

California Arbovirus Surveillance Bulletin #21

Week 34 Friday, August 24, 2018



Weekly Update

Humans

A total of 10 new human cases of West Nile virus (WNV) illness were reported this week from 7 counties: Butte (1), Fresno (1), Los Angeles (1), Riverside (1), Shasta (1), Stanislaus (4) and Tulare (1). **These are the first WNV human cases reported from Shasta and Tulare counties this year.** In 2018, a total of 31 human WNV cases have been reported from 14 counties. Of the 31 case patients, 19 (61%) had neuroinvasive illness; no fatalities have been reported. The median age of the individuals is 57 years (range: 14–90 years) and 22 (71%) are male. Dates of symptom onset ranged from May 6 – August 1. In addition to the 31 cases, 14 asymptomatic infections have been reported from Butte (4), Fresno (1), Los Angeles (2), Orange (2), San Joaquin (1), Stanislaus (3), and Yolo (1) counties. At this time last year, 59 human WNV cases had been reported from 12 counties.

Dead Birds

A total of 47 WNV positive dead birds were reported this week from 10 counties: Alameda (2), Butte (1), Los Angeles (1), Placer (9), Riverside (1), Sacramento (17), San Joaquin (1), Santa Clara (8), Shasta (1), and Yolo (6). In 2018, a total of 363 WNV positive dead birds have been reported from 18 counties. At this time last year, 239 WNV positive dead birds had been reported from 30 counties.

Mosquito Pools

West Nile virus

A total of 177 WNV positive mosquito pools were reported this week from 20 counties: Butte (2), Contra Costa (3), Fresno (22), Kern (6), Kings (2), Los Angeles (4), Madera (9), Merced (2), Orange (12), Placer (11), Riverside (5), Sacramento (12), San Diego (1), San Joaquin (35), Shasta (3), Solano (1), Stanislaus (21), Sutter (2), Tulare (9), and Yolo (15). In 2018, 1,296 mosquito pools have tested positive for WNV from 27 counties. At this time last year, 2,284 WNV positive mosquito pools had been reported from 24 counties.

St. Louis encephalitis virus

A total of 35 mosquito pools were reported positive for St. Louis encephalitis virus (SLEV) this week from 5 counties: Fresno (7), Kern (4), Kings (4), Riverside (4), and Tulare (16). In 2018, 247 SLEV positive mosquito pools have been reported from 7 counties: Fresno (39), Imperial (3), Kern (53), Kings (12), Los Angeles (1), Riverside (31), and Tulare (108). At this time last year, 48 SLEV positive mosquito pools had been reported from 8 counties.

Sentinel Chickens

A total of 32 WNV seroconversions were reported this week from 17 flocks located in 8 counties: Butte (19), Colusa (1), Lake (1), Merced (2), Santa Clara (1), Shasta (1), Sutter (6), and Yuba (1). **This is the first detection of WNV activity in Colusa County, and these are the first WNV positive chickens reported from Lake, Shasta, and Yuba counties this year.** In 2018, 76 WNV positive chickens have been reported from 12 counties. At this time last year, 130 WNV positive chickens had been reported from 10 counties, and 7 SLEV positive chickens had been reported from 2 counties.

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2017 & 2018 YTD West Nile Virus Comparisons		
	2017	2018
Total # Dead Bird Reports	5,395	5,753
# Positive Counties	33	35
# Human Cases	59	31
# Positive Dead Birds / # Tested	239 / 1,381	363 / 1,506
# Positive Mosquito Pools / # Tested	2,284 / 30,187	1,296 / 29,113
# Seroconversions / # Tested	130 / 7,661	76 / 6,586

YTD WNV Activity by Element and County, 2018					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda			12	10	
Butte	2		2	37	30
Colusa					1
Contra Costa			8	13	13
El Dorado			2		
Fresno	3			68	
Glenn				4	
Humboldt			1		
Imperial				1	
Kern	2	1		29	
Kings				13	
Lake				4	1
Los Angeles	5		6	22	3
Madera				26	
Merced	1			8	9
Orange			2	27	
Placer		1	31	208	2
Riverside	3		4	26	
Sacramento	1	2	211	257	
San Benito					1
San Bernardino	1			6	
San Diego				3	
San Joaquin	4		9	313	
San Mateo			3	2	
Santa Clara			36	4	3
Santa Cruz			2		
Shasta	1	1	3	7	1
Solano				2	
Stanislaus	5	1	1	67	
Sutter			4	25	11
Tuolumne	1				
Tulare	1			37	
Ventura	1				
Yolo			26	71	
Yuba				6	1
Totals	31	6	363	1,296	76

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TESTING SUMMARIES

Humans

		WNV	SLE	WEE
Human Cases	Week	10	0	0
	YTD	31	0	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	99	47
	YTD	1,506	363

Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	413	32	0	0
	YTD	6,586	76	0	0

Mosquitoes

		Positive / Total Tested					
		WNV	SLEV	WEEV	CHIK	DENV	ZIKA
Mosquito Pools	Week	177 / 1,692	35 / 1,319	0 / 1,195	0 / 62	0 / 62	0 / 62
	YTD	1,296 / 29,113	247 / 22,795	0 / 19,472	0 / 924	0 / 924	0 / 924

New Positives

Dead Birds

County	Submitting Agency	City	Zip Code	Species	Date Reported	Virus
Alameda	Alameda Co MAD	Hayward	94544	American Crow	8/23/2018	WNV
Alameda	Alameda Co MAD	Newark	94560	American Crow	8/16/2018	WNV
Butte	Butte Co MVCD	Oroville	95966	California Scrub-Jay	8/15/2018	WNV
Los Angeles	Greater Los Angeles Co VCD - Sylmar	Sherman Oaks	91423	American Crow	8/12/2018	WNV
Placer	Placer MVCD	Granite Bay	95746	California Scrub-Jay	8/20/2018	WNV
Placer	Placer MVCD	Loomis	95650	Oak Titmouse	8/23/2018	WNV
Placer	Placer MVCD	Loomis	95650	Unknown	8/17/2018	WNV
Placer	Placer MVCD	Roseville	95661	Mourning Dove	8/15/2018	WNV
Placer	Placer MVCD	Roseville	95678	California Scrub-Jay	8/22/2018	WNV
Placer	Placer MVCD	Roseville	95678	House Finch	8/21/2018	WNV
Placer	Placer MVCD	Roseville	95747	California Scrub-Jay	8/20/2018	WNV
Placer	Placer MVCD	Roseville	95747	Mourning Dove	8/22/2018	WNV
Placer	Placer MVCD	Roseville	95747	Western Bluebird	8/19/2018	WNV
Riverside	Northwest Mosquito VCD	Riverside	92506	American Crow	8/10/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Citrus Heights	95610	Bewick's Wren	8/16/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95624	American Crow	8/21/2018	WNV

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Sacramento	Sacramento-Yolo MVCD	Elk Grove	95624	Black-headed Grosbeak	8/16/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95624	Hooded Oriole	8/20/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Fair Oaks	95628	House Finch	8/15/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Foothill Farms	95842	American Crow	8/17/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Orangevale	95662	House Finch	8/16/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Rio Linda	95673	California Scrub-Jay	8/15/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Rosemont	95826	American Crow	8/18/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95811	American Crow	8/20/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95818	American Crow	8/15/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95821	Yellow-billed Magpie	8/19/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95826	Northern Mockingbird	8/16/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95833	House Finch	8/15/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95833	Yellow-billed Magpie	8/18/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95835	California Scrub-Jay	8/14/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95864	American Crow	8/14/2018	WNV
San Joaquin	San Joaquin Co MVCD	Manteca	95336	American Crow	8/16/2018	WNV
Santa Clara	Santa Clara Co VCD	East Palo Alto	94303	American Crow	8/22/2018	WNV
Santa Clara	Santa Clara Co VCD	Palo Alto	94306	American Crow	8/22/2018	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95110	American Crow	8/22/2018	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95110	American Crow	8/22/2018	WNV
Santa Clara	Santa Clara Co VCD	Santa Clara	95050	American Crow	8/15/2018	WNV
Santa Clara	Santa Clara Co VCD	Sunnyvale	94087	Common Raven	8/22/2018	WNV
Santa Clara	Santa Clara Co VCD	Sunnyvale	94087	Western Bluebird	8/20/2018	WNV
Santa Clara	Santa Clara Co VCD	Sunnyvale	94089	American Crow	8/20/2018	WNV
Shasta	Shasta MVCD	Redding	96003	American Crow	8/18/2018	WNV
Yolo	Sacramento-Yolo MVCD	Davis	95616	American Crow	8/18/2018	WNV
Yolo	Sacramento-Yolo MVCD	Davis	95616	MacGillivray's Warbler	8/16/2018	WNV
Yolo	Sacramento-Yolo MVCD	Davis	95618	California Scrub-Jay	8/21/2018	WNV
Yolo	Sacramento-Yolo MVCD	West Sacramento	95691	American Crow	8/16/2018	WNV
Yolo	Sacramento-Yolo MVCD	West Sacramento	95691	Barn Owl	8/15/2018	WNV
Yolo	Sacramento-Yolo MVCD	West Sacramento	95691	Northern Mockingbird	8/15/2018	WNV

Mosquitoes

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Butte	BUCO169	299	Cx. tarsalis	Nelson	50	CO2	8/15/18	WNV
Butte	BUCO37	312	Cx. tarsalis	Honcut	50	CO2	8/21/18	WNV
Contra Costa	CNTR661	339	Cx. tarsalis	Byron	37	CO2	8/20/18	WNV
Contra Costa	CNTR7520	347	Cx. pipiens	Brentwood	11	CO2	8/22/18	WNV
Contra Costa	CNTR8202	337	Cx. pipiens	Discovery Bay	20	CO2	8/20/18	WNV
Fresno	CNSL1423	282	Cx. quinquefasciatus	Fresno	50	GRVD	8/16/18	WNV
Fresno	CNSL1760	283	Cx. quinquefasciatus	Fresno	50	GRVD	8/16/18	WNV
Fresno	CNSL3023	279	Cx. quinquefasciatus	Parlier	44	GRVD	8/15/18	WNV
Fresno	CNSL3124	269	Cx. stigmatosoma	Dinuba	31	GRVD	8/14/18	WNV
Fresno	CNSL3350	276	Cx. quinquefasciatus	Reedley	50	GRVD	8/15/18	WNV
Fresno	CNSL3351	270	Cx. quinquefasciatus	Dinuba	35	GRVD	8/14/18	SLEV
Fresno	CNSL3351	270	Cx. quinquefasciatus	Dinuba	35	GRVD	8/14/18	WNV
Fresno	CNSL3351	271	Cx. stigmatosoma	Dinuba	32	GRVD	8/14/18	SLEV
Fresno	CNSL3351	272	Cx. tarsalis	Dinuba	50	BGSENT	8/14/18	WNV
Fresno	CNSL4124	275	Cx. quinquefasciatus	Selma	50	GRVD	8/15/18	WNV
Fresno	CNSL4124	277	Cx. tarsalis	Selma	40	CO2	8/15/18	WNV
Fresno	CNSL6031	290	Cx. quinquefasciatus	Riverdale	50	GRVD	8/17/18	SLEV
Fresno	CNSL6031	290	Cx. quinquefasciatus	Riverdale	50	GRVD	8/17/18	WNV
Fresno	CNSL6037	289	Cx. quinquefasciatus	Riverdale	45	GRVD	8/17/18	SLEV

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Fresno	CNSL6037	289	Cx. quinquefasciatus	Riverdale	45	GRVD	8/17/18	WNV
Fresno	FRNO112	488	Cx. quinquefasciatus	Fresno	12	GRVD	8/21/18	WNV
Fresno	FRNO116	494	Cx. quinquefasciatus	Fresno	35	GRVD	8/22/18	SLEV
Fresno	FRNO116	494	Cx. quinquefasciatus	Fresno	35	GRVD	8/22/18	WNV
Fresno	FRNO229	500	Cx. quinquefasciatus	Fresno	50	GRVD	8/23/18	SLEV
Fresno	FRNO229	501	Cx. quinquefasciatus	Fresno	48	GRVD	8/23/18	SLEV
Fresno	FRNO229	501	Cx. quinquefasciatus	Fresno	48	GRVD	8/23/18	WNV
Fresno	FRNO25	499	Cx. quinquefasciatus	Fresno	13	GRVD	8/23/18	WNV
Fresno	FRWS100006	255	Cx. tarsalis	Dos Palos	50	CO2	8/21/18	WNV
Fresno	FRWS100006	257	Cx. tarsalis	Dos Palos	50	CO2	8/21/18	WNV
Fresno	FRWS200002	248	Cx. quinquefasciatus	Firebaugh	14	GRVD	8/21/18	WNV
Fresno	FRWS30027	235	Cx. quinquefasciatus		25	CO2	8/17/18	WNV
Fresno	FRWS400017	251	Cx. tarsalis	Mendota	50	CO2	8/21/18	WNV
Fresno	FRWS4102	245	Cx. tarsalis	Kerman	50	CO2	8/21/18	WNV
Fresno	FRWS4102	246	Cx. tarsalis	Kerman	43	CO2	8/21/18	WNV
Kern	DLNO2	183	Cx. quinquefasciatus	Delano	50	CO2	8/16/18	WNV
Kern	DLNO29	193	Cx. quinquefasciatus	Delano	16	GRVD	8/21/18	WNV
Kern	DLNO68	191	Cx. quinquefasciatus	Delano	25	GRVD	8/17/18	SLEV
Kern	KERN111	428	Cx. tarsalis	Arvin	50	CO2	8/14/18	SLEV
Kern	KERN2027	432	Cx. quinquefasciatus	Bakersfield	50	GRVD	8/15/18	SLEV
Kern	KERN3029	436	Cx. quinquefasciatus	Buttonwillow	50	CO2	8/15/18	WNV
Kern	KERN3030	437	Cx. quinquefasciatus	Shafter	45	CO2	8/15/18	WNV
Kern	KERN32	453	Cx. quinquefasciatus	Arvin	50	CO2	8/17/18	WNV
Kern	KERN33	452	Cx. quinquefasciatus	Arvin	50	CO2	8/17/18	SLEV
Kern	KERN7	444	Cx. quinquefasciatus	Famoso	50	CO2	8/16/18	WNV
Kings	KNGS5515	164	Cx. tarsalis	Hanford	18	BGSENT	8/16/18	SLEV
Kings	KNGS5515	165	Cx. pipiens	Hanford	50	BGSENT	8/16/18	SLEV
Kings	KNGS8005	151	Cx. tarsalis	Stratford	50	CO2	8/13/18	WNV
Kings	KNGS8033	161	Cx. tarsalis	Hanford	34	CO2	8/15/18	SLEV
Kings	KNGS8033	162	Cx. pipiens	Hanford	32	CO2	8/15/18	SLEV
Kings	KNGS8033	162	Cx. pipiens	Hanford	32	CO2	8/15/18	WNV
Los Angeles	GRLA2032	5710	Cx. quinquefasciatus	Northridge	50	GRVD	8/14/18	WNV
Los Angeles	GRLA2635	5704	Cx. quinquefasciatus	Van Nuys	49	GRVD	8/14/18	WNV
Los Angeles	GRLA2636	5703	Cx. quinquefasciatus	Van Nuys	45	GRVD	8/14/18	WNV
Los Angeles	GRLA2936	5727	Cx. quinquefasciatus	Burbank	50	GRVD	8/16/18	WNV
Madera	MADR178	174	Cx. quinquefasciatus	Madera	50	CO2	8/16/18	WNV
Madera	MADR208	169	Cx. tarsalis	Madera	50	CO2	8/15/18	WNV
Madera	MADR265	176	Cx. quinquefasciatus	Madera	50	CO2	8/16/18	WNV
Madera	MADR309	173	Cx. quinquefasciatus	Madera	50	CO2	8/16/18	WNV
Madera	MADR3334	163	Cx. quinquefasciatus	Madera	50	CO2	8/14/18	WNV
Madera	MADR3334	165	Cx. quinquefasciatus	Madera	50	CO2	8/14/18	WNV
Madera	MADR896	159	Cx. quinquefasciatus	Mendota	50	CO2	8/14/18	WNV
Madera	MADR896	160	Cx. tarsalis	Mendota	50	CO2	8/14/18	WNV
Madera	MADR904	161	Cx. quinquefasciatus	Madera	50	CO2	8/14/18	WNV
Merced	MERC201517	323	Cx. tarsalis	Los Banos	20	CO2	8/22/18	WNV
Merced	MERC201725	327	Cx. tarsalis	Winton	13	CO2	8/23/18	WNV
Orange	ORCO1015	3402	Cx. quinquefasciatus	Orange	50	GRVD	8/23/18	WNV
Orange	ORCO1015	3403	Cx. quinquefasciatus	Orange	52	GRVD	8/23/18	WNV
Orange	ORCO1015	3408	Cx. quinquefasciatus	Orange	50	GRVD	8/23/18	WNV
Orange	ORCO1015	3409	Cx. quinquefasciatus	Orange	24	GRVD	8/23/18	WNV
Orange	ORCO1027	3366	Cx. quinquefasciatus	La Palma	9	BGSENT	8/21/18	WNV
Orange	ORCO17	3359	Cx. quinquefasciatus	Orange	22	GRVD	8/21/18	WNV
Orange	ORCO202	3438	Cx. quinquefasciatus	Fullerton	13	GRVD	8/23/18	WNV
Orange	ORCO242	3319	Cx. quinquefasciatus	Fountain Valley	50	GRVD	8/21/18	WNV

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Orange	ORCO244	3328	Cx. quinquefasciatus	Garden Grove	39	GRVD	8/21/18	WNV
Orange	ORCO29	3370	Cx. quinquefasciatus	Santa Ana	18	GRVD	8/22/18	WNV
Orange	ORCO3	3346	Cx. quinquefasciatus	Garden Grove	50	GRVD	8/21/18	WNV
Orange	ORCO41	3358	Cx. quinquefasciatus	Anaheim	8	BGSENT	8/21/18	WNV
Placer	PLCR1113	1732	Cx. tarsalis	Pleasant Grove	50	CO2	8/21/18	WNV
Placer	PLCR1114	1738	Cx. tarsalis	Lincoln	50	CO2	8/21/18	WNV
Placer	PLCR1114	1739	Cx. tarsalis	Lincoln	50	CO2	8/21/18	WNV
Placer	PLCR1114	1741	Cx. tarsalis	Lincoln	50	CO2	8/21/18	WNV
Placer	PLCR1114	1742	Cx. tarsalis	Lincoln	50	CO2	8/21/18	WNV
Placer	PLCR1114	1743	Cx. tarsalis	Lincoln	50	CO2	8/21/18	WNV
Placer	PLCR191373	1720	Cx. tarsalis		50	CO2	8/21/18	WNV
Placer	PLCR195835	1660	Cx. tarsalis	Roseville	39	OTHER	8/16/18	WNV
Placer	PLCR197855	1790	Cx. tarsalis	Roseville	6	BGCOUNTER	8/24/18	WNV
Placer	PLCR197855	1791	Cx. pipiens	Roseville	16	BGCOUNTER	8/24/18	WNV
Placer	PLCR79	1694	Cx. tarsalis	Roseville	1	CO2	8/21/18	WNV
Riverside	COAV121	3477	Cx. tarsalis	Mecca	23	CO2	8/21/18	SLEV
Riverside	COAV30	3448	Cx. quinquefasciatus	Mecca	36	CO2	8/21/18	WNV
Riverside	COAV33	3472	Cx. tarsalis	Mecca	50	CO2	8/21/18	SLEV
Riverside	COAV33	3472	Cx. tarsalis	Mecca	50	CO2	8/21/18	WNV
Riverside	COAV33	3473	Cx. tarsalis	Mecca	50	CO2	8/21/18	SLEV
Riverside	COAV35	3470	Cx. tarsalis	Mecca	49	CO2	8/21/18	SLEV
Riverside	COAV8	3474	Cx. tarsalis	Mecca	50	CO2	8/21/18	WNV
Riverside	NWST38	117	Cx. quinquefasciatus	Riverside	32	CO2	8/21/18	WNV
Riverside	NWST58	112	Cx. quinquefasciatus	Riverside	32	CO2	8/15/18	WNV
Sacramento	SAYO201006	5011	Cx. tarsalis	Sacramento	50	CO2	8/21/18	WNV
Sacramento	SAYO201006	5013	Cx. tarsalis	Sacramento	50	CO2	8/21/18	WNV
Sacramento	SAYO201009	5017	Cx. tarsalis	Sacramento	12	CO2	8/21/18	WNV
Sacramento	SAYO205034	4895	Cx. pipiens	Orangevale	12	GRVD	8/17/18	WNV
Sacramento	SAYO212038	5106	Cx. pipiens	Sacramento	3	GRVD	8/22/18	WNV
Sacramento	SAYO213017	5049	Cx. pipiens	Sacramento	20	GRVD	8/21/18	WNV
Sacramento	SAYO213023	5093	Cx. pipiens	Sacramento	2	CO2	8/22/18	WNV
Sacramento	SAYO222065	4992	Cx. tarsalis	Sacramento	6	CO2	8/21/18	WNV
Sacramento	SAYO222065	4994	Cx. pipiens	Sacramento	18	GRVD	8/21/18	WNV
Sacramento	SAYO224010	4884	Cx. pipiens	Sacramento	25	CO2	8/16/18	WNV
Sacramento	SAYO235001	4864	Cx. pipiens	Wilton	5	CO2	8/16/18	WNV
Sacramento	SAYO242013	4956	Cx. pipiens	Hood	5	GRVD	8/17/18	WNV
San Diego	SAND14177	2248	Cx. quinquefasciatus	Lakeside	11	GRVD	8/11/18	WNV
San Joaquin	SJCM8003	1901	Cx. tarsalis	Tracy	47	CO2	8/21/18	WNV
San Joaquin	SJCM8004	1866	Cx. tarsalis	Lodi	50	CO2	8/21/18	WNV
San Joaquin	SJCM8004	1867	Cx. pipiens	Lodi	28	CO2	8/21/18	WNV
San Joaquin	SJCM8018	1845	Cx. tarsalis	Stockton	50	CO2	8/21/18	WNV
San Joaquin	SJCM8018	1846	Cx. tarsalis	Stockton	50	CO2	8/21/18	WNV
San Joaquin	SJCM8029	1951	Cx. pipiens	Farmington	50	CO2	8/23/18	WNV
San Joaquin	SJCM8029	1954	Cx. pipiens	Farmington	50	CO2	8/23/18	WNV
San Joaquin	SJCM8047	1938	Cx. tarsalis	Stockton	5	CO2	8/23/18	WNV
San Joaquin	SJCM8056	1926	Cx. tarsalis	Manteca	50	CO2	8/21/18	WNV
San Joaquin	SJCM8056	1927	Cx. tarsalis	Manteca	21	CO2	8/21/18	WNV
San Joaquin	SJCM8056	1928	Cx. pipiens	Manteca	50	CO2	8/21/18	WNV
San Joaquin	SJCM8056	1929	Cx. pipiens	Manteca	13	CO2	8/21/18	WNV
San Joaquin	SJCM8079	1897	Cx. tarsalis	Manteca	10	CO2	8/21/18	WNV
San Joaquin	SJCM8079	1898	Cx. pipiens	Manteca	16	CO2	8/21/18	WNV
San Joaquin	SJCM8083	1904	Cx. pipiens	Escalon	19	CO2	8/21/18	WNV
San Joaquin	SJCM8143	1874	Cx. tarsalis	Stockton	50	CO2	8/21/18	WNV
San Joaquin	SJCM8143	1875	Cx. tarsalis	Stockton	50	CO2	8/21/18	WNV

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San Joaquin	SJCM8160	1871	Cx. tarsalis	Lodi	38	CO2	8/21/18	WNV
San Joaquin	SJCM8161	1907	Cx. tarsalis	Ripon	26	CO2	8/21/18	WNV
San Joaquin	SJCM8161	1908	Cx. pipiens	Ripon	45	CO2	8/21/18	WNV
San Joaquin	SJCM8189	1941	Cx. tarsalis	Acampo	7	CO2	8/23/18	WNV
San Joaquin	SJCM8189	1942	Cx. pipiens	Acampo	6	CO2	8/23/18	WNV
San Joaquin	SJCM8199	1886	Cx. tarsalis	Manteca	20	CO2	8/21/18	WNV
San Joaquin	SJCM8200	1946	Cx. tarsalis	Lodi	52	CO2	8/23/18	WNV
San Joaquin	SJCM8200	1947	Cx. pipiens	Lodi	6	CO2	8/23/18	WNV
San Joaquin	SJCM8201	1935	Cx. tarsalis	Lockford	16	CO2	8/23/18	WNV
San Joaquin	SJCM8203	1872	Cx. tarsalis	Lodi	37	CO2	8/21/18	WNV
San Joaquin	SJCM8205	1939	Cx. tarsalis	Farmington	8	CO2	8/23/18	WNV
San Joaquin	SJCM8205	1940	Cx. pipiens	Farmington	12	CO2	8/23/18	WNV
San Joaquin	SJCM8206	1890	Cx. tarsalis	Lodi	50	CO2	8/21/18	WNV
San Joaquin	SJCM8213	1931	Cx. tarsalis	Lodi	44	CO2	8/21/18	WNV
San Joaquin	SJCM8218	1956	Cx. tarsalis	Escalon	23	CO2	8/23/18	WNV
San Joaquin	SJCM8218	1957	Cx. pipiens	Escalon	36	CO2	8/23/18	WNV
San Joaquin	SJCM8219	1900	Cx. pipiens	Stockton	7	CO2	8/21/18	WNV
San Joaquin	SJCM9906	1905	Cx. tarsalis	French Camp	17	CO2	8/21/18	WNV
Shasta	SHAS110	568	Cx. tarsalis	Redding	50	CO2	8/21/18	WNV
Shasta	SHAS110	570	Cx. tarsalis	Redding	15	CO2	8/21/18	WNV
Shasta	SHAS9704	556	Cx. pipiens	Redding	40	BGSENT	8/21/18	WNV
Solano	SOLA4	144	Cx. pipiens	Davis	11	CO2	8/17/18	WNV
Stanislaus	TRLK1214	1114	Cx. pipiens	Turlock	50	CO2	8/21/18	WNV
Stanislaus	TRLK1301	1146	Cx. tarsalis	Denair	50	CO2	8/21/18	WNV
Stanislaus	TRLK1308	1140	Cx. pipiens	Turlock	50	CO2	8/21/18	WNV
Stanislaus	TRLK1615	1062	Cx. tarsalis	Modesto	50	CO2	8/17/18	WNV
Stanislaus	TRLK1615	1071	Cx. pipiens	Modesto	50	CO2	8/21/18	WNV
Stanislaus	TRLK1821	1108	Cx. pipiens	Patterson	14	CO2	8/21/18	WNV
Stanislaus	TRLK18235	1058	Cx. pipiens	Hickman	50	CO2	8/16/18	WNV
Stanislaus	TRLK2	1099	Cx. tarsalis	Vernalis	50	CO2	8/21/18	WNV
Stanislaus	TRLK305	1090	Cx. tarsalis	Grayson	50	CO2	8/21/18	WNV
Stanislaus	TRLK305	1091	Cx. tarsalis	Grayson	50	CO2	8/21/18	WNV
Stanislaus	TRLK307	1096	Cx. tarsalis	Grayson	50	CO2	8/21/18	WNV
Stanislaus	TRLK307	1097	Cx. tarsalis	Grayson	50	CO2	8/21/18	WNV
Stanislaus	TRLK312	1084	Cx. tarsalis	Newman	11	CO2	8/21/18	WNV
Stanislaus	TRLK319	1078	Cx. tarsalis	Newman	50	CO2	8/21/18	WNV
Stanislaus	TRLK322	1103	Cx. tarsalis	Vernalis	50	CO2	8/21/18	WNV
Stanislaus	TRLK322	1107	Cx. tarsalis	Vernalis	48	CO2	8/21/18	WNV
Stanislaus	TRLK424	1064	Cx. tarsalis	Patterson	50	CO2	8/17/18	WNV
Stanislaus	TRLK432	1122	Cx. pipiens	Turlock	50	CO2	8/21/18	WNV
Stanislaus	TRLK432	1127	Cx. tarsalis	Turlock	50	CO2	8/21/18	WNV
Stanislaus	TRLK432	1128	Cx. tarsalis	Turlock	50	CO2	8/21/18	WNV
Stanislaus	TRLK437	1109	Cx. tarsalis	Patterson	28	CO2	8/21/18	WNV
Sutter	SUYA15	316	Cx. tarsalis	Robbins	44	CO2	8/21/18	WNV
Sutter	SUYA44	308	Cx. tarsalis	Pleasant Grove	36	CO2	8/21/18	WNV
Tulare	DLNO8	186	Cx. quinquefasciatus	Delano	50	CO2	8/16/18	WNV
Tulare	DLTA6236	2915	Cx. stigmatosoma	Kingsburg	43	CO2	8/17/18	WNV
Tulare	DLTA6330	2916	Cx. tarsalis	Kingsburg	28	CO2	8/17/18	WNV
Tulare	DLTA6404	2983	Cx. tarsalis	Dinuba	48	CO2	8/22/18	WNV
Tulare	DLTA6404	2985	Cx. tarsalis	Dinuba	43	CO2	8/22/18	WNV
Tulare	DLTA6404	2986	Cx. quinquefasciatus	Dinuba	14	CO2	8/22/18	SLEV
Tulare	DLTA6404	2986	Cx. quinquefasciatus	Dinuba	14	CO2	8/22/18	WNV
Tulare	DLTA6404	2987	Cx. tarsalis	Dinuba	50	CO2	8/22/18	WNV
Tulare	DLTA6408	2933	Cx. quinquefasciatus	Dinuba	45	GRVD	8/17/18	SLEV

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Tulare	DLTA6408	2933	Cx. quinquefasciatus	Dinuba	45	GRVD	8/17/18	WNV
Tulare	DLTA7401	2858	Cx. tarsalis		44	CO2	8/16/18	SLEV
Tulare	DLTA7529	2953	Cx. quinquefasciatus	Visalia	50	CO2	8/21/18	SLEV
Tulare	DLTA8413	2906	Cx. quinquefasciatus	Visalia	50	BGSENT	8/17/18	SLEV
Tulare	DLTA8413	2907	Cx. quinquefasciatus	Visalia	50	BGSENT	8/17/18	SLEV
Tulare	DLTA8413	2993	Cx. quinquefasciatus	Visalia	31	GRVD	8/22/18	SLEV
Tulare	DLTA8427	2971	Cx. quinquefasciatus	Visalia	15	BGSENT	8/21/18	SLEV
Tulare	DLTA8434	2988	Cx. quinquefasciatus	Visalia	26	BGSENT	8/22/18	SLEV
Tulare	DLTA8505	2866	Cx. quinquefasciatus		50	CO2	8/16/18	SLEV
Tulare	DLTA8533	2989	Cx. quinquefasciatus	Visalia	10	GRVD	8/22/18	SLEV
Tulare	TLRE192436	127	Cx. quinquefasciatus	Tulare	50	GRVD	8/8/18	SLEV
Tulare	TLRE202401	131	Cx. quinquefasciatus	Tulare	38	GRVD	8/14/18	SLEV
Tulare	TLRE202401	141	Cx. quinquefasciatus	Tulare	27	GRVD	8/16/18	SLEV
Tulare	TLRE202402	132	Cx. quinquefasciatus	Tulare	50	GRVD	8/14/18	WNV
Tulare	TLRE202409	134	Cx. quinquefasciatus	Tulare	50	GRVD	8/14/18	SLEV
Tulare	TLRE202410	135	Cx. quinquefasciatus	Tulare	50	GRVD	8/14/18	SLEV
Yolo	SAYO103007	5037	Cx. tarsalis	Dunnigan	50	CO2	8/21/18	WNV
Yolo	SAYO104006	5031	Cx. tarsalis	Dunnigan	50	CO2	8/21/18	WNV
Yolo	SAYO115008	5025	Cx. tarsalis	Woodland	50	CO2	8/21/18	WNV
Yolo	SAYO125013	4924	Cx. pipiens	Woodland	33	GRVD	8/17/18	WNV
Yolo	SAYO125025	4912	Cx. pipiens	Woodland	44	GRVD	8/17/18	WNV
Yolo	SAYO135010	4919	Cx. pipiens	Woodland	8	CO2	8/17/18	WNV
Yolo	SAYO135010	4920	Cx. pipiens	Woodland	32	GRVD	8/17/18	WNV
Yolo	SAYO135012	4932	Cx. pipiens	Woodland	7	GRVD	8/17/18	WNV
Yolo	SAYO136007	5010	Cx. tarsalis	Woodland	1	GRVD	8/21/18	WNV
Yolo	SAYO136008	4914	Cx. tarsalis	Davis	50	CO2	8/17/18	WNV
Yolo	SAYO136010	4934	Cx. tarsalis	Woodland	50	CO2	8/17/18	WNV
Yolo	SAYO136010	4936	Cx. tarsalis	Woodland	45	CO2	8/17/18	WNV
Yolo	SAYO145002	5085	Cx. tarsalis	Davis	50	CO2	8/22/18	WNV
Yolo	SAYO145003	5065	Cx. pipiens	Davis	3	GRVD	8/22/18	WNV
Yolo	SAYO145005	5083	Cx. tarsalis	Davis	50	CO2	8/22/18	WNV

Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01	Band 02	Band 03	Band 04	Band 05
Butte	BUCO0001	Chico	8/14/2018	WNV	1501	1503			
Butte	BUCO0002	Oroville	8/14/2018	WNV	1508	1509	1510	1511	1512
Butte	BUCO0003	Oroville	8/14/2018	WNV	1513	1515	1517	1518	
Butte	BUCO0004	Gridley	8/14/2018	WNV	1519	1520	1521		
Butte	BUCO0005	Honcut	8/14/2018	WNV	1525	1528			
Butte	BUCO0006	Chico	8/14/2018	WNV	1534	1535	1536		
Colusa	CLSA0001	Colusa	8/14/2018	WNV	1574				
Lake	LAKE1000	Upper Lake	8/14/2018	WNV	1600				
Merced	MERC0003	Gustine	8/17/2018	WNV	1818				
Merced	MERC1302	Los Banos	8/17/2018	WNV	1841				
Santa Clara	STCL3965	Sunnyvale	8/13/2018	WNV	2015				
Shasta	SHAS9702	Millville	8/17/2018	WNV	1754				
Sutter	SUYA0014	Sutter	8/16/2018	WNV	1365	1366			
Sutter	SUYA0015	Robbins	8/16/2018	WNV	1347				
Sutter	SUYA0030	Live Oak	8/16/2018	WNV	1368	1371			
Sutter	SUYA0084	Yuba City	8/16/2018	WNV	1328				
Yuba	SUYA0010	Olivehurst	8/16/2018	WNV	1341				

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

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