

## California Arbovirus Surveillance Bulletin #19

Week 32 Friday, August 9, 2019



### Weekly Update

#### **Humans**

Six human cases of West Nile virus (WNV) illness were reported this week from Imperial (1), Los Angeles (2), and Tulare (3) counties. **These are the first WNV human cases reported from Los Angeles and Tulare counties this year.** In 2019, a total of ten human WNV cases have been reported from six counties. Of the ten reported cases, seven (70%) were classified as neuroinvasive disease and one (10%) was fatal. The median age of the individuals is 56 years (range: 15–74 years) and seven (70%) are male. In addition to the ten cases, eight asymptomatic infections have been reported from Kern (2), Madera (1), San Bernardino (2), San Joaquin (1), Stanislaus (1), and Sutter (1) counties. At this time last year, 19 human cases of WNV illness had been reported from 11 counties.

#### **Dead Birds**

A total of 15 WNV positive dead birds were reported this week from five counties: Fresno (1), Orange (2), Sacramento (5), Tulare (5), and Yuba (2). **These are the first WNV positive birds from Yuba County this year.** In 2019, a total of 58 WNV positive dead birds have been reported from nine counties. At this time last year, 284 WNV positive dead birds had been reported from 17 counties.

#### **Mosquito Pools**

##### West Nile virus

A total of 276 WNV positive mosquito pools were reported this week from 16 counties: Fresno (54), Kern (24), Lake (2), Los Angeles (3), Madera (11), Merced (5), Placer (19), Riverside (10), Sacramento (12), San Bernardino (3), San Joaquin (15), Stanislaus (12), Sutter (1), Tulare (96), Yolo (5), and Yuba (4). **This is the first detection of WNV in Lake and Yolo counties this year.** In 2019, a total of 1,647 WNV positive mosquito pools have been reported from 22 counties. At this time last year, 942 WNV positive mosquito pools had been reported from 26 counties.

##### St. Louis encephalitis virus

This week, a total of 19 mosquito pools were reported positive for St. Louis encephalitis virus (SLEV) from three counties: Fresno (2), Kern (14), and Tulare (3). In 2019, a total of 114 SLEV positive mosquito pools have been reported from five counties: Fresno (22), Imperial (3), Kern (39), Riverside (9), and Tulare (41). At this time last year, 177 SLEV positive mosquito pools had been reported from seven counties.

#### **Sentinel Chickens**

Seven WNV seroconversions were reported this week from Merced (5), Sutter (1), and Yuba (1) counties. **These are the first WNV positive chickens reported in Sutter, Yuba, and Merced counties this year.** In 2019, a total of ten positive chickens have been reported from four counties. At this time last year, 38 WNV seroconversions had been reported from five counties.

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<b>2018 &amp; 2019 YTD West Nile Virus Comparisons</b>		
	<b>2018</b>	<b>2019</b>
Total # Dead Bird Reports	5,117	3,547
# Positive Counties	33	23
# Human Cases	19	10
# Positive Dead Birds / # Tested	284 / 1,328	58 / 1,085
# Positive Mosquito Pools / # Tested	942 / 25,621	1,647 / 25,270
# Seroconversions / # Tested	38 / 5,826	10 / 5,095

<b>YTD WNV Activity by Element and County, 2019</b>				
County	Humans	Dead Birds	Mosquito Pools	Sentinel Chickens
Butte			2	
Fresno	1	8	276	
Imperial	2		1	
Kern			80	
Kings			23	
Lake			2	
Los Angeles	2	6	10	3
Madera			30	
Merced		1	19	5
Orange		11	2	
Placer			23	
Riverside			482	
Sacramento		12	23	
San Bernardino	1		18	
San Diego		1		
San Joaquin		3	40	
Shasta			1	
Stanislaus	1		31	
Sutter			3	1
Tulare	3	14	563	
Ventura			1	
Yolo			5	
Yuba		2	12	1
<b>Totals</b>	<b>10</b>	<b>58</b>	<b>1,647</b>	<b>10</b>

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## TESTING SUMMARIES

### Humans

		WNV	SLE	WEE
Human Cases	Week	6	0	0
	YTD	10	0	0

### Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	66	15
	YTD	1,085	58

### Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	359	7	0	0
	YTD	5,095	10	0	0

### Mosquitoes

		Positive / Total Tested					
Mosquito Pools	Week	WNV	SLEV	WEEV	CHIK	DENV	ZIKA
		Week	276 / 2,111	19 / 1,935	0 / 1,793	0 / 76	0 / 76
YTD	1,647 / 25,270	114 / 22,954	0 / 21,567	0 / 359	0 / 359	0 / 359	

## POSITIVES

### Dead Birds

County	Agency	City	Zip	Species	Date Reported	Virus
Fresno	Fresno MVCD	Fresno	93722	California Scrub-Jay	8/2/2019	WNV
Orange	Orange Co VCD	Huntington Beach	92649	American Crow	8/4/2019	WNV
Orange	Orange Co VCD	La Palma	90623	American Crow	8/9/2019	WNV
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95624	California Scrub-Jay	8/1/2019	WNV
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95624	California Scrub-Jay	8/5/2019	WNV
Sacramento	Sacramento-Yolo MVCD	Elverta	95626	American Crow	8/4/2019	WNV
Sacramento	Sacramento-Yolo MVCD	Herald	95638	California Scrub-Jay	7/31/2019	WNV
Sacramento	Sacramento-Yolo MVCD	Herald	95638	California Scrub-Jay	8/5/2019	WNV
Tulare	Delta VCD	Visalia	93292	American Crow	8/8/2019	WNV
Tulare	Delta VCD	Visalia	93292	California Scrub-Jay	8/1/2019	WNV
Tulare	Delta VCD	Visalia	93292	California Scrub-Jay	8/8/2019	WNV
Tulare	Delta VCD	Visalia	93292	Scarlett Chested Parakeet	8/5/2019	WNV
Tulare	Tulare MAD	Visalia	93292	Unknown	8/5/2019	WNV
Yuba	Sutter-Yuba MVCD	Marysville	95901	House Finch	8/2/2019	WNV
Yuba	Sutter-Yuba MVCD	Marysville	95901	Mountain Bluebird	8/5/2019	WNV

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### Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Fresno	CNSL1047	444	Cx. quinquefasciatus	Fresno	50	GRVD	8/1/2019	WNV
Fresno	CNSL1049	442	Cx. quinquefasciatus	Fresno	41	GRVD	8/1/2019	WNV
Fresno	CNSL1133	428	Cx. quinquefasciatus	Clovis	20	GRVD	8/1/2019	WNV
Fresno	CNSL1270	435	Cx. quinquefasciatus	Fresno	42	GRVD	8/1/2019	WNV
Fresno	CNSL1453	443	Cx. quinquefasciatus	Fresno	21	GRVD	8/1/2019	WNV
Fresno	CNSL1476	404	Cx. quinquefasciatus	Clovis	50	GRVD	7/30/2019	WNV
Fresno	CNSL1520	409	Cx. quinquefasciatus	Fresno	50	GRVD	7/30/2019	WNV
Fresno	CNSL1524	446	Cx. quinquefasciatus	Fresno	17	GRVD	8/1/2019	WNV
Fresno	CNSL1558	402	Cx. quinquefasciatus	Clovis	46	GRVD	7/30/2019	WNV
Fresno	CNSL1675	407	Cx. quinquefasciatus	Fresno	15	GRVD	7/30/2019	WNV
Fresno	CNSL1743	447	Cx. quinquefasciatus	Fresno	28	GRVD	8/1/2019	WNV
Fresno	CNSL1792	441	Cx. quinquefasciatus	Fresno	20	GRVD	8/1/2019	WNV
Fresno	CNSL1806	437	Cx. quinquefasciatus	Clovis	24	GRVD	8/1/2019	WNV
Fresno	CNSL1861	427	Cx. quinquefasciatus	Clovis	43	GRVD	8/1/2019	WNV
Fresno	CNSL1866	408	Cx. quinquefasciatus	Fresno	36	GRVD	7/30/2019	WNV
Fresno	CNSL2074	423	Cx. quinquefasciatus	Sanger	25	GRVD	7/31/2019	WNV
Fresno	CNSL2269	429	Cx. quinquefasciatus		23	GRVD	8/1/2019	WNV
Fresno	CNSL2269	430	Cx. tarsalis		38	BGSENT	8/1/2019	WNV
Fresno	CNSL2284	421	Cx. quinquefasciatus	Sanger	16	GRVD	7/31/2019	WNV
Fresno	CNSL2380	422	Cx. quinquefasciatus	Minkler	12	GRVD	7/31/2019	WNV
Fresno	CNSL2456	448	Cx. quinquefasciatus		18	GRVD	8/2/2019	WNV
Fresno	CNSL2503	431	Cx. quinquefasciatus		12	GRVD	8/1/2019	WNV
Fresno	CNSL3261	417	Cx. quinquefasciatus	Reedley	24	GRVD	7/31/2019	WNV
Fresno	CNSL3338	416	Cx. quinquefasciatus		46	GRVD	7/31/2019	WNV
Fresno	CNSL4088	450	Cx. quinquefasciatus		41	GRVD	8/2/2019	WNV
Fresno	CNSL4151	453	Cx. quinquefasciatus	Selma	18	BGSENT	8/2/2019	WNV
Fresno	CNSL8050	434	Cx. quinquefasciatus	Fresno	23	GRVD	8/1/2019	WNV
Fresno	CNSL8105	445	Cx. quinquefasciatus	Fresno	50	GRVD	8/1/2019	WNV
Fresno	CNSL9062	411	Cx. quinquefasciatus	Clovis	29	GRVD	7/31/2019	WNV
Fresno	CNSL9075	403	Cx. quinquefasciatus	Clovis	35	GRVD	7/30/2019	WNV
Fresno	CNSL9078	405	Cx. quinquefasciatus	Clovis	28	GRVD	7/30/2019	WNV
Fresno	CNSL9080	439	Cx. quinquefasciatus	Clovis	46	GRVD	8/1/2019	WNV
Fresno	CNSL9118	438	Cx. quinquefasciatus	Clovis	46	GRVD	8/1/2019	WNV
Fresno	CNSL9197	436	Cx. quinquefasciatus	Clovis	45	GRVD	8/1/2019	WNV
Fresno	FRNO0	415	Unknown		50	NA	8/8/2019	WNV
Fresno	FRNO116	401	Cx. quinquefasciatus	Fresno	50	GRVD	8/6/2019	WNV
Fresno	FRNO116	402	Cx. quinquefasciatus	Fresno	31	GRVD	8/6/2019	WNV
Fresno	FRNO14	400	Cx. quinquefasciatus	Old Fig Garden	21	GRVD	8/6/2019	SLEV
Fresno	FRNO2	393	Cx. quinquefasciatus	Kerman	19	GRVD	8/6/2019	WNV
Fresno	FRNO2	399	Cx. tarsalis	Kerman	16	CO2	8/6/2019	WNV
Fresno	FRNO235	404	Cx. quinquefasciatus		45	BGSENT	8/7/2019	WNV
Fresno	FRNO238	410	Cx. quinquefasciatus	Fresno	50	GRVD	8/7/2019	WNV
Fresno	FRNO238	411	Cx. quinquefasciatus	Fresno	50	GRVD	8/7/2019	WNV
Fresno	FRNO238	411	Cx. quinquefasciatus	Fresno	50	GRVD	8/7/2019	SLEV
Fresno	FRNO238	412	Cx. quinquefasciatus	Fresno	50	GRVD	8/7/2019	WNV
Fresno	FRNO50	416	Cx. quinquefasciatus	Fresno	50	GRVD	8/7/2019	WNV
Fresno	FRNO50	417	Cx. quinquefasciatus	Fresno	30	GRVD	8/7/2019	WNV
Fresno	FRNO8	395	Cx. quinquefasciatus		50	GRVD	8/6/2019	WNV
Fresno	FRNO8	396	Cx. quinquefasciatus		50	GRVD	8/6/2019	WNV
Fresno	FRNO8	397	Cx. quinquefasciatus		50	GRVD	8/6/2019	WNV

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Fresno	FRNO8007	413	Cx. quinquefasciatus	Fresno	50	GRVD	8/7/2019	WNV
Fresno	FRWS1202	191	Cx. tarsalis		50	CO2	8/6/2019	WNV
Fresno	FRWS1202	193	Cx. tarsalis		50	CO2	8/6/2019	WNV
Fresno	FRWS1202	194	Cx. tarsalis		50	CO2	8/6/2019	WNV
Fresno	FRWS200003	188	Cx. tarsalis		50	CO2	8/6/2019	WNV
Fresno	FRWS2203	167	Cx. tarsalis		50	CO2	8/1/2019	WNV
Kern	DLNO108	170	Cx. quinquefasciatus	Delano	39	GRVD	8/6/2019	WNV
Kern	DLNO108	170	Cx. quinquefasciatus	Delano	39	GRVD	8/6/2019	SLEV
Kern	DLNO118	166	Cx. quinquefasciatus	Delano	15	GRVD	8/6/2019	WNV
Kern	DLNO20	162	Cx. quinquefasciatus	Delano	50	GRVD	8/2/2019	SLEV
Kern	DLNO79	158	Cx. quinquefasciatus	McFarland	46	GRVD	8/2/2019	WNV
Kern	KERN1114	478	Cx. quinquefasciatus		50	CO2	7/30/2019	WNV
Kern	KERN15	481	Cx. tarsalis	Bakersfield	25	CO2	8/1/2019	WNV
Kern	KERN15	481	Cx. tarsalis	Bakersfield	25	CO2	8/1/2019	SLEV
Kern	KERN156	471	Cx. tarsalis		25	CO2	7/30/2019	WNV
Kern	KERN2040	485	Cx. quinquefasciatus	Arvin	50	GRVD	8/2/2019	WNV
Kern	KERN2049	470	Cx. quinquefasciatus	Oildale	50	GRVD	7/30/2019	WNV
Kern	KERN29	474	Cx. quinquefasciatus		50	CO2	7/30/2019	WNV
Kern	KERN29	474	Cx. quinquefasciatus		50	CO2	7/30/2019	SLEV
Kern	KERN3014	484	Cx. tarsalis		50	CO2	8/1/2019	SLEV
Kern	KERN33	487	Cx. quinquefasciatus		50	CO2	8/2/2019	WNV
Kern	KERN33	487	Cx. quinquefasciatus		50	CO2	8/2/2019	SLEV
Kern	KERN36	489	Cx. tarsalis		50	CO2	8/2/2019	WNV
Kern	KERN45	473	Cx. quinquefasciatus		50	CO2	7/30/2019	WNV
Kern	KERN7	483	Cx. quinquefasciatus		50	CO2	8/1/2019	WNV
Kern	KERN83	477	Cx. quinquefasciatus		50	CO2	7/30/2019	WNV
Kern	WEST6208	131	Cx. tarsalis		50	CO2	8/7/2019	SLEV
Kern	WEST6236	130	Cx. tarsalis		50	CO2	8/7/2019	WNV
Kern	WEST6261	119	Cx. tarsalis		50	CO2	8/7/2019	WNV
Kern	WEST6261	120	Cx. tarsalis		50	CO2	8/7/2019	WNV
Kern	WEST6261	120	Cx. tarsalis		50	CO2	8/7/2019	SLEV
Kern	WEST6261	121	Cx. tarsalis		50	CO2	8/7/2019	WNV
Kern	WEST6264	124	Cx. tarsalis		50	CO2	8/7/2019	WNV
Kern	WEST6264	124	Cx. tarsalis		50	CO2	8/7/2019	SLEV
Kern	WEST6264	125	Cx. tarsalis		50	CO2	8/7/2019	WNV
Kern	WEST6264	125	Cx. tarsalis		50	CO2	8/7/2019	SLEV
Kern	WEST6264	126	Cx. tarsalis		50	CO2	8/7/2019	WNV
Kern	WEST6265	127	Cx. tarsalis		50	CO2	8/7/2019	SLEV
Kern	WEST6265	128	Cx. tarsalis		50	CO2	8/7/2019	SLEV
Kern	WEST6266	129	Cx. tarsalis		50	CO2	8/7/2019	WNV
Kern	WEST6273	122	Cx. tarsalis		50	CO2	8/7/2019	WNV
Kern	WEST6273	123	Cx. tarsalis		50	CO2	8/7/2019	WNV
Kern	WEST6273	123	Cx. tarsalis		50	CO2	8/7/2019	SLEV
Kern	WEST6282	132	Cx. tarsalis		50	CO2	8/7/2019	SLEV
Lake	LAKE1131	461	Cx. tarsalis		26	CO2	8/6/2019	WNV
Lake	LAKE130	451	Cx. tarsalis		50	CO2	8/6/2019	WNV
Los Angeles	LACW1009	525	Cx. quinquefasciatus	Los Angeles	42	GRVD	7/30/2019	WNV
Los Angeles	SGVA29	532	Cx. quinquefasciatus	Pomona	50	GRVD	7/31/2019	WNV
Los Angeles	SGVA448	567	Cx. quinquefasciatus	La Verne	50	GRVD	8/6/2019	WNV
Madera	MADR1109	163	Cx. tarsalis		27	CO2	7/31/2019	WNV
Madera	MADR1109	164	Cx. tarsalis		50	CO2	7/31/2019	WNV
Madera	MADR1109	165	Cx. tarsalis		50	CO2	7/31/2019	WNV
Madera	MADR12	182	Cx. tarsalis	Madera Acres	50	CO2	8/2/2019	WNV
Madera	MADR178	171	Cx. quinquefasciatus		50	CO2	7/31/2019	WNV

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Madera	MADR195	183	Cx. quinquefasciatus		50	CO2	8/2/2019	WNV
Madera	MADR195	184	Cx. tarsalis		50	CO2	8/2/2019	WNV
Madera	MADR198	180	Cx. tarsalis		19	CO2	8/2/2019	WNV
Madera	MADR3334	168	Cx. quinquefasciatus	Parkwood	50	CO2	7/31/2019	WNV
Madera	MADR3334	169	Cx. tarsalis	Parkwood	50	CO2	7/31/2019	WNV
Madera	MADR85	160	Cx. quinquefasciatus	Madera	27	CO2	7/30/2019	WNV
Merced	MERC1103	423	Cx. pipiens		28	CO2	8/6/2019	WNV
Merced	MERC1218	457	Cx. tarsalis		6	CO2	8/8/2019	WNV
Merced	MERC321139	447	Cx. pipiens		5	CO2	8/7/2019	WNV
Merced	MERC624336	438	Cx. pipiens	Merced	19	BGSENT	8/7/2019	WNV
Merced	MERC711	426	Cx. pipiens	McSwain	50	CO2	8/6/2019	WNV
Placer	PLCR1113	1359	Cx. tarsalis		50	CO2	8/6/2019	WNV
Placer	PLCR1113	1362	Cx. tarsalis		50	CO2	8/6/2019	WNV
Placer	PLCR1114	1271	Cx. tarsalis		50	CO2	8/6/2019	WNV
Placer	PLCR1114	1273	Cx. tarsalis		50	CO2	8/6/2019	WNV
Placer	PLCR1114	1275	Cx. tarsalis		50	CO2	8/6/2019	WNV
Placer	PLCR1114	1282	Cx. tarsalis		50	CO2	8/6/2019	WNV
Placer	PLCR139	1217	Cx. tarsalis	Roseville	50	CO2	8/6/2019	WNV
Placer	PLCR139	1221	Cx. tarsalis	Roseville	50	CO2	8/6/2019	WNV
Placer	PLCR191218	1337	Cx. tarsalis		50	CO2	8/6/2019	WNV
Placer	PLCR191218	1338	Cx. tarsalis		50	CO2	8/6/2019	WNV
Placer	PLCR191998	1313	Cx. tarsalis		50	CO2	8/6/2019	WNV
Placer	PLCR191998	1316	Cx. tarsalis		41	CO2	8/6/2019	WNV
Placer	PLCR198707	1263	Cx. tarsalis		50	CO2	8/6/2019	WNV
Placer	PLCR199031	1435	Cx. tarsalis		50	CO2	8/9/2019	WNV
Placer	PLCR25	1319	Cx. tarsalis		50	CO2	8/6/2019	WNV
Placer	PLCR25	1322	Cx. tarsalis		50	CO2	8/6/2019	WNV
Placer	PLCR25	1323	Cx. pipiens		33	CO2	8/6/2019	WNV
Placer	PLCR668	1297	Cx. tarsalis		34	CO2	8/6/2019	WNV
Placer	PLCR95	1226	Cx. stigmatosoma	Lincoln	6	CO2	8/6/2019	WNV
Riverside	COAV0	4418	Cx. quinquefasciatus	Palm Springs	10	GRVD	8/7/2019	WNV
Riverside	COAV302	4461	Cx. quinquefasciatus	Rancho Mirage	24	GRVD	8/8/2019	WNV
Riverside	COAV320	4448	Cx. quinquefasciatus	Palm Desert	9	GRVD	8/8/2019	WNV
Riverside	COAV322	4417	Cx. quinquefasciatus	Cathedral City	21	GRVD	8/7/2019	WNV
Riverside	COAV344	4400	Cx. quinquefasciatus	La Quinta	25	CO2	8/6/2019	WNV
Riverside	COAV344	4482	Cx. quinquefasciatus	La Quinta	36	CO2	8/8/2019	WNV
Riverside	COAV421	4429	Cx. quinquefasciatus	Indio	14	GRVD	8/6/2019	WNV
Riverside	COAV431	4414	Cx. quinquefasciatus	Palm Springs	50	GRVD	8/7/2019	WNV
Riverside	COAV45	4409	Cx. tarsalis		36	CO2	8/6/2019	WNV
Riverside	COAV604	4456	Cx. quinquefasciatus	Palm Springs	19	GRVD	8/8/2019	WNV
Sacramento	SAYO201006	3828	Cx. tarsalis		50	CO2	8/6/2019	WNV
Sacramento	SAYO204014	3904	Cx. pipiens	Citrus Heights	50	GRVD	8/7/2019	WNV
Sacramento	SAYO204014	3905	Cx. pipiens	Citrus Heights	21	GRVD	8/7/2019	WNV
Sacramento	SAYO204020	3744	Cx. pipiens	Foothill Farms	10	GRVD	8/6/2019	WNV
Sacramento	SAYO204043	3912	Cx. pipiens	Citrus Heights	4	GRVD	8/7/2019	WNV
Sacramento	SAYO204051	3591	Cx. pipiens	Citrus Heights	3	GRVD	8/2/2019	WNV
Sacramento	SAYO204051	3733	Cx. pipiens	Citrus Heights	12	GRVD	8/6/2019	WNV
Sacramento	SAYO204051	3902	Cx. pipiens	Citrus Heights	26	GRVD	8/7/2019	WNV
Sacramento	SAYO233001	3723	Cx. pipiens	Elk Grove	8	GRVD	8/6/2019	WNV
Sacramento	SAYO233025	3882	Cx. pipiens	Elk Grove	13	GRVD	8/7/2019	WNV
Sacramento	SAYO233036	3891	Cx. pipiens	Elk Grove	37	CO2	8/7/2019	WNV
Sacramento	SAYO245001	3926	Cx. pipiens	Clay	27	CO2	8/7/2019	WNV
San Bernardino	WVAL6015	1933	Cx. quinquefasciatus	Ontario	11	GRVD	8/6/2019	WNV
San Bernardino	WVAL9006	1932	Cx. quinquefasciatus	Upland	25	GRVD	8/6/2019	WNV

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San Bernardino	WVAL9007	1937	Cx. quinquefasciatus	Upland	8	GRVD	8/6/2019	WNV
San Joaquin	SJCM8003	1300	Cx. tarsalis	Tracy	43	CO2	8/6/2019	WNV
San Joaquin	SJCM8003	1301	Cx. pipiens	Tracy	21	CO2	8/6/2019	WNV
San Joaquin	SJCM8010	1368	Cx. tarsalis	Ripon	50	CO2	8/6/2019	WNV
San Joaquin	SJCM8010	1369	Cx. tarsalis	Ripon	14	CO2	8/6/2019	WNV
San Joaquin	SJCM8010	1370	Cx. pipiens	Ripon	50	CO2	8/6/2019	WNV
San Joaquin	SJCM8010	1371	Cx. pipiens	Ripon	6	CO2	8/6/2019	WNV
San Joaquin	SJCM8079	1382	Cx. pipiens		25	CO2	8/6/2019	WNV
San Joaquin	SJCM8097	1293	Cx. tarsalis		19	CO2	8/6/2019	WNV
San Joaquin	SJCM8097	1294	Cx. pipiens		17	CO2	8/6/2019	WNV
San Joaquin	SJCM8100	1289	Cx. tarsalis	Tracy	50	CO2	8/6/2019	WNV
San Joaquin	SJCM8100	1290	Cx. tarsalis	Tracy	30	CO2	8/6/2019	WNV
San Joaquin	SJCM8100	1291	Cx. pipiens	Tracy	28	CO2	8/6/2019	WNV
San Joaquin	SJCM8160	1377	Cx. tarsalis		32	CO2	8/6/2019	WNV
San Joaquin	SJCM8160	1378	Cx. pipiens		12	CO2	8/6/2019	WNV
San Joaquin	SJCM8208	1397	Cx. pipiens		25	CO2	8/8/2019	WNV
Stanislaus	EAST1012	19140	Cx. tarsalis		17	CO2	8/1/2019	WNV
Stanislaus	EAST1083	19136	Cx. tarsalis	Modesto	37	CO2	7/31/2019	WNV
Stanislaus	EAST1088	19128	Cx. tarsalis	Modesto	25	CO2	7/26/2019	WNV
Stanislaus	EAST2002	19134	Cx. tarsalis	Modesto	13	CO2	7/31/2019	WNV
Stanislaus	EAST2010	19132	Cx. tarsalis		11	CO2	7/31/2019	WNV
Stanislaus	TRLK1615	654	Cx. pipiens	Modesto	50	CO2	8/6/2019	WNV
Stanislaus	TRLK1615	655	Cx. pipiens	Modesto	50	CO2	8/6/2019	WNV
Stanislaus	TRLK1673	663	Cx. tarsalis		44	CO2	8/6/2019	WNV
Stanislaus	TRLK424	658	Cx. tarsalis		50	CO2	8/6/2019	WNV
Stanislaus	TRLK806	639	Cx. tarsalis	Grayson	24	CO2	8/6/2019	WNV
Stanislaus	TRLK9732	665	Cx. tarsalis		50	CO2	8/6/2019	WNV
Stanislaus	TRLK9768	644	Cx. tarsalis		42	CO2	8/6/2019	WNV
Sutter	SUYA24	306	Cx. tarsalis		41	REST	8/5/2019	WNV
Tulare	DLTA6404	2485	Cx. quinquefasciatus		47	CO2	8/7/2019	WNV
Tulare	DLTA6404	2488	Cx. tarsalis		14	CO2	8/7/2019	WNV
Tulare	DLTA6404	2489	Cx. quinquefasciatus		50	CO2	8/7/2019	WNV
Tulare	DLTA6404	2490	Cx. quinquefasciatus		50	CO2	8/7/2019	WNV
Tulare	DLTA6404	2491	Cx. quinquefasciatus		41	CO2	8/7/2019	WNV
Tulare	DLTA6404	2493	Cx. tarsalis		50	CO2	8/7/2019	WNV
Tulare	DLTA6404	2494	Cx. tarsalis		18	CO2	8/7/2019	WNV
Tulare	DLTA6404	2496	Cx. quinquefasciatus		50	CO2	8/7/2019	WNV
Tulare	DLTA6404	2498	Cx. tarsalis		35	CO2	8/7/2019	WNV
Tulare	DLTA6404	2503	Cx. stigmatosoma		29	CO2	8/7/2019	WNV
Tulare	DLTA6404	2504	Cx. quinquefasciatus		50	CO2	8/7/2019	WNV
Tulare	DLTA6404	2506	Cx. quinquefasciatus		24	CO2	8/7/2019	WNV
Tulare	DLTA6407	2473	Cx. quinquefasciatus	Dinuba	50	GRVD	8/6/2019	WNV
Tulare	DLTA6407	2474	Cx. quinquefasciatus	Dinuba	50	GRVD	8/6/2019	WNV
Tulare	DLTA6407	2475	Cx. quinquefasciatus	Dinuba	16	GRVD	8/6/2019	WNV
Tulare	DLTA6407	2512	Cx. quinquefasciatus	Dinuba	27	GRVD	8/7/2019	WNV
Tulare	DLTA6407	2538	Cx. quinquefasciatus	Dinuba	14	BGSENT	8/7/2019	WNV
Tulare	DLTA6407	2576	Cx. quinquefasciatus	Dinuba	40	GRVD	8/8/2019	WNV
Tulare	DLTA6408	2429	Cx. quinquefasciatus	Dinuba	30	GRVD	8/2/19	WNV
Tulare	DLTA6408	2469	Cx. quinquefasciatus	Dinuba	34	GRVD	8/6/2019	WNV
Tulare	DLTA6408	2529	Cx. quinquefasciatus	Dinuba	46	GRVD	8/7/2019	WNV
Tulare	DLTA6408	2530	Cx. quinquefasciatus	Dinuba	10	GRVD	8/7/2019	WNV
Tulare	DLTA6408	2573	Cx. quinquefasciatus	Dinuba	42	GRVD	8/8/2019	WNV
Tulare	DLTA6416	2477	Cx. quinquefasciatus		35	GRVD	8/6/2019	WNV
Tulare	DLTA6417	2572	Cx. quinquefasciatus	Dinuba	16	GRVD	8/8/2019	WNV

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Tulare	DLTA6420	2580	Cx. quinquefasciatus		50	GRVD	8/8/2019	WNV
Tulare	DLTA6518	2433	Cx. quinquefasciatus	Cutler	16	GRVD	8/2/19	WNV
Tulare	DLTA6518	2564	Cx. quinquefasciatus	Orosi	43	GRVD	8/8/2019	WNV
Tulare	DLTA6520	2578	Cx. quinquefasciatus		25	GRVD	8/8/2019	WNV
Tulare	DLTA7502	2437	Cx. quinquefasciatus	Seville	12	GRVD	8/2/19	WNV
Tulare	DLTA8324	2484	Cx. quinquefasciatus		22	GRVD	8/6/2019	WNV
Tulare	DLTA8412	2402	Cx. quinquefasciatus	Visalia	50	CO2	8/2/19	WNV
Tulare	DLTA8413	2534	Cx. quinquefasciatus	Visalia	50	GRVD	8/7/2019	WNV
Tulare	DLTA8413	2534	Cx. quinquefasciatus	Visalia	50	GRVD	8/7/2019	SLEV
Tulare	DLTA8414	2404	Cx. quinquefasciatus	Visalia	50	CO2	8/2/19	WNV
Tulare	DLTA8415	2414	Cx. quinquefasciatus		50	CO2	8/2/19	WNV
Tulare	DLTA8415	2415	Cx. quinquefasciatus		50	CO2	8/2/19	WNV
Tulare	DLTA8415	2417	Cx. quinquefasciatus		50	CO2	8/2/19	WNV
Tulare	DLTA8415	2418	Cx. quinquefasciatus		50	CO2	8/2/19	WNV
Tulare	DLTA8415	2420	Cx. tarsalis		50	CO2	8/2/19	WNV
Tulare	DLTA8419	2471	Cx. quinquefasciatus	Goshen	37	GRVD	8/6/2019	WNV
Tulare	DLTA8419	2513	Cx. quinquefasciatus	Goshen	50	GRVD	8/7/2019	WNV
Tulare	DLTA8422	2463	Cx. quinquefasciatus	Visalia	50	BGSENT	8/6/2019	WNV
Tulare	DLTA8422	2464	Cx. quinquefasciatus	Visalia	50	BGSENT	8/6/2019	WNV
Tulare	DLTA8422	2465	Cx. quinquefasciatus	Visalia	50	BGSENT	8/6/2019	WNV
Tulare	DLTA8422	2468	Cx. quinquefasciatus	Visalia	20	BGSENT	8/6/2019	WNV
Tulare	DLTA8422	2470	Cx. quinquefasciatus	Visalia	26	GRVD	8/6/2019	WNV
Tulare	DLTA8422	2518	Cx. quinquefasciatus	Visalia	41	GRVD	8/7/2019	WNV
Tulare	DLTA8422	2519	Cx. quinquefasciatus	Visalia	10	GRVD	8/7/2019	WNV
Tulare	DLTA8422	2570	Cx. quinquefasciatus	Visalia	42	BGSENT	8/8/2019	SLEV
Tulare	DLTA8422	2571	Cx. quinquefasciatus	Visalia	10	BGSENT	8/8/2019	WNV
Tulare	DLTA8423	2431	Cx. quinquefasciatus	Visalia	21	GRVD	8/2/19	WNV
Tulare	DLTA8423	2459	Cx. quinquefasciatus	Visalia	50	BGSENT	8/6/2019	WNV
Tulare	DLTA8423	2565	Cx. quinquefasciatus	Visalia	50	GRVD	8/8/2019	WNV
Tulare	DLTA8423	2567	Cx. quinquefasciatus	Visalia	10	GRVD	8/8/2019	WNV
Tulare	DLTA8425	2412	Cx. quinquefasciatus	Visalia	10	GRVD	8/2/19	WNV
Tulare	DLTA8425	2478	Cx. quinquefasciatus	Visalia	50	GRVD	8/6/2019	WNV
Tulare	DLTA8425	2479	Cx. quinquefasciatus	Visalia	17	GRVD	8/6/2019	WNV
Tulare	DLTA8426	2461	Cx. quinquefasciatus	Visalia	22	GRVD	8/6/2019	SLEV
Tulare	DLTA8427	2436	Cx. quinquefasciatus	Visalia	25	GRVD	8/2/19	WNV
Tulare	DLTA8427	2476	Cx. quinquefasciatus	Visalia	24	GRVD	8/6/2019	WNV
Tulare	DLTA8434	2432	Cx. quinquefasciatus	Visalia	10	GRVD	8/2/19	WNV
Tulare	DLTA8435	2447	Cx. quinquefasciatus	Visalia	47	GRVD	8/6/2019	WNV
Tulare	DLTA8435	2521	Cx. quinquefasciatus	Visalia	46	GRVD	8/7/2019	WNV
Tulare	DLTA8436	2455	Cx. quinquefasciatus	Visalia	17	GRVD	8/6/2019	WNV
Tulare	DLTA8519	2438	Cx. quinquefasciatus	Visalia	23	GRVD	8/2/19	WNV
Tulare	DLTA8520	2540	Cx. quinquefasciatus	Visalia	10	GRVD	8/7/2019	WNV
Tulare	DLTA8521	2545	Cx. quinquefasciatus		14	GRVD	8/7/2019	WNV
Tulare	DLTA8527	2451	Cx. quinquefasciatus	Visalia	10	GRVD	8/6/2019	WNV
Tulare	DLTA8528	2541	Cx. quinquefasciatus	Visalia	20	GRVD	8/7/2019	WNV
Tulare	DLTA8529	2439	Cx. quinquefasciatus	Visalia	36	GRVD	8/2/19	WNV
Tulare	DLTA8529	2579	Cx. quinquefasciatus	Visalia	38	GRVD	8/8/2019	WNV
Tulare	DLTA8530	2454	Cx. quinquefasciatus	Visalia	26	GRVD	8/6/2019	WNV
Tulare	DLTA8530	2546	Cx. quinquefasciatus	Visalia	27	GRVD	8/7/2019	WNV
Tulare	DLTA8531	2526	Cx. quinquefasciatus	Visalia	18	GRVD	8/7/2019	WNV
Tulare	DLTA8532	2413	Cx. quinquefasciatus	Visalia	16	GRVD	8/2/19	WNV
Tulare	DLTA8532	2551	Cx. quinquefasciatus	Visalia	18	GRVD	8/8/2019	WNV
Tulare	DLTA8532	2552	Cx. quinquefasciatus	Visalia	30	GRVD	8/8/2019	WNV
Tulare	DLTA8533	2445	Cx. quinquefasciatus	Visalia	20	GRVD	8/6/2019	WNV



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Tulare	DLTA8533	2557	Cx. quinquefasciatus	Visalia	40	GRVD	8/8/2019	WNV
Tulare	DLTA8533	2558	Cx. quinquefasciatus	Visalia	11	GRVD	8/8/2019	WNV
Tulare	DLTA8534	2450	Cx. quinquefasciatus	Visalia	19	GRVD	8/6/2019	WNV
Tulare	DLTA9402	2446	Cx. quinquefasciatus	Visalia	31	GRVD	8/6/2019	WNV
Tulare	DLTA9402	2509	Cx. quinquefasciatus	Visalia	13	BGSENT	8/7/2019	WNV
Tulare	DLTA9403	2550	Cx. quinquefasciatus		43	CO2	8/8/2019	WNV
Tulare	DLTA9411	2524	Cx. quinquefasciatus		39	GRVD	8/7/2019	WNV
Tulare	DLTA9412	2449	Cx. quinquefasciatus	Visalia	11	GRVD	8/6/2019	WNV
Tulare	DLTA9501	2408	Cx. quinquefasciatus	Farmersville	50	GRVD	8/2/19	WNV
Tulare	DLTA9501	2409	Cx. quinquefasciatus	Farmersville	19	GRVD	8/2/19	WNV
Tulare	DLTA9504	2425	Cx. quinquefasciatus	Visalia	14	GRVD	8/2/19	WNV
Tulare	DLTA9504	2520	Cx. quinquefasciatus	Visalia	43	GRVD	8/7/2019	WNV
Tulare	DLTA9505	2435	Cx. quinquefasciatus	Visalia	37	GRVD	8/2/19	WNV
Tulare	DLTA9509	2440	Cx. tarsalis		16	CO2	8/6/2019	WNV
Tulare	DLTA9509	2441	Cx. quinquefasciatus		29	CO2	8/6/2019	WNV
Tulare	DLTA9511	2410	Cx. quinquefasciatus	Farmersville	50	GRVD	8/2/19	WNV
Tulare	DLTA9511	2411	Cx. quinquefasciatus	Farmersville	13	GRVD	8/2/19	WNV
Tulare	DLTA9604	2544	Cx. quinquefasciatus	Exeter	10	GRVD	8/7/2019	WNV
Tulare	DLTA9606	2457	Cx. quinquefasciatus	Farmersville	42	GRVD	8/6/2019	WNV
Tulare	DLTA9611	2434	Cx. quinquefasciatus	Exeter	10	GRVD	8/2/19	WNV
Yolo	DAVI10001	679	Cx. tarsalis	Davis	50	CO2	8/6/2019	WNV
Yolo	DAVI10001	680	Cx. tarsalis	Davis	40	CO2	8/6/2019	WNV
Yolo	DAVI20001	723	Cx. pipiens	Davis	31	CO2	8/8/2019	WNV
Yolo	SAYO115008	3853	Cx. tarsalis		50	CO2	8/6/2019	WNV
Yolo	SAYO143008	3823	Cx. pipiens	Winters	11	CO2	8/6/2019	WNV
Yuba	SUYA10	325	Cx. tarsalis	Olivehurst	50	CO2	8/6/2019	WNV
Yuba	SUYA37	314	Cx. tarsalis		50	CO2	8/6/2019	WNV
Yuba	SUYA37	315	Cx. pipiens		7	CO2	8/6/2019	WNV
Yuba	SUYA39	317	Cx. tarsalis		50	CO2	8/6/2019	WNV

### Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01	Band 02	Band 03
Merced	MERC0502	Hilmar	8/2/19	WNV	1534	1535	
Merced	MERC1302	Los Banos	8/2/19	WNV	1538	1539	1542
Sutter	SUYA0030	Live Oak	8/1/19	WNV	1846		
Yuba	SUYA0010	Olivehurst	8/1/19	WNV	1820		

## 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.

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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.

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*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](mailto:tina.feiszli@cdph.ca.gov).*

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*Website Information: For updated information on WNV in California, please visit the California WNV website, [www.westnile.ca.gov](http://www.westnile.ca.gov), or the California Vectorborne Disease Surveillance System website, [www.calsurv.org](http://www.calsurv.org). For national information on WNV and other arboviruses, please visit the CDC websites: [www.cdc.gov](http://www.cdc.gov) and [https://www.cdc.gov/arbovet/maps/ADB\\_Diseases\\_Map/index.html](https://www.cdc.gov/arbovet/maps/ADB_Diseases_Map/index.html)*