

## California Arbovirus Surveillance Bulletin #12

Week 25 Friday, June 23, 2017



### Weekly Update

#### **Humans**

**No new cases were reported this week.** To date this year, two cases of West Nile virus (WNV) illness have been reported from two counties: Kings (1) and Los Angeles (1). Of the two case-patients, both had non-neuroinvasive illness (West Nile fever). As of this date in 2016, no human WNV cases had been reported.

#### **Dead Birds**

A total of two WNV positive dead birds were reported this week from two counties: San Joaquin (1), and Tulare (1). **This is the first positive dead bird reported from San Joaquin County this year.** To date this year, 27 birds from 11 counties have tested positive for WNV. As of this date in 2016, 277 WNV positive birds had been reported from 17 counties.

#### **Mosquito Pools**

##### West Nile Virus

A total of 145 WNV positive mosquito pools were reported this week from the following nine counties: Fresno (2), Kern (5), Kings (1), Los Angeles (13), Riverside (32), San Bernardino (6), San Joaquin (28), Stanislaus (6), and Tulare (52). **This is the first detection of WNV activity in Fresno and Stanislaus counties in 2017 and the first positive mosquito pool reported from Kings County.** To date this year, 302 WNV positive mosquito pools have been reported from 13 counties. As of this date in 2016, 264 WNV positive mosquito pools had been reported from 16 counties.

##### St. Louis Encephalitis Virus

No new positives were reported this week. To date this year, one mosquito pool from Fresno County has tested positive for St. Louis encephalitis virus (SLEV).

As of this date in 2016, 17 SLEV positive mosquito pools had been reported from one county.

#### **Sentinel Chickens**

No seroconversions have been reported in 2017. At this time last year, four WNV seroconversions had been reported from two counties.

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<b>2016 &amp; 2017 YTD West Nile Virus Comparisons</b>		
	<b>2016</b>	<b>2017</b>
Total # Dead Bird Reports	3,684	3,145
# Positive Counties	21	16
# Human Cases	0	2
# Positive Dead Birds / # Tested	277 / 950	27 / 705
# Positive Mosquito Pools / # Tested	264 / 14,797	302 / 14,776
# Seroconversions / # Tested	4 / 2,991	0 / 3,739

<b>YTD WNV Activity by Element and County, 2017</b>				
County	Humans	Dead Birds	Mosquito Pools	Sentinel Chickens
Fresno			2	
Kern		1	19	
Kings	1		1	
Los Angeles	1	3	21	
Merced			1	
Nevada		1		
Orange		2		
Riverside		1	47	
Sacramento		10	1	
San Bernardino		1	12	
San Diego		2	1	
San Joaquin		1	34	
San Mateo		1		
Stanislaus			6	
Tulare		4	156	
Yolo			1	
<b>Totals</b>	<b>2</b>	<b>27</b>	<b>302</b>	<b>0</b>

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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	66	2
	YTD	705	27

#### Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	495	0	0	0
	YTD	3,739	0	0	0

#### Mosquitoes

		Positive / Total Tested						
Mosquito Pools		WNV	SLEV	WEEV	CHIK	DENV	ZIKA	
		Week	145 / 1,894	0 / 1,554	0 / 1,377	0 / 88	0 / 88	0 / 88
		YTD	302 / 14,776	1 / 12,978	0 / 11,585	0 / 433	0 / 433	0 / 433

### New Positives

#### Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
San Joaquin	San Joaquin Co MVCD	Ripon	95366	American Crow	6/16/2017	WNV
Tulare	Delta VCD	Visalia	93291	American Crow	6/19/2017	WNV

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**Mosquito Pools**

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Fresno	FRNO15	160	Cx. quinquefasciatus	Fresno	21	BGSENT	6/16/2017	WNV
Fresno	FRWS500011	89	Cx. tarsalis		50	CO2	6/20/2017	WNV
Kern	KERN121	337	Cx. quinquefasciatus	Bakersfield	47	GRVD	6/16/2017	WNV
Kern	KERN2024	328	Cx. quinquefasciatus	Bakersfield	47	GRVD	6/15/2017	WNV
Kern	KERN33	342	Cx. tarsalis	Arvin	50	CO2	6/16/2017	WNV
Kern	KERN50	331	Cx. tarsalis	Bakersfield	50	CO2	6/15/2017	WNV
Kern	KERN92	330	Cx. tarsalis	Bakersfield	50	CO2	6/15/2017	WNV
Kings	KNGS5514	120	Cx. tarsalis	Hanford	33	CO2	6/20/2017	WNV
Los Angeles	SGVA32	1289	Cx. quinquefasciatus	Arcadia	5	USDS	6/15/2017	WNV
Los Angeles	SGVA32	1291	Cx. quinquefasciatus	Arcadia	5	USDS	6/15/2017	WNV
Los Angeles	SGVA402	1198	Cx. quinquefasciatus	Glendora	1	GRVD	6/8/2017	WNV
Los Angeles	SGVA402	1200	Cx. tarsalis	Glendora	2	GRVD	6/8/2017	WNV
Los Angeles	SGVA688	1229	Cx. quinquefasciatus	Alhambra	5	GRVD	6/14/2017	WNV
Los Angeles	SGVA688	1230	Cx. quinquefasciatus	Alhambra	5	GRVD	6/14/2017	WNV
Los Angeles	SGVA688	1277	Cx. quinquefasciatus	Alhambra	5	GRVD	6/14/2017	WNV
Los Angeles	SGVA761	695	Cx. quinquefasciatus	El Monte	12	BGSENT	11/7/2016	WNV
Los Angeles	SGVA898	1220	Cx. quinquefasciatus	San Gabriel	1	GRVD	6/14/2017	WNV
Los Angeles	SGVA949	1163	Cx. quinquefasciatus	La Puente	5	USDS	6/7/2017	WNV
Los Angeles	SGVA949	1165	Cx. quinquefasciatus	La Puente	5	USDS	6/7/2017	WNV
Los Angeles	SGVA949	1172	Cx. quinquefasciatus	La Puente	5	USDS	6/7/2017	WNV
Los Angeles	SGVA954	1151	Cx. quinquefasciatus	Azusa	5	GRVD	6/7/2017	WNV
Riverside	COAV0	2537	Cx. tarsalis		50	CO2	6/16/2017	WNV
Riverside	COAV0	2538	Cx. tarsalis		20	CO2	6/16/2017	WNV
Riverside	COAV0	2545	Cx. tarsalis		50	CO2	6/16/2017	WNV
Riverside	COAV0	2628	Cx. tarsalis		50	CO2	6/22/2017	WNV
Riverside	COAV0	2631	Cx. tarsalis		23	CO2	6/22/2017	WNV
Riverside	COAV0	2633	Cx. tarsalis		50	CO2	6/22/2017	WNV
Riverside	COAV0	2637	Cx. tarsalis		50	CO2	6/22/2017	WNV
Riverside	COAV0	2638	Cx. tarsalis		50	CO2	6/22/2017	WNV
Riverside	COAV0	2640	Cx. tarsalis		50	CO2	6/22/2017	WNV
Riverside	COAV0	2641	Cx. quinquefasciatus		50	CO2	6/22/2017	WNV
Riverside	COAV0	2644	Cx. tarsalis		50	CO2	6/22/2017	WNV
Riverside	COAV0	2645	Cx. tarsalis		28	CO2	6/22/2017	WNV
Riverside	COAV17	2532	Cx. tarsalis	Mecca	10	CO2	6/16/2017	WNV
Riverside	COAV200	2616	Cx. tarsalis	Mecca	50	CO2	6/20/2017	WNV
Riverside	COAV200	2617	Cx. tarsalis	Mecca	50	CO2	6/20/2017	WNV
Riverside	COAV200	2618	Cx. tarsalis	Mecca	50	CO2	6/20/2017	WNV
Riverside	COAV200	2619	Cx. tarsalis	Mecca	50	CO2	6/20/2017	WNV
Riverside	COAV200	2625	Cx. tarsalis	Mecca	50	CO2	6/22/2017	WNV
Riverside	COAV200	2626	Cx. tarsalis	Mecca	47	CO2	6/22/2017	WNV
Riverside	COAV35	2528	Cx. tarsalis	Mecca	50	CO2	6/16/2017	WNV
Riverside	COAV35	2529	Cx. tarsalis	Mecca	50	CO2	6/16/2017	WNV
Riverside	COAV35	2578	Cx. tarsalis	Mecca	50	CO2	6/20/2017	WNV
Riverside	COAV35	2579	Cx. tarsalis	Mecca	50	CO2	6/20/2017	WNV
Riverside	COAV35	2580	Cx. tarsalis	Mecca	50	CO2	6/20/2017	WNV
Riverside	NWST126	82	Cx. tarsalis	Corona	50	CO2	5/31/2017	SLEV
Riverside	NWST190	93	Cx. quinquefasciatus	Eastvale	50	CO2	6/13/2017	WNV
Riverside	NWST190	108	Cx. quinquefasciatus	Eastvale	50	CO2	6/20/2017	WNV
Riverside	NWST190	110	Cx. quinquefasciatus	Eastvale	50	CO2	6/20/2017	WNV
Riverside	NWST214	106	Cx. quinquefasciatus	Corona	50	CO2	6/20/2017	WNV

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Riverside	NWST26	88	Cx. tarsalis	Corona	50	CO2	6/7/2017	WNV
Riverside	NWST26	98	Cx. tarsalis	Corona	50	CO2	6/14/2017	WNV
Riverside	NWST6876	103	Cx. stigmatosoma	Corona	50	CO2	6/14/2017	WNV
San Bernardino	WVAL2006	1101	Cx. tarsalis	Chino	12	CO2	6/14/2017	WNV
San Bernardino	WVAL3099	1126	Cx. quinquefasciatus	Montclair	45	BGSENT	6/14/2017	WNV
San Bernardino	WVAL3108	1129	Cx. quinquefasciatus	Ontario	50	BGSENT	6/15/2017	WNV
San Bernardino	WVAL6011	1083	Cx. quinquefasciatus	Ontario	16	GRVD	6/14/2017	WNV
San Bernardino	WVAL6015	1087	Cx. quinquefasciatus	Ontario	30	GRVD	6/14/2017	WNV
San Bernardino	WVAL8001	1118	Cx. quinquefasciatus	Corona	9	CO2	6/14/2017	WNV
San Joaquin	SJCM8010	1305	Cx. tarsalis	Ripon	50	CO2	6/20/2017	WNV
San Joaquin	SJCM8010	1306	Cx. tarsalis	Ripon	50	CO2	6/20/2017	WNV
San Joaquin	SJCM8010	1307	Cx. tarsalis	Ripon	50	CO2	6/20/2017	WNV
San Joaquin	SJCM8010	1308	Cx. tarsalis	Ripon	50	CO2	6/20/2017	WNV
San Joaquin	SJCM8010	1309	Cx. tarsalis	Ripon	50	CO2	6/20/2017	WNV
San Joaquin	SJCM8010	1310	Cx. tarsalis	Ripon	50	CO2	6/20/2017	WNV
San Joaquin	SJCM8010	1311	Cx. tarsalis	Ripon	50	CO2	6/20/2017	WNV
San Joaquin	SJCM8010	1312	Cx. tarsalis	Ripon	50	CO2	6/20/2017	WNV
San Joaquin	SJCM8010	1313	Cx. tarsalis	Ripon	50	CO2	6/20/2017	WNV
San Joaquin	SJCM8010	1314	Cx. tarsalis	Ripon	50	CO2	6/20/2017	WNV
San Joaquin	SJCM8010	1315	Cx. tarsalis	Ripon	50	CO2	6/20/2017	WNV
San Joaquin	SJCM8010	1316	Cx. tarsalis	Ripon	50	CO2	6/20/2017	WNV
San Joaquin	SJCM8010	1317	Cx. tarsalis	Ripon	50	CO2	6/20/2017	WNV
San Joaquin	SJCM8010	1318	Cx. tarsalis	Ripon	50	CO2	6/20/2017	WNV
San Joaquin	SJCM8010	1319	Cx. tarsalis	Ripon	34	CO2	6/21/2017	WNV
San Joaquin	SJCM8010	1320	Cx. pipiens	Ripon	16	CO2	6/21/2017	WNV
San Joaquin	SJCM8196	1321	Cx. tarsalis	Ripon	33	CO2	6/21/2017	WNV
San Joaquin	SJCM8199	1292	Cx. tarsalis	Manteca	50	CO2	6/20/2017	WNV
San Joaquin	SJCM8199	1293	Cx. tarsalis	Manteca	50	CO2	6/20/2017	WNV
San Joaquin	SJCM8199	1294	Cx. tarsalis	Manteca	50	CO2	6/20/2017	WNV
San Joaquin	SJCM8199	1295	Cx. tarsalis	Manteca	50	CO2	6/20/2017	WNV
San Joaquin	SJCM8199	1296	Cx. tarsalis	Manteca	50	CO2	6/20/2017	WNV
San Joaquin	SJCM8199	1297	Cx. tarsalis	Manteca	29	CO2	6/20/2017	WNV
San Joaquin	SJCM8199	1298	Cx. pipiens	Manteca	50	CO2	6/20/2017	WNV
San Joaquin	SJCM8199	1299	Cx. pipiens	Manteca	50	CO2	6/20/2017	WNV
San Joaquin	SJCM8199	1300	Cx. pipiens	Manteca	50	CO2	6/20/2017	WNV
San Joaquin	SJCM8199	1301	Cx. pipiens	Manteca	50	CO2	6/20/2017	WNV
San Joaquin	SJCM8199	1303	Cx. pipiens	Manteca	50	CO2	6/20/2017	WNV
Stanislaus	TRLK1673	338	Cx. tarsalis	Patterson	50	CO2	6/20/2017	WNV
Stanislaus	TRLK1673	339	Cx. pipiens	Patterson	33	CO2	6/20/2017	WNV
Stanislaus	TRLK305	299	Cx. tarsalis	Grayson	30	CO2	6/20/2017	WNV
Stanislaus	TRLK424	327	Cx. tarsalis	Patterson	50	CO2	6/20/2017	WNV
Stanislaus	TRLK549	264	Cx. pipiens	Newman	48	CO2	6/20/2017	WNV
Stanislaus	TRLK9768	296	Cx. tarsalis	Modesto	39	CO2	6/20/2017	WNV
Tulare	DLNO74	114	Cx. quinquefasciatus	Earlimart	50	GRVD	6/20/2017	WNV
Tulare	DLTA7636	1066	Cx. quinquefasciatus	Woodlake	50	GRVD	6/16/2017	WNV
Tulare	DLTA8413	1178	Cx. quinquefasciatus	Visalia	27	GRVD	6/21/2017	WNV
Tulare	DLTA8423	1174	Cx. quinquefasciatus	Visalia	28	GRVD	6/21/2017	WNV
Tulare	DLTA8424	1185	Cx. quinquefasciatus	Visalia	42	GRVD	6/21/2017	WNV
Tulare	DLTA8425	1093	Cx. quinquefasciatus	Visalia	40	GRVD	6/16/2017	WNV
Tulare	DLTA8425	1144	Cx. quinquefasciatus	Visalia	21	GRVD	6/20/2017	WNV
Tulare	DLTA8435	1072	Cx. quinquefasciatus	Visalia	50	GRVD	6/16/2017	WNV
Tulare	DLTA8435	1073	Cx. quinquefasciatus	Visalia	38	GRVD	6/16/2017	WNV
Tulare	DLTA8436	1077	Cx. quinquefasciatus	Visalia	50	GRVD	6/16/2017	WNV
Tulare	DLTA8436	1078	Cx. quinquefasciatus	Visalia	28	GRVD	6/16/2017	WNV

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Tulare	DLTA8520	1060	Cx. quinquefasciatus	Visalia	48	GRVD	6/16/2017	WNV
Tulare	DLTA8521	1121	Cx. quinquefasciatus	Visalia	33	GRVD	6/20/2017	WNV
Tulare	DLTA8521	1160	Cx. quinquefasciatus	Visalia	50	GRVD	6/21/2017	WNV
Tulare	DLTA8527	1096	Cx. quinquefasciatus	Visalia	30	GRVD	6/16/2017	WNV
Tulare	DLTA8527	1134	Cx. quinquefasciatus	Visalia	14	GRVD	6/20/2017	WNV
Tulare	DLTA8527	1157	Cx. quinquefasciatus	Visalia	35	GRVD	6/21/2017	WNV
Tulare	DLTA8528	1166	Cx. quinquefasciatus	Visalia	50	GRVD	6/21/2017	WNV
Tulare	DLTA8530	1106	Cx. quinquefasciatus	Visalia	31	GRVD	6/20/2017	WNV
Tulare	DLTA8530	1117	Cx. quinquefasciatus	Visalia	38	GRVD	6/20/2017	WNV
Tulare	DLTA8530	1153	Cx. quinquefasciatus	Visalia	36	GRVD	6/21/2017	WNV
Tulare	DLTA8530	1162	Cx. quinquefasciatus	Visalia	46	GRVD	6/21/2017	WNV
Tulare	DLTA8531	1058	Cx. quinquefasciatus	Visalia	40	GRVD	6/16/2017	WNV
Tulare	DLTA8531	1109	Cx. quinquefasciatus	Visalia	49	GRVD	6/20/2017	WNV
Tulare	DLTA8531	1110	Cx. quinquefasciatus	Visalia	10	GRVD	6/20/2017	WNV
Tulare	DLTA8532	1057	Cx. quinquefasciatus	Visalia	43	GRVD	6/16/2017	WNV
Tulare	DLTA8532	1112	Cx. quinquefasciatus	Visalia	49	GRVD	6/20/2017	WNV
Tulare	DLTA8532	1113	Cx. quinquefasciatus	Visalia	10	GRVD	6/20/2017	WNV
Tulare	DLTA8533	1049	Cx. quinquefasciatus	Visalia	50	GRVD	6/16/2017	WNV
Tulare	DLTA8533	1050	Cx. quinquefasciatus	Visalia	40	GRVD	6/16/2017	WNV
Tulare	DLTA8533	1154	Cx. quinquefasciatus	Visalia	31	GRVD	6/21/2017	WNV
Tulare	DLTA8534	1047	Cx. quinquefasciatus	Visalia	44	GRVD	6/16/2017	WNV
Tulare	DLTA8534	1147	Cx. quinquefasciatus	Visalia	38	GRVD	6/21/2017	WNV
Tulare	DLTA9401	1107	Cx. quinquefasciatus	Visalia	26	GRVD	6/20/2017	WNV
Tulare	DLTA9401	1152	Cx. quinquefasciatus	Visalia	34	GRVD	6/21/2017	WNV
Tulare	DLTA9403	1085	Cx. quinquefasciatus	Visalia	11	GRVD	6/16/2017	WNV
Tulare	DLTA9411	1155	Cx. quinquefasciatus	Visalia	25	GRVD	6/21/2017	WNV
Tulare	DLTA9412	1105	Cx. quinquefasciatus	Visalia	29	GRVD	6/20/2017	WNV
Tulare	DLTA9503	1150	Cx. quinquefasciatus	Visalia	24	GRVD	6/21/2017	WNV
Tulare	DLTA9504	1056	Cx. quinquefasciatus	Visalia	45	GRVD	6/16/2017	WNV
Tulare	DLTA9504	1148	Cx. quinquefasciatus	Visalia	25	GRVD	6/21/2017	WNV
Tulare	DLTA9505	1051	Cx. quinquefasciatus	Visalia	50	GRVD	6/16/2017	WNV
Tulare	DLTA9505	1149	Cx. quinquefasciatus	Visalia	19	GRVD	6/21/2017	WNV
Tulare	DLTA9506	1054	Cx. quinquefasciatus	Visalia	48	GRVD	6/16/2017	WNV
Tulare	DLTA9506	1116	Cx. quinquefasciatus	Visalia	19	GRVD	6/20/2017	WNV
Tulare	DLTA9506	1145	Cx. quinquefasciatus	Visalia	50	GRVD	6/21/2017	WNV
Tulare	DLTA9506	1146	Cx. quinquefasciatus	Visalia	11	GRVD	6/21/2017	WNV
Tulare	DLTA9511	1099	Cx. quinquefasciatus	Famersville	13	GRVD	6/16/2017	WNV
Tulare	DLTA9512	1158	Cx. quinquefasciatus	Farmersville	50	GRVD	6/21/2017	WNV
Tulare	DLTA9606	1118	Cx. quinquefasciatus	Farmersville	50	GRVD	6/20/2017	WNV
Tulare	TLRE192435	97	Cx. quinquefasciatus	Tulare	38	GRVD	6/20/2017	WNV
Tulare	TLRE202414	107	Cx. quinquefasciatus	Tulare	17	GRVD	6/22/2017	WNV

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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 or confirmation.

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**Dead Birds**

Oral swab samples from corvids are collected onto RNA preservation cards and tested by the UC Davis Center for Vectorborne Diseases (CVEC) for West Nile virus by the singleplex RT-PCR Taqman assay and confirmed with a second primer set. Some local agencies test birds using the RAMP© test or conduct RT-PCR on tissue samples.

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**Sentinel Chickens:**

Dried blood spot specimens from sentinel chickens are submitted to the California Department of Public Health Vector-Borne Disease Laboratory and tested for the presence of antibodies to West Nile, western equine encephalomyelitis, and St. Louis encephalitis viruses by EIA. Positive samples are confirmed by IFA, western-blot, or PRNT.

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**Mosquito Pools:**

Mosquito pools are submitted to CVEC and screened for West Nile, western equine encephalomyelitis, and St. Louis encephalitis viral RNA using a Taqman multiplex RT-PCR. CVEC no longer performs confirmatory testing on PCR-positive pools of *Cx. tarsalis* and *Cx. quinquefasciatus* but will continue to confirm multiplex PCR-positive results for other mosquito species using singleplex RT-PCR.

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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).*