

California Arbovirus Surveillance Bulletin #16

Week 29 Friday, July 19, 2019



Weekly Update

Humans

One new human case of West Nile virus (WNV) illness was reported this week from San Bernardino County. To date this year, 2 human WNV cases have been reported from 2 counties: Imperial (1) and San Bernardino (2). Of the 2 case patients, both had neuroinvasive illness and 1 fatality has been reported. At this time last year, 10 human cases of WNV illness had been reported from 6 counties.

Dead Birds

A total of 8 WNV positive dead birds were reported this week from 6 counties: Fresno (2), Los Angeles (1), Merced (1), Orange (1), San Joaquin (1), and Tulare (2) counties. **This is the first WNV positive bird from Merced County this year.** In 2019, a total of 28 WNV positive dead birds have been reported from 8 counties. At this time last year, 108 WNV positive dead birds had been reported from 13 counties.

Mosquito Pools

West Nile virus

A total of 220 WNV positive mosquito pools were reported this week from 12 counties: Fresno (49), Kern (10), Los Angeles (2), Madera (1), Merced (2), Riverside (48), Sacramento (2), San Bernardino (2), San Joaquin (2), Stanislaus (4), Tulare (97), and Yuba (1). **This is the first detection of WNV activity in Madera County this year, and the first WNV positive mosquitoes from Los Angeles County.** In 2019, a total of 802 WNV positive mosquito pools have been reported from 15 counties. At this time last year, 315 WNV positive mosquito pools had been reported from 20 counties.

St. Louis encephalitis virus

This week, a total of 12 mosquito pools were reported positive for St. Louis encephalitis virus (SLEV) from 4 counties: Fresno (4), Kern (2), Riverside (2), and Tulare (4). In 2019, a total of 45 SLEV positive mosquito pools have been reported from 4 counties: Fresno (11), Kern (14), Riverside (7), and Tulare (13). At this time last year, 95 SLEV positive mosquito pools had been reported from 4 counties.

Sentinel Chickens

No seroconversions have been reported in 2019. At this time last year, 7 WNV seroconversions had been reported from 1 county.

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2018 & 2019 YTD West Nile Virus Comparisons		
	2018	2019
Total # Dead Bird Reports	3,973	3,046
# Positive Counties	24	17
# Human Cases	10	2
# Positive Dead Birds / # Tested	108 / 956	28 / 898
# Positive Mosquito Pools / # Tested	315 / 18,990	802 / 18,977
# Seroconversions / # Tested	7 / 4,731	0 / 4,069

YTD WNV Activity by Element and County, 2019				
County	Humans	Dead Birds	Mosquito Pools	Sentinel Chickens
Fresno		4	107	
Imperial	1			
Kern			26	
Kings			3	
Los Angeles		3	2	
Madera			1	
Merced		1	3	
Orange		8	1	
Riverside			364	
Sacramento		1	3	
San Bernardino	1		6	
San Diego		1		
San Joaquin		3	15	
Stanislaus			5	
Tulare		7	261	
Ventura			1	
Yuba			4	
Totals	2	28	802	0

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TESTING SUMMARIES

Humans

		WNV	SLE	WEE
Human Cases	Week	1	0	0
	YTD	2	0	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	62	8
	YTD	898	28

Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	342	0	0	0
	YTD	4,069	0	0	0

Mosquitoes

		Positive / Total Tested						
Mosquito Pools	Week	WNV	SLEV	WEEV	CHIK	DENV	ZIKA	
		Week	220 / 2,163	12 / 1,893	0 / 1,752	0 / 121	0 / 121	0 / 121
		YTD	802 / 18,977	45 / 17,234	0 / 16,280	0 / 252	0 / 252	0 / 252

POSITIVES

Dead Birds

County	Agency	City	Zip	Species	Date Reported	Virus
Fresno	Fresno MVCD	Fresno	93704	California Scrub-Jay	7/1/2019	WNV
Fresno	Fresno MVCD	Fresno	93711	California Scrub-Jay	7/17/2019	WNV
Los Angeles	Los Angeles Co Veterinarian	Los Angeles	90035	American Crow	7/12/2019	WNV
Merced	Merced Co MAD	Winton	95388	California Scrub-Jay	7/8/2019	WNV
Orange	Orange Co VCD	Cypress	90630	American Crow	7/8/2019	WNV
San Joaquin	San Joaquin Co MVCD	Ripon	95366	California Scrub-Jay	7/11/2019	WNV
Tulare	Delta VCD	Visalia	93277	American Crow	7/16/2019	WNV
Tulare	Delta VCD	Visalia	93291	California Scrub-Jay	7/15/2019	WNV

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Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Fresno	CNSL1034	226	Cx. quinquefasciatus	Fresno	50	GRVD	7/9/19	WNV
Fresno	CNSL1355	288	Cx. quinquefasciatus	Fresno	50	GRVD	7/15/19	WNV
Fresno	CNSL1490	279	Cx. quinquefasciatus	Fresno	50	GRVD	7/12/19	WNV
Fresno	CNSL1490	279	Cx. quinquefasciatus	Fresno	50	GRVD	7/12/19	SLEV
Fresno	CNSL1513	227	Cx. quinquefasciatus	Clovis	30	GRVD	7/10/19	WNV
Fresno	CNSL1513	228	Cx. tarsalis	Clovis	33	BGSENT	7/10/19	WNV
Fresno	CNSL1519	225	Cx. quinquefasciatus	Fresno	15	BGSENT	7/9/19	WNV
Fresno	CNSL1524	224	Cx. quinquefasciatus	Fresno	20	GRVD	7/9/19	WNV
Fresno	CNSL1540	281	Cx. quinquefasciatus	Fresno	16	GRVD	7/12/19	WNV
Fresno	CNSL1545	213	Cx. quinquefasciatus	Clovis	33	GRVD	7/9/19	WNV
Fresno	CNSL1636	221	Cx. quinquefasciatus	Clovis	50	GRVD	7/9/19	WNV
Fresno	CNSL1646	283	Cx. quinquefasciatus	Fresno	50	GRVD	7/12/19	WNV
Fresno	CNSL1697	287	Cx. quinquefasciatus	Fresno	50	GRVD	7/12/19	WNV
Fresno	CNSL1753	278	Cx. quinquefasciatus	Fresno	16	BGSENT	7/12/19	WNV
Fresno	CNSL1761	223	Cx. quinquefasciatus	Fresno	50	GRVD	7/9/19	WNV
Fresno	CNSL1881	277	Cx. tarsalis	Fresno	19	BGSENT	7/12/19	SLEV
Fresno	CNSL1904	285	Cx. quinquefasciatus	Fresno	50	GRVD	7/12/19	WNV
Fresno	CNSL2271	267	Cx. quinquefasciatus	Sanger	36	GRVD	7/11/19	WNV
Fresno	CNSL2282	266	Cx. quinquefasciatus	Sanger	27	GRVD	7/11/19	WNV
Fresno	CNSL2473	229	Cx. quinquefasciatus	Sanger	46	GRVD	7/10/19	WNV
Fresno	CNSL2480	265	Cx. tarsalis	Sanger	18	BGSENT	7/11/19	WNV
Fresno	CNSL3064	271	Cx. quinquefasciatus	Reedley	18	GRVD	7/12/19	WNV
Fresno	CNSL3065	269	Cx. quinquefasciatus	Reedley	20	GRVD	7/12/19	WNV
Fresno	CNSL3066	239	Cx. quinquefasciatus	Reedley	20	GRVD	7/10/19	WNV
Fresno	CNSL3224	272	Cx. quinquefasciatus	Reedley	50	GRVD	7/12/19	WNV
Fresno	CNSL3224	273	Cx. stigmatosoma	Reedley	18	GRVD	7/12/19	WNV
Fresno	CNSL3247	274	Cx. quinquefasciatus	Reedley	41	GRVD	7/12/19	WNV
Fresno	CNSL4099	255	Cx. tarsalis	Selma	25	BGSENT	7/11/19	WNV
Fresno	CNSL4173	250	Cx. quinquefasciatus	Fowler	39	GRVD	7/11/19	WNV
Fresno	CNSL4196	251	Cx. quinquefasciatus	Fowler	50	GRVD	7/11/19	WNV
Fresno	CNSL4221	252	Cx. quinquefasciatus	Selma	37	GRVD	7/11/19	WNV
Fresno	CNSL5043	236	Cx. quinquefasciatus	Kingsburg	50	GRVD	7/10/19	WNV
Fresno	CNSL5044	233	Cx. quinquefasciatus	Kingsburg	50	GRVD	7/10/19	WNV
Fresno	CNSL8044	222	Cx. quinquefasciatus	Fresno	23	BGSENT	7/9/19	WNV
Fresno	CNSL8047	220	Cx. quinquefasciatus	Fresno	50	GRVD	7/9/19	WNV
Fresno	CNSL9048	215	Cx. quinquefasciatus	Clovis	38	GRVD	7/9/19	WNV
Fresno	CNSL9063	275	Cx. quinquefasciatus	Clovis	28	GRVD	7/12/19	WNV
Fresno	CNSL9119	286	Cx. quinquefasciatus	Clovis	35	GRVD	7/12/19	WNV
Fresno	CNSL9188	284	Cx. quinquefasciatus	Fresno	50	GRVD	7/12/19	WNV
Fresno	FRNO11	271	Cx. quinquefasciatus	Fresno	21	GRVD	7/10/19	SLEV
Fresno	FRNO11	271	Cx. quinquefasciatus	Fresno	21	GRVD	7/10/19	WNV
Fresno	FRNO14	233	Cx. quinquefasciatus	Fresno	14	GRVD	7/2/19	WNV
Fresno	FRNO15	236	Cx. quinquefasciatus	Fresno	50	GRVD	7/2/19	WNV
Fresno	FRNO15	237	Cx. quinquefasciatus	Fresno	35	GRVD	7/2/19	WNV
Fresno	FRNO15	267	Cx. quinquefasciatus	Fresno	50	GRVD	7/9/19	WNV
Fresno	FRNO207	282	Cx. quinquefasciatus	Fresno	25	GRVD	7/11/19	WNV
Fresno	FRNO208	283	Cx. quinquefasciatus	Fresno	30	GRVD	7/11/19	WNV
Fresno	FRNO217	252	Cx. quinquefasciatus	Fresno	50	GRVD	7/2/19	WNV
Fresno	FRNO229	258	Cx. quinquefasciatus	Fresno	31	GRVD	7/3/19	WNV
Fresno	FRNO235	256	Cx. quinquefasciatus	Fresno	7	CO2	7/3/19	WNV
Fresno	FRNO235	257	Cx. quinquefasciatus	Fresno	30	GRVD	7/3/19	WNV

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Fresno	FRNO235	276	Cx. quinquefasciatus	Fresno	38	BGSENT	7/10/19	SLEV
Fresno	FRNO235	276	Cx. quinquefasciatus	Fresno	38	BGSENT	7/10/19	WNV
Kern	DLNO103	96	Cx. tarsalis	McFarland	39	CO2	7/11/19	WNV
Kern	KERN1002	394	Cx. quinquefasciatus	Bakersfield	50	GRVD	7/12/19	WNV
Kern	KERN1162	378	Cx. quinquefasciatus	Bakersfield	40	CO2	7/10/19	WNV
Kern	KERN1162	378	Cx. quinquefasciatus	Bakersfield	40	CO2	7/10/19	SLEV
Kern	KERN121	395	Cx. quinquefasciatus	Bakersfield	50	GRVD	7/12/19	WNV
Kern	KERN13	392	Cx. tarsalis	Bakersfield	35	CO2	7/11/19	WNV
Kern	KERN2014	373	Cx. quinquefasciatus	Bakersfield	50	GRVD	7/9/19	WNV
Kern	KERN2020	372	Cx. quinquefasciatus	Bakersfield	50	GRVD	7/9/19	WNV
Kern	KERN2024	391	Cx. quinquefasciatus	Bakersfield	50	GRVD	7/11/19	SLEV
Kern	KERN2041	369	Cx. quinquefasciatus	Arvin	48	GRVD	7/9/19	WNV
Kern	KERN2051	375	Cx. quinquefasciatus	Bakersfield	50	GRVD	7/9/19	WNV
Kern	KERN3029	385	Cx. tarsalis	Buttonwillow	50	CO2	7/10/19	WNV
Los Angeles	ANTV5795	55	Cx. tarsalis	Lancaster	30	GRVD	7/16/19	WNV
Los Angeles	GRLA2145	549	Cx. quinquefasciatus	Long Beach	50	GRVD	7/10/19	WNV
Madera	MADR1109	102	Cx. tarsalis	Madera	40	CO2	7/10/19	WNV
Merced	MERC1037	306	Cx. tarsalis	Merced	50	CO2	7/11/19	WNV
Merced	MERC201723	304	Cx. pipiens	Winton	50	CO2	7/11/19	WNV
Riverside	COAV0	3912	Cx. quinquefasciatus		23	GRVD	7/16/19	WNV
Riverside	COAV0	3914	Cx. quinquefasciatus		42	GRVD	7/16/19	WNV
Riverside	COAV0	3963	Cx. quinquefasciatus		50	GRVD	7/16/19	WNV
Riverside	COAV0	3965	Cx. quinquefasciatus		40	GRVD	7/16/19	WNV
Riverside	COAV0	3994	Cx. quinquefasciatus		38	GRVD	7/17/19	WNV
Riverside	COAV0	3995	Cx. quinquefasciatus		26	GRVD	7/17/19	WNV
Riverside	COAV0	3996	Cx. quinquefasciatus		39	GRVD	7/17/19	WNV
Riverside	COAV0	3997	Cx. quinquefasciatus		12	GRVD	7/17/19	WNV
Riverside	COAV0	4023	Cx. quinquefasciatus		12	GRVD	7/18/19	WNV
Riverside	COAV0	4032	Cx. quinquefasciatus		14	CO2	7/17/19	WNV
Riverside	COAV0	4033	Cx. quinquefasciatus		50	GRVD	7/17/19	WNV
Riverside	COAV10	3948	Cx. tarsalis	Thermal	43	CO2	7/16/19	WNV
Riverside	COAV13	3950	Cx. tarsalis	Mecca	18	CO2	7/16/19	WNV
Riverside	COAV13	3950	Cx. tarsalis	Mecca	18	CO2	7/16/19	SLEV
Riverside	COAV131	3982	Cx. tarsalis	Oasis	50	CO2	7/16/19	WNV
Riverside	COAV131	3982	Cx. tarsalis	Oasis	50	CO2	7/16/19	SLEV
Riverside	COAV131	3983	Cx. tarsalis	Oasis	50	CO2	7/16/19	WNV
Riverside	COAV131	3985	Cx. tarsalis	Oasis	50	CO2	7/16/19	WNV
Riverside	COAV132	3949	Cx. tarsalis	Mecca	50	CO2	7/16/19	WNV
Riverside	COAV17	3925	Cx. tarsalis	Mecca	36	CO2	7/16/19	WNV
Riverside	COAV200	3924	Cx. quinquefasciatus	Mecca	44	GRVD	7/16/19	WNV
Riverside	COAV200	3931	Cx. tarsalis	Mecca	23	CO2	7/16/19	WNV
Riverside	COAV208	3957	Cx. quinquefasciatus	Palm Springs	50	GRVD	7/17/19	WNV
Riverside	COAV30	3935	Cx. tarsalis	Mecca	21	CO2	7/16/19	WNV
Riverside	COAV302	4041	Cx. quinquefasciatus	Rancho Mirage	50	GRVD	7/18/19	WNV
Riverside	COAV302	4042	Cx. quinquefasciatus	Rancho Mirage	50	CO2	7/18/19	WNV
Riverside	COAV321	4048	Cx. quinquefasciatus	Rancho Mirage	18	GRVD	7/18/19	WNV
Riverside	COAV322	3955	Cx. quinquefasciatus	Cathedral City	30	GRVD	7/17/19	WNV
Riverside	COAV322	4004	Cx. quinquefasciatus	Cathedral City	8	BGSENT	7/17/19	WNV
Riverside	COAV347	4021	Cx. quinquefasciatus	La Quinta	30	CO2	7/18/19	WNV
Riverside	COAV37	3941	Cx. tarsalis	Mecca	50	CO2	7/16/19	WNV
Riverside	COAV406	4024	Cx. quinquefasciatus	Palm Springs	50	GRVD	7/18/19	WNV
Riverside	COAV407	4001	Cx. quinquefasciatus	Palm Springs	6	BGSENT	7/17/19	WNV
Riverside	COAV412	4047	Cx. quinquefasciatus	Rancho Mirage	22	GRVD	7/18/19	WNV
Riverside	COAV416	3964	Cx. quinquefasciatus	La Quinta	15	GRVD	7/16/19	WNV

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Riverside	COAV419	3915	Cx. quinquefasciatus	La Quinta	23	GRVD	7/16/19	WNV
Riverside	COAV426	3960	Cx. quinquefasciatus	South La Quinta	32	CO2	7/16/19	WNV
Riverside	COAV427	4009	Cx. quinquefasciatus	Palm Desert	24	GRVD	7/18/19	WNV
Riverside	COAV430	3916	Cx. quinquefasciatus	Indio	50	GRVD	7/16/19	WNV
Riverside	COAV430	3917	Cx. quinquefasciatus	Indio	50	GRVD	7/16/19	WNV
Riverside	COAV431	3956	Cx. quinquefasciatus	Palm Springs	30	GRVD	7/17/19	WNV
Riverside	COAV5	3989	Cx. tarsalis	Mecca	18	CO2	7/16/19	WNV
Riverside	COAV6	3927	Cx. tarsalis	Mecca	50	CO2	7/16/19	WNV
Riverside	COAV6	3928	Cx. tarsalis	Mecca	34	CO2	7/16/19	WNV
Riverside	COAV726	4002	Cx. quinquefasciatus	Palm Springs	10	BGSENT	7/17/19	WNV
Riverside	COAV738	3887	Cx. quinquefasciatus	Coachella	35	BGSENT	7/16/19	WNV
Riverside	COAV744	4005	Cx. quinquefasciatus	La Quinta	56	GRVD	7/18/19	WNV
Riverside	NWST158	119	Cx. quinquefasciatus	Riverside	31	GRVD	7/16/19	WNV
Riverside	NWST166	120	Cx. quinquefasciatus	Riverside	41	CO2	7/16/19	WNV
Riverside	RIVR90	229	Cx. tarsalis	Nuevo	50	CO2	7/11/19	WNV
Sacramento	SAYO233051	2634	Cx. tarsalis	Sacramento	12	CO2	7/16/19	WNV
Sacramento	SAYO233051	2636	Cx. pipiens	Sacramento	12	CO2	7/16/19	WNV
San Bernardino	SANB27	599	Cx. tarsalis	San Bernardino	23	CO2	7/16/19	WNV
San Bernardino	WVAL5005	1626	Cx. quinquefasciatus	Rancho Cucamonga	22	GRVD	7/16/19	WNV
San Joaquin	SJCM8027	874	Cx. tarsalis	Stockton	33	CO2	7/16/19	WNV
San Joaquin	SJCM8100	953	Cx. tarsalis	Tracy	50	CO2	7/16/19	WNV
Stanislaus	TRLK1202	461	Cx. pipiens	Hughson	36	CO2	7/16/19	WNV
Stanislaus	TRLK1209	436	Cx. pipiens	Ceres	50	CO2	7/16/19	WNV
Stanislaus	TRLK17152	501	Cx. pipiens	Denair	50	CO2	7/11/19	WNV
Stanislaus	TRLK516	449	Cx. pipiens	Denair	50	CO2	7/16/19	WNV
Tulare	DLTA6404	1768	Cx. tarsalis	Dinuba	14	CO2	7/16/19	WNV
Tulare	DLTA6404	1772	Cx. quinquefasciatus	Dinuba	46	CO2	7/16/19	WNV
Tulare	DLTA6407	1907	Cx. quinquefasciatus	Dinuba	31	GRVD	7/17/19	WNV
Tulare	DLTA6408	1835	Cx. quinquefasciatus	Dinuba	10	GRVD	7/16/19	WNV
Tulare	DLTA6408	1905	Cx. quinquefasciatus	Dinuba	23	GRVD	7/17/19	WNV
Tulare	DLTA6416	1743	Cx. quinquefasciatus	Dinuba	23	GRVD	7/12/19	WNV
Tulare	DLTA6416	1841	Cx. quinquefasciatus	Dinuba	50	GRVD	7/16/19	WNV
Tulare	DLTA6508	1682	Cx. quinquefasciatus	Orosi	14	BGSENT	7/11/19	WNV
Tulare	DLTA8324	1837	Cx. quinquefasciatus	Goshen	15	GRVD	7/16/19	WNV
Tulare	DLTA8413	1749	Cx. quinquefasciatus	Visalia	50	BGSENT	7/12/19	WNV
Tulare	DLTA8413	1856	Cx. quinquefasciatus	Visalia	38	GRVD	7/17/19	WNV
Tulare	DLTA8414	1698	Cx. quinquefasciatus	Visalia	50	CO2	7/12/19	WNV
Tulare	DLTA8414	1699	Cx. quinquefasciatus	Visalia	50	CO2	7/12/19	WNV
Tulare	DLTA8414	1700	Cx. quinquefasciatus	Visalia	50	CO2	7/12/19	WNV
Tulare	DLTA8414	1703	Cx. quinquefasciatus	Visalia	50	CO2	7/12/19	WNV
Tulare	DLTA8414	1705	Cx. quinquefasciatus	Visalia	50	CO2	7/12/19	WNV
Tulare	DLTA8414	1707	Cx. tarsalis	Visalia	50	CO2	7/12/19	WNV
Tulare	DLTA8415	1715	Cx. quinquefasciatus		50	CO2	7/12/19	WNV
Tulare	DLTA8415	1716	Cx. quinquefasciatus		50	CO2	7/12/19	WNV
Tulare	DLTA8415	1717	Cx. quinquefasciatus		50	CO2	7/12/19	WNV
Tulare	DLTA8415	1718	Cx. quinquefasciatus		50	CO2	7/12/19	WNV
Tulare	DLTA8415	1719	Cx. quinquefasciatus		42	CO2	7/12/19	WNV
Tulare	DLTA8415	1720	Cx. quinquefasciatus		11	CO2	7/12/19	WNV
Tulare	DLTA8415	1721	Cx. tarsalis		50	CO2	7/12/19	WNV
Tulare	DLTA8415	1722	Cx. tarsalis		50	CO2	7/12/19	WNV
Tulare	DLTA8415	1723	Cx. tarsalis		50	CO2	7/12/19	WNV
Tulare	DLTA8415	1724	Cx. tarsalis		50	CO2	7/12/19	WNV
Tulare	DLTA8415	1725	Cx. tarsalis		50	CO2	7/12/19	WNV

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Tulare	DLTA8415	1726	Cx. tarsalis		12	CO2	7/12/19	WNV
Tulare	DLTA8419	1889	Cx. quinquefasciatus	Goshen	26	GRVD	7/17/19	SLEV
Tulare	DLTA8422	1807	Cx. quinquefasciatus	Goshen	50	BGSENT	7/16/19	WNV
Tulare	DLTA8422	1809	Cx. quinquefasciatus	Goshen	50	BGSENT	7/16/19	WNV
Tulare	DLTA8422	1810	Cx. quinquefasciatus	Goshen	42	BGSENT	7/16/19	WNV
Tulare	DLTA8422	1900	Cx. quinquefasciatus	Goshen	17	GRVD	7/17/19	WNV
Tulare	DLTA8423	1741	Cx. quinquefasciatus	Visalia	22	GRVD	7/12/19	WNV
Tulare	DLTA8423	1818	Cx. quinquefasciatus	Visalia	50	BGSENT	7/16/19	WNV
Tulare	DLTA8423	1819	Cx. quinquefasciatus	Visalia	33	BGSENT	7/16/19	WNV
Tulare	DLTA8423	1906	Cx. quinquefasciatus	Visalia	45	GRVD	7/17/19	WNV
Tulare	DLTA8424	1815	Cx. quinquefasciatus	Visalia	50	BGSENT	7/16/19	WNV
Tulare	DLTA8424	1890	Cx. quinquefasciatus	Visalia	35	GRVD	7/17/19	WNV
Tulare	DLTA8424	1921	Cx. quinquefasciatus	Visalia	40	GRVD	7/18/19	WNV
Tulare	DLTA8425	1923	Cx. quinquefasciatus	Visalia	12	GRVD	7/18/19	WNV
Tulare	DLTA8426	1740	Cx. quinquefasciatus	Visalia	18	GRVD	7/12/19	WNV
Tulare	DLTA8426	1927	Cx. quinquefasciatus	Visalia	19	GRVD	7/18/19	WNV
Tulare	DLTA8427	1803	Cx. quinquefasciatus	Visalia	46	BGSENT	7/16/19	WNV
Tulare	DLTA8427	1827	Cx. quinquefasciatus	Visalia	40	GRVD	7/16/19	WNV
Tulare	DLTA8427	1828	Cx. quinquefasciatus	Visalia	18	GRVD	7/16/19	WNV
Tulare	DLTA8427	1908	Cx. quinquefasciatus	Visalia	44	GRVD	7/17/19	WNV
Tulare	DLTA8427	1914	Cx. quinquefasciatus	Visalia	47	GRVD	7/18/19	WNV
Tulare	DLTA8434	1928	Cx. quinquefasciatus	Visalia	12	GRVD	7/18/19	WNV
Tulare	DLTA8435	1800	Cx. quinquefasciatus	Visalia	31	GRVD	7/16/19	WNV
Tulare	DLTA8435	1894	Cx. quinquefasciatus	Visalia	40	GRVD	7/17/19	WNV
Tulare	DLTA8435	1913	Cx. quinquefasciatus	Visalia	12	GRVD	7/18/19	SLEV
Tulare	DLTA8436	1799	Cx. quinquefasciatus	Visalia	16	GRVD	7/16/19	WNV
Tulare	DLTA8508	1831	Cx. quinquefasciatus	Visalia	50	GRVD	7/16/19	WNV
Tulare	DLTA8519	1728	Cx. quinquefasciatus	Visalia	26	GRVD	7/12/19	WNV
Tulare	DLTA8519	1729	Cx. quinquefasciatus	Visalia	50	GRVD	7/12/19	WNV
Tulare	DLTA8519	1730	Cx. quinquefasciatus	Visalia	50	GRVD	7/12/19	WNV
Tulare	DLTA8519	1852	Cx. quinquefasciatus	Visalia	50	GRVD	7/17/19	WNV
Tulare	DLTA8519	1853	Cx. quinquefasciatus	Visalia	50	GRVD	7/17/19	WNV
Tulare	DLTA8520	1739	Cx. quinquefasciatus	Visalia	29	GRVD	7/12/19	WNV
Tulare	DLTA8520	1812	Cx. quinquefasciatus	Visalia	39	GRVD	7/16/19	WNV
Tulare	DLTA8521	1820	Cx. quinquefasciatus	Visalia	13	GRVD	7/16/19	WNV
Tulare	DLTA8527	1867	Cx. quinquefasciatus	Visalia	18	GRVD	7/17/19	WNV
Tulare	DLTA8529	1806	Cx. quinquefasciatus	Visalia	26	GRVD	7/16/19	WNV
Tulare	DLTA8530	1822	Cx. quinquefasciatus	Visalia	30	GRVD	7/16/19	WNV
Tulare	DLTA8530	1851	Cx. quinquefasciatus	Visalia	17	GRVD	7/17/19	SLEV
Tulare	DLTA8531	1793	Cx. quinquefasciatus	Visalia	12	GRVD	7/16/19	WNV
Tulare	DLTA8532	1713	Cx. quinquefasciatus	Visalia	27	GRVD	7/12/19	WNV
Tulare	DLTA8532	1796	Cx. quinquefasciatus	Visalia	17	GRVD	7/16/19	WNV
Tulare	DLTA8533	1762	Cx. quinquefasciatus	Visalia	39	BGSENT	7/12/19	WNV
Tulare	DLTA8533	1801	Cx. quinquefasciatus	Visalia	11	GRVD	7/16/19	WNV
Tulare	DLTA8534	1866	Cx. quinquefasciatus	Visalia	18	GRVD	7/17/19	WNV
Tulare	DLTA8631	1868	Cx. quinquefasciatus	Farmersville	23	GRVD	7/17/19	WNV
Tulare	DLTA9401	1879	Cx. quinquefasciatus	Visalia	14	GRVD	7/17/19	WNV
Tulare	DLTA9401	1899	Cx. quinquefasciatus	Visalia	13	GRVD	7/17/19	WNV
Tulare	DLTA9401	1932	Cx. quinquefasciatus	Visalia	50	BGSENT	7/18/19	WNV
Tulare	DLTA9401	1936	Cx. quinquefasciatus	Visalia	40	BGSENT	7/18/19	WNV
Tulare	DLTA9411	1880	Cx. quinquefasciatus	Visalia	50	BGSENT	7/17/19	WNV
Tulare	DLTA9411	1881	Cx. quinquefasciatus	Visalia	50	BGSENT	7/17/19	WNV
Tulare	DLTA9411	1903	Cx. quinquefasciatus	Visalia	40	GRVD	7/17/19	WNV
Tulare	DLTA9412	1785	Cx. quinquefasciatus	Visalia	50	BGSENT	7/16/19	WNV

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Tulare	DLTA9412	1786	Cx. quinquefasciatus	Visalia	50	BGSENT	7/16/19	WNV
Tulare	DLTA9412	1792	Cx. quinquefasciatus	Visalia	17	BGSENT	7/16/19	WNV
Tulare	DLTA9412	1912	Cx. quinquefasciatus	Visalia	35	GRVD	7/18/19	WNV
Tulare	DLTA9412	1943	Cx. quinquefasciatus	Visalia	50	BGSENT	7/18/19	WNV
Tulare	DLTA9412	1945	Cx. quinquefasciatus	Visalia	50	BGSENT	7/18/19	WNV
Tulare	DLTA9504	1737	Cx. quinquefasciatus	Visalia	40	GRVD	7/12/19	WNV
Tulare	DLTA9504	1795	Cx. quinquefasciatus	Visalia	21	GRVD	7/16/19	WNV
Tulare	DLTA9505	1760	Cx. quinquefasciatus	Visalia	50	BGSENT	7/12/19	WNV
Tulare	DLTA9505	1761	Cx. quinquefasciatus	Visalia	30	BGSENT	7/12/19	WNV
Tulare	DLTA9505	1761	Cx. quinquefasciatus	Visalia	30	BGSENT	7/12/19	SLEV
Tulare	DLTA9506	1742	Cx. quinquefasciatus	Visalia	24	GRVD	7/12/19	WNV
Tulare	DLTA9506	1798	Cx. quinquefasciatus	Visalia	15	GRVD	7/16/19	WNV
Tulare	DLTA9506	1916	Cx. quinquefasciatus	Visalia	20	GRVD	7/18/19	WNV
Tulare	DLTA9506	1939	Cx. quinquefasciatus	Visalia	50	BGSENT	7/18/19	WNV
Tulare	DLTA9512	1861	Cx. quinquefasciatus	Farmersville	50	GRVD	7/17/19	WNV
Tulare	DLTA9512	1862	Cx. quinquefasciatus	Farmersville	18	GRVD	7/17/19	WNV
Tulare	DLTA9602	1886	Cx. quinquefasciatus	Exeter	37	GRVD	7/17/19	WNV
Tulare	DLTA9606	1824	Cx. quinquefasciatus	Farmersville	50	GRVD	7/16/19	WNV
Tulare	DLTA9606	1825	Cx. quinquefasciatus	Farmersville	28	GRVD	7/16/19	WNV
Yuba	SUYA40	198	Cx. tarsalis	Linda	50	CO2	7/17/19	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.

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 by phone (510) 412-6253 or email: tina.feiszli@cdph.ca.gov.

Website Information: For updated information on WNV in California, please visit the California WNV website, www.westmile.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