalon	29	CO2	7/14/2020	WNV
San Joaquin	SJCM8210	922	Cx. tarsalis	Escalon	28	CO2	7/14/2020	WNV
San Joaquin	SJCM8232	944	Cx. pipiens	Oakdale	25	CO2	7/16/2020	WNV
San Joaquin	SJCM8232	930	Cx. tarsalis	Oakdale	50	CO2	7/16/2020	WNV
San Joaquin	SJCM8232	939	Cx. tarsalis	Oakdale	50	CO2	7/16/2020	WNV
San Joaquin	SJCM8232	943	Cx. tarsalis	Oakdale	51	CO2	7/16/2020	WNV
Stanislaus	EAST1088	20235	Cx. tarsalis	Modesto	18	CO2	7/8/2020	WNV
Stanislaus	EAST1093	20243	Cx. pipiens	Oakdale	50	CO2	7/10/2020	WNV
Stanislaus	EAST2002	20225	Cx. pipiens	Modesto	18	GRVD	7/8/2020	WNV
Stanislaus	EAST2002	20230	Cx. pipiens	Modesto	50	CO2	7/8/2020	WNV
Stanislaus	EAST2021	20227	Cx. pipiens	Modesto	49	GRVD	7/8/2020	WNV
Stanislaus	EAST2022	20236	Cx. pipiens	Modesto	50	CO2	7/8/2020	WNV
Stanislaus	TRLK1616	390	Cx. tarsalis	Modesto	50	CO2	7/14/2020	WNV
Stanislaus	TRLK1616	391	Cx. tarsalis	Modesto	50	CO2	7/14/2020	WNV
Stanislaus	TRLK305	371	Cx. tarsalis	Grayson	50	CO2	7/14/2020	WNV
Stanislaus	TRLK322	383	Cx. tarsalis	Vernalis	50	CO2	7/14/2020	WNV
Stanislaus	TRLK424	396	Cx. tarsalis	Patterson	50	CO2	7/14/2020	WNV
Sutter	SUYA84	221	Cx. tarsalis	Yuba City	35	CO2	7/14/2020	WNV
Tulare	DLTA6407	1224	Cx. quinquefasciatus	Dinuba	48	BGSENT	7/15/2020	WNV
Tulare	DLTA8512	1186	Cx. quinquefasciatus	Ivanhoe	29	GRVD	7/14/2020	WNV
Yolo	SAYO115008	2693	Cx. tarsalis	Woodland	50	CO2	7/14/2020	WNV

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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