

California Arbovirus Surveillance Bulletin #12

Week 28 Friday, July 16, 2021



Weekly Update

Humans

One human case of West Nile virus (WNV) illness was reported this week from Fresno County. **This is the first human WNV case reported from Fresno County this year.** In 2021, a total of two WNV human cases have been reported from two counties. Of the two cases, one (50%) had neuroinvasive illness and one (50%) was fatal. The median age of the case patients was 58 years, and two (100%) were male. Dates of symptom onset range from June 4 to June 18. In addition to the two cases, one asymptomatic WNV infection has been reported from Kern County. At this time last year, two WNV cases and one asymptomatic infection of WNV had been reported from two counties.

Dead Birds

A total of 23 WNV positive dead birds were reported this week from 7 counties: Los Angeles (3), Merced (1), Placer (1), Sacramento (12), San Bernardino (1), San Joaquin (4), and Stanislaus (1). **This is the first detection of WNV in Merced and San Bernardino counties and the first WNV positive dead bird reported from Stanislaus county this year.** In 2021, 68 WNV positive dead birds have been reported from 9 counties. At this time last year, 34 WNV positive dead birds had been reported from 9 counties.

Mosquito Pools

West Nile virus

A total of 106 WNV positive mosquito pools were reported this week from 15 counties: Butte (17), Contra Costa (1), Fresno (32), Kern (7), Kings (1), Los Angeles (6), Madera (12), Placer (1), Riverside (1), Sacramento (3), San Bernardino (1), San Joaquin (9), Stanislaus (6), Sutter (2), and Tulare (7). **This is the first detection of WNV in Kings, Riverside, and Sutter counties and the first positive mosquitoes from San Bernardino County this year.** In 2021, 283 WNV positive mosquito pools have been reported from 17 counties. At this time last year, 179 WNV positive mosquito pools had been reported from 15 counties.

St. Louis encephalitis virus

Two St. Louis encephalitis virus (SLEV) positive mosquito pools were reported this week from Imperial County. **This is the first detection of SLEV in California this year.** At this time last year, 68 SLEV positive mosquito pools had been reported from 4 counties.

Sentinel Chickens

No seroconversions have been reported in 2021. At this time last year, one WNV seroconversion had been reported from Merced County.

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

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2020 & 2021 YTD West Nile Virus Comparisons		
	2020	2021
Total # Dead Bird Reports	2,505	3,108
# Positive Counties	18	20
# Human Cases	2	2
# Positive Dead Birds / # Tested	34 / 591	68 / 939
# Positive Mosquito Pools / # Tested	179 / 14,824	283 / 14,925
# Seroconversions / # Tested	1 / 2,485	0 / 2,607

YTD WNV Activity by Element and County, 2021					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Butte				23	
Contra Costa				2	
Fresno	1	1		81	
Kern				17	
Kings				1	
Los Angeles			8	27	
Madera				16	
Merced			1		
Placer			2	4	
Riverside				1	
Sacramento			41	20	
San Bernardino			1	1	
San Joaquin			8	39	
San Luis Obispo	1				
Shasta				2	
Sonoma			1		
Stanislaus			1	11	
Sutter				2	
Tulare			5	35	
Yolo				1	
Totals	2	1	68	283	0

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TESTING SUMMARIES

Humans

		WNV	SLEV	WEEV
Human Cases	Week	1	0	0
	YTD	2	0	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	93	23
	YTD	939	68

Sentinel Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	298	0	0	0
	YTD	2,607	0	0	0

Mosquitoes

		Positive / Total Tested						
Mosquito Pools	Week	WNV	SLEV	WEEV	CHIK	DENV	ZIKA	
		Week	106 / 1,691	2 / 1,691	0 / 1,567	0 / 17	0 / 17	0 / 17
		YTD	283 / 14,925	2 / 13,867	0 / 12,942	0 / 116	0 / 116	0 / 116

NEW POSITIVES

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Los Angeles	San Gabriel Valley MVCD	West Covina	91791	American Crow	7/7/2021	WNV
Los Angeles	San Gabriel Valley MVCD	Glendora	91740	Unknown - Crow or Raven	7/7/2021	WNV
Los Angeles	Greater Los Angeles Co VCD - Sylmar	Los Angeles	91607	American Crow	7/7/2021	WNV
Merced	Merced Co MAD	Turlock	95380	California Scrub-Jay	7/12/2021	WNV
Placer	Placer MVCD	Roseville	95661	Bushtit	7/15/2021	WNV
Sacramento	Sacramento-Yolo MVCD	Fair Oaks	95628	American Crow	7/8/2021	WNV
Sacramento	Sacramento-Yolo MVCD	Galt	95632	House Finch	7/8/2021	WNV
Sacramento	Sacramento-Yolo MVCD	Galt	95632	House Sparrow	7/8/2021	WNV
Sacramento	Sacramento-Yolo MVCD	Galt	95632	American Crow	7/9/2021	WNV

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Sacramento	Sacramento-Yolo MVCD	Sacramento	95828	California Scrub-Jay	7/9/2021	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95821	Yellow-billed Magpie	7/9/2021	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95828	American Crow	7/9/2021	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95821	California Scrub-Jay	7/10/2021	WNV
Sacramento	Sacramento-Yolo MVCD	Carmichael	95608	California Scrub-Jay	7/12/2021	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95821	American Crow	7/13/2021	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95821	Mourning Dove	7/13/2021	WNV
Sacramento	Sacramento-Yolo MVCD	Wilton	95693	American Robin	7/15/2021	WNV
San Bernardino	San Bernardino Vector Control Program	Lake Arrowhead	92352	Steller's Jay	7/5/2021	WNV
San Joaquin	San Joaquin Co MVCD	Tracy	95304	California Scrub-Jay	7/13/2021	WNV
San Joaquin	San Joaquin Co MVCD	Stockton	95210	Black-crowned Night-Heron	7/13/2021	WNV
San Joaquin	San Joaquin Co MVCD	Manteca	95337	Red-tailed Hawk	7/14/2021	WNV
San Joaquin	San Joaquin Co MVCD	Stockton	95207	Bushtit	7/15/2021	WNV
Stanislaus	Turlock MAD	Turlock	95380	Unknown - songbird	6/29/2021	WNV

Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Butte	BUCO115	198	Cx. tarsalis	Durham	50	CO2	7/7/2021	WNV
Butte	BUCO116	200	Cx. tarsalis	Durham	50	CO2	7/7/2021	WNV
Butte	BUCO30	184	Cx. tarsalis	Chico	50	CO2	7/5/2021	WNV
Butte	BUCO30	186	Cx. tarsalis	Chico	50	CO2	7/5/2021	WNV
Butte	BUCO30	187	Cx. tarsalis	Chico	50	CO2	7/5/2021	WNV
Butte	BUCO43	188	Cx. tarsalis	Durham	50	CO2	7/6/2021	WNV
Butte	BUCO43	189	Cx. tarsalis	Durham	50	CO2	7/6/2021	WNV
Butte	BUCO43	190	Cx. tarsalis	Durham	50	CO2	7/6/2021	WNV
Butte	BUCO43	191	Cx. tarsalis	Durham	50	CO2	7/6/2021	WNV
Butte	BUCO49	182	Cx. tarsalis	Biggs	50	CO2	7/7/2021	WNV
Butte	BUCO60	192	Cx. tarsalis	Durham	50	CO2	7/6/2021	WNV
Butte	BUCO60	194	Cx. tarsalis	Durham	50	CO2	7/6/2021	WNV
Butte	BUCO7	177	Cx. tarsalis	Hamilton City	50	CO2	7/5/2021	WNV
Butte	BUCO7	178	Cx. tarsalis	Hamilton City	50	CO2	7/5/2021	WNV
Butte	BUCO7	179	Cx. tarsalis	Hamilton City	50	CO2	7/5/2021	WNV
Butte	BUCO91	172	Cx. tarsalis	Biggs	50	CO2	7/7/2021	WNV
Butte	BUCO91	174	Cx. tarsalis	Biggs	50	CO2	7/7/2021	WNV
Contra Costa	CNTR8302	1215	Cx. tarsalis	Discovery Bay	43	CO2	7/13/2021	WNV
Fresno	CNSL2066	181	Cx. quinquefasciatus	Centerville	50	GRVD	7/7/2021	WNV
Fresno	CNSL2237	203	Cx. quinquefasciatus	Clovis	37	GRVD	7/8/2021	WNV
Fresno	CNSL2237	204	Cx. stigmatosoma	Clovis	24	GRVD	7/8/2021	WNV
Fresno	CNSL2329	205	Cx. quinquefasciatus	Clovis	12	GRVD	7/8/2021	WNV
Fresno	CNSL2381	210	Cx. quinquefasciatus	Centerville	16	GRVD	7/9/2021	WNV
Fresno	CNSL2423	211	Cx. quinquefasciatus	Centerville	50	GRVD	7/9/2021	WNV
Fresno	CNSL2423	212	Cx. stigmatosoma	Centerville	50	GRVD	7/9/2021	WNV
Fresno	CNSL2437	187	Cx. quinquefasciatus	Centerville	50	GRVD	7/7/2021	WNV
Fresno	CNSL2491	191	Cx. quinquefasciatus	Centerville	50	GRVD	7/7/2021	WNV
Fresno	CNSL2517	186	Cx. quinquefasciatus	Sanger	50	GRVD	7/7/2021	WNV
Fresno	CNSL2526	201	Cx. quinquefasciatus	Clovis	50	GRVD	7/8/2021	WNV

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Fresno	CNSL2531	656	Cx. quinquefasciatus	Sanger	50	GRVD	7/9/2021	WNV
Fresno	CNSL2577	653	Cx. quinquefasciatus	Sanger	50	GRVD	7/9/2021	WNV
Fresno	CNSL2577	654	Cx. tarsalis	Sanger	20	CO2	7/9/2021	WNV
Fresno	CNSL2578	206	Cx. quinquefasciatus	Clovis	50	GRVD	7/9/2021	WNV
Fresno	CNSL3266	630	Cx. quinquefasciatus	Reedley	50	GRVD	7/7/2021	WNV
Fresno	CNSL3317	623	Cx. stigmatosoma	Reedley	22	GRVD	7/7/2021	WNV
Fresno	CNSL3411	666	Cx. tarsalis	Sanger	13	CO2	7/9/2021	WNV
Fresno	CNSL3435	661	Cx. quinquefasciatus	Sanger	50	GRVD	7/9/2021	WNV
Fresno	CNSL3439	633	Cx. quinquefasciatus	Reedley	46	GRVD	7/7/2021	WNV
Fresno	CNSL4024	643	Cx. quinquefasciatus	Selma	50	GRVD	7/8/2021	WNV
Fresno	CNSL4277	642	Cx. quinquefasciatus	Fowler	50	GRVD	7/8/2021	WNV
Fresno	CNSL5183	651	Cx. quinquefasciatus	Kingsburg	19	GRVD	7/8/2021	WNV
Fresno	FRNO186	307	Cx. quinquefasciatus	Fresno	15	GRVD	7/8/2021	WNV
Fresno	FRNO207	308	Cx. quinquefasciatus	Fresno	12	GRVD	7/8/2021	WNV
Fresno	FRNO8007	282	Cx. quinquefasciatus	Fresno	50	GRVD	7/7/2021	WNV
Fresno	FRWS1202	158	Cx. tarsalis	Firebaugh	50	CO2	7/13/2021	WNV
Fresno	FRWS3201	159	Cx. tarsalis	Firebaugh	18	CO2	7/13/2021	WNV
Fresno	FRWS400017	146	Cx. tarsalis	Mendota	17	CO2	7/13/2021	WNV
Fresno	FRWS4102	149	Cx. tarsalis	Tranquillity	50	CO2	7/13/2021	WNV
Fresno	FRWS4102	150	Cx. tarsalis	Tranquillity	21	CO2	7/13/2021	WNV
Fresno	FRWS5110	151	Cx. tarsalis	Tranquillity	50	CO2	7/13/2021	WNV
Imperial	IMPR40	230	Cx. quinquefasciatus	Imperial	50	BGSENT	7/13/2021	SLEV
Imperial	IMPR59	234	Cx. quinquefasciatus	El Centro	14	BGSENT	7/13/2021	SLEV
Kern	KERN111	200	Cx. tarsalis	Bakersfield	40	CO2	7/7/2021	WNV
Kern	KERN114	195	Cx. tarsalis	Bakersfield	35	CO2	7/7/2021	WNV
Kern	KERN15	212	Cx. quinquefasciatus	Bakersfield	50	CO2	7/9/2021	WNV
Kern	KERN2039	214	Cx. quinquefasciatus	Bakersfield	23	GRVD	7/9/2021	WNV
Kern	KERN3017	210	Cx. quinquefasciatus	Bakersfield	40	GRVD	7/8/2021	WNV
Kern	WEST6208	19	Cx. tarsalis	Bakersfield	25	CO2	7/14/2021	WNV
Kern	WEST6296	18	Cx. tarsalis	Bakersfield	25	CO2	7/14/2021	WNV
Kings	KNGS3108	24	Cx. tarsalis	Lemoore	50	CO2	7/8/2021	WNV
Los Angeles	SGVA1022	575	Cx. quinquefasciatus	Vincent	50	GRVD	7/13/2021	WNV
Los Angeles	SGVA1224	569	Cx. quinquefasciatus	West Covina	50	GRVD	7/13/2021	WNV
Los Angeles	SGVA62	570	Cx. quinquefasciatus	Covina	50	GRVD	7/13/2021	WNV
Los Angeles	SGVA64	567	Cx. quinquefasciatus	West Covina	49	GRVD	7/13/2021	WNV
Los Angeles	SGVA915	571	Cx. quinquefasciatus	San Dimas	50	GRVD	7/13/2021	WNV
Los Angeles	SGVA996	585	Cx. quinquefasciatus	South Pasadena	50	GRVD	7/13/2021	WNV
Madera	MADR1109	90	Cx. tarsalis	Parksdale	50	CO2	6/29/2021	WNV
Madera	MADR189	115	Cx. tarsalis	Firebaugh	50	CO2	7/9/2021	WNV
Madera	MADR189	116	Cx. tarsalis	Firebaugh	50	CO2	7/9/2021	WNV
Madera	MADR189	117	Cx. tarsalis	Firebaugh	24	CO2	7/9/2021	WNV
Madera	MADR309	106	Cx. tarsalis	Madera	50	CO2	7/1/2021	WNV
Madera	MADR3334	93	Cx. quinquefasciatus	Parkwood	50	CO2	6/29/2021	WNV
Madera	MADR3334	94	Cx. tarsalis	Parkwood	50	CO2	6/29/2021	WNV
Madera	MADR416	104	Cx. tarsalis	Firebaugh	50	CO2	6/30/2021	WNV
Madera	MADR416	105	Cx. tarsalis	Firebaugh	50	CO2	6/30/2021	WNV
Madera	MADR603	122	Cx. tarsalis	Firebaugh	50	CO2	7/9/2021	WNV
Madera	MADR6348	119	Cx. tarsalis	Madera	50	CO2	7/9/2021	WNV
Madera	MADR6348	120	Cx. tarsalis	Madera	50	CO2	7/9/2021	WNV
Placer	PLCR25	741	Cx. tarsalis	Sheridan	50	CO2	7/13/2021	WNV
Riverside	COAV611	2556	Cx. tarsalis	Oasis	50	CO2	7/13/2021	WNV
Sacramento	SAYO204051	2121	Cx. pipiens	Citrus Heights	14	CO2	7/9/2021	WNV
Sacramento	SAYO233116	2212	Cx. tarsalis	Florin	1	CO2	7/13/2021	WNV
Sacramento	SAYO389562	2028	Cx. pipiens	Galt	41	CO2	7/9/2021	WNV

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San Bernardino	SANB109	339	Cx. tarsalis	Needles	50	CO2	7/8/2021	WNV
San Joaquin	SJCM8003	817	Cx. tarsalis	Tracy	17	CO2	7/13/2021	WNV
San Joaquin	SJCM8018	800	Cx. tarsalis	Stockton	100	CO2	7/13/2021	WNV
San Joaquin	SJCM8018	801	Cx. tarsalis	Stockton	100	CO2	7/13/2021	WNV
San Joaquin	SJCM8018	802	Cx. tarsalis	Stockton	100	CO2	7/13/2021	WNV
San Joaquin	SJCM8018	805	Cx. tarsalis	Stockton	100	CO2	7/13/2021	WNV
San Joaquin	SJCM8018	806	Cx. tarsalis	Stockton	100	CO2	7/13/2021	WNV
San Joaquin	SJCM8018	807	Cx. tarsalis	Stockton	100	CO2	7/13/2021	WNV
San Joaquin	SJCM8018	809	Cx. tarsalis	Stockton	100	CO2	7/13/2021	WNV
San Joaquin	SJCM8143	839	Cx. tarsalis	Terminous	39	CO2	7/13/2021	WNV
Stanislaus	EAST1025	21133	Cx. pipiens	Modesto	50	GRVD	6/30/2021	WNV
Stanislaus	EAST1046	21134	Cx. pipiens	Modesto	22	GRVD	6/30/2021	WNV
Stanislaus	EAST2002	21131	Cx. pipiens	Modesto	17	CO2	6/30/2021	WNV
Stanislaus	EAST2014	21128	Cx. pipiens	Modesto	37	GRVD	6/29/2021	WNV
Stanislaus	EAST2021	21136	Cx. pipiens	Modesto	42	GRVD	6/30/2021	WNV
Stanislaus	EAST2023	21135	Cx. pipiens	Modesto	50	GRVD	6/30/2021	WNV
Sutter	SUYA20	180	Cx. tarsalis	Meridian	18	CO2	7/13/2021	WNV
Sutter	SUYA24	207	Cx. tarsalis	Yuba City	47	REST	7/12/2021	WNV
Tulare	DLTA752842	551	Cx. quinquefasciatus	Ivanhoe	50	CO2	7/14/2021	WNV
Tulare	DLTA8413	540	Cx. quinquefasciatus	Visalia	11	GRVD	7/13/2021	WNV
Tulare	DLTA8423	594	Cx. quinquefasciatus	Visalia	10	GRVD	7/15/2021	WNV
Tulare	DLTA8427	499	Cx. quinquefasciatus	Visalia	14	GRVD	7/7/2021	WNV
Tulare	TLRE192435	37	Cx. quinquefasciatus	Tulare	50	GRVD	7/8/2021	WNV
Tulare	TLRE192507	1	Cx. quinquefasciatus	Visalia	50	GRVD	6/2/2021	WNV
Tulare	TLRE192507	2	Cx. quinquefasciatus	Visalia	50	GRVD	6/2/2021	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.

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.

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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.

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.