

California Arbovirus Surveillance Bulletin #14

Week 27 Friday, July 5, 2019



Weekly Update

Humans

No human infections have been reported in 2019. At this time last year, 9 human cases of West Nile virus (WNV) disease had been reported from 6 counties.

Dead Birds

A total of 5 WNV positive dead birds were reported this week from Orange County. In 2019, a total of 18 WNV positive dead birds have been reported from 6 counties. At this time last year, 50 WNV positive dead birds had been reported from 12 counties.

Mosquito Pools

West Nile virus

A total of 120 WNV positive mosquito pools were reported this week from 7 counties: Fresno (17), Kern (7), Riverside (39), San Joaquin (2), Tulare (53), Ventura (1), and Yuba (1). **This is the first detection of WNV activity in Ventura and Yuba counties this year.** In 2019, a total of 471 WNV positive mosquito pools have been reported from 10 counties. At this time last year, 106 WNV positive mosquito pools had been reported from 12 counties.

St. Louis encephalitis virus

A total of 11 mosquito pools were reported positive this week for St. Louis encephalitis virus (SLEV) from 4 counties: Fresno (1), Kern (7), Riverside (1), and Tulare (2). In 2019, a total of 27 SLEV positive mosquito pools have been reported from 4 counties: Fresno (6), Kern (11), Riverside (5), and Tulare (5). At this time last year, 44 SLEV positive mosquito pools had been reported from 4 counties.

Sentinel Chickens

No seroconversions have been reported in 2019.

2018 & 2019 YTD West Nile Virus Comparisons		
	2018	2019
Total # Dead Bird Reports	3,648	2,648
# Positive Counties	19	12
# Human Cases	9	0
# Positive Dead Birds / # Tested	50 / 743	18 / 784
# Positive Mosquito Pools / # Tested	106 / 15,466	471 / 14,741
# Seroconversions / # Tested	0 / 3,975	0 / 3,284

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YTD WNV Activity by Element and County, 2019				
County	Humans	Dead Birds	Mosquito Pools	Sentinel Chickens
Fresno		2	45	
Kern			10	
Los Angeles		2		
Merced			1	
Orange		7	1	
Riverside			284	
San Bernardino			2	
San Diego		1		
San Joaquin		2	10	
Tulare		4	116	
Ventura			1	
Yuba			1	
Totals	0	18	471	0

TESTING SUMMARIES

Humans

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

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	81	5
	YTD	784	18

Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	245	0	0	0
	YTD	3,284	0	0	0

Mosquitoes

		Positive / Total Tested					
		WNV	SLEV	WEEV	CHIK	DENV	ZIKA
Mosquito Pools	Week	120 / 1,316	11 / 1,216	0 / 1,110	0 / 0	0 / 0	0 / 0
	YTD	471 / 14,741	27 / 13,452	0 / 12,746	0 / 131	0 / 131	0 / 131

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POSITIVES

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Orange	Orange Co VCD	Tustin	92780	American Crow	6/13/2019	WNV
Orange	Orange Co VCD	Tustin	92780	American Crow	6/13/2019	WNV
Orange	Orange Co VCD	Huntington Beach	92649	American Crow	6/24/2019	WNV
Orange	Orange Co VCD	Cypress	90630	American Crow	6/25/2019	WNV
Orange	Orange Co VCD	Huntington Beach	92648	American Crow	6/28/2019	WNV

Mosquito pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Fresno	CNSL1072	176	Cx. quinquefasciatus	Fresno	31	GRVD	6/28/19	WNV
Fresno	CNSL1122	149	Cx. quinquefasciatus	Fresno	25	GRVD	6/25/19	WNV
Fresno	CNSL1122	182	Cx. quinquefasciatus	Fresno	13	GRVD	6/28/19	WNV
Fresno	CNSL1125	150	Cx. quinquefasciatus	Fresno	17	GRVD	6/25/19	WNV
Fresno	CNSL1294	145	Cx. quinquefasciatus	Fresno	50	GRVD	6/25/19	WNV
Fresno	CNSL1295	144	Cx. quinquefasciatus	Fresno	50	GRVD	6/25/19	WNV
Fresno	CNSL1297	174	Cx. quinquefasciatus	Clovis	48	GRVD	6/28/19	WNV
Fresno	CNSL1564	175	Cx. quinquefasciatus	Clovis	37	GRVD	6/28/19	WNV
Fresno	CNSL1613	147	Cx. quinquefasciatus	Fresno	50	GRVD	6/25/19	WNV
Fresno	CNSL1638	148	Cx. quinquefasciatus	Clovis	37	GRVD	6/25/19	WNV
Fresno	CNSL1859	181	Cx. quinquefasciatus	Fresno	17	GRVD	6/28/19	WNV
Fresno	CNSL1927	166	Cx. quinquefasciatus	Fresno	17	GRVD	6/27/19	WNV
Fresno	CNSL1970	143	Cx. quinquefasciatus	Clovis	50	GRVD	6/25/19	WNV
Fresno	CNSL2479	173	Cx. quinquefasciatus	Sanger	50	GRVD	6/28/19	SLEV
Fresno	CNSL2479	173	Cx. quinquefasciatus	Sanger	50	GRVD	6/28/19	WNV
Fresno	CNSL8033	178	Cx. quinquefasciatus	Fresno	26	GRVD	6/28/19	WNV
Fresno	CNSL8068	146	Cx. quinquefasciatus	Fresno	31	GRVD	6/25/19	WNV
Fresno	CNSL9131	179	Cx. quinquefasciatus	Fresno	23	GRVD	6/28/19	WNV
Kern	KERN1005	340	Cx. quinquefasciatus	Bakersfield	50	GRVD	6/28/19	WNV
Kern	KERN1137	343	Cx. tarsalis	Bakersfield	50	CO2	6/28/19	SLEV
Kern	KERN115	299	Cx. tarsalis	Bakersfield	25	CO2	6/25/19	SLEV
Kern	KERN2007	326	Cx. quinquefasciatus	Bakersfield	50	GRVD	6/27/19	SLEV
Kern	KERN2011	320	Cx. quinquefasciatus	Bakersfield	50	GRVD	6/26/19	SLEV
Kern	KERN2011	320	Cx. quinquefasciatus	Bakersfield	50	GRVD	6/26/19	WNV
Kern	KERN2016	321	Cx. quinquefasciatus	Bakersfield	50	GRVD	6/26/19	SLEV
Kern	KERN2016	321	Cx. quinquefasciatus	Bakersfield	50	GRVD	6/26/19	WNV
Kern	KERN2018	319	Cx. quinquefasciatus	Bakersfield	50	GRVD	6/26/19	SLEV
Kern	KERN2027	314	Cx. quinquefasciatus	Bakersfield	50	GRVD	6/26/19	WNV
Kern	KERN2028	312	Cx. quinquefasciatus	Bakersfield	21	GRVD	6/26/19	SLEV
Kern	KERN2030	318	Cx. quinquefasciatus	Bakersfield	50	GRVD	6/26/19	WNV
Kern	KERN2034	341	Cx. quinquefasciatus	Bakersfield	50	GRVD	6/28/19	WNV
Kern	KERN2043	292	Cx. quinquefasciatus	Bakersfield	50	GRVD	6/25/19	WNV
Riverside	COAV0	3616	Cx. quinquefasciatus		24	CO2	6/28/19	WNV
Riverside	COAV0	3626	Cx. quinquefasciatus		20	GRVD	6/28/19	WNV
Riverside	COAV10	3638	Cx. tarsalis	Thermal	33	CO2	7/2/19	WNV
Riverside	COAV130	3655	Cx. tarsalis	Mecca	13	CO2	7/2/19	WNV
Riverside	COAV131	3640	Cx. tarsalis	Oasis	50	CO2	7/2/19	SLEV
Riverside	COAV131	3640	Cx. tarsalis	Oasis	50	CO2	7/2/19	WNV
Riverside	COAV131	3641	Cx. tarsalis	Oasis	50	CO2	7/2/19	WNV

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Riverside	COAV131	3642	Cx. tarsalis	Oasis	50	CO2	7/2/19	WNV
Riverside	COAV131	3643	Cx. tarsalis	Oasis	44	CO2	7/2/19	WNV
Riverside	COAV131	3644	Cx. quinquefasciatus	Oasis	50	CO2	7/2/19	WNV
Riverside	COAV132	3653	Cx. tarsalis	Mecca	44	CO2	7/2/19	WNV
Riverside	COAV208	3747	Cx. quinquefasciatus	Palm Springs	16	GRVD	7/3/19	WNV
Riverside	COAV208	3748	Cx. quinquefasciatus	Palm Springs	50	CO2	7/3/19	WNV
Riverside	COAV25	3661	Cx. tarsalis	Mecca	7	CO2	7/2/19	WNV
Riverside	COAV27	3676	Cx. tarsalis	North Shore	50	CO2	7/2/19	WNV
Riverside	COAV27	3678	Cx. tarsalis	North Shore	50	CO2	7/2/19	WNV
Riverside	COAV27	3679	Cx. tarsalis	North Shore	50	CO2	7/2/19	WNV
Riverside	COAV301	3700	Cx. quinquefasciatus	Indio	50	GRVD	7/3/19	WNV
Riverside	COAV302	3670	Cx. quinquefasciatus	Rancho Mirage	50	GRVD	7/3/19	WNV
Riverside	COAV302	3671	Cx. quinquefasciatus	Rancho Mirage	12	GRVD	7/3/19	WNV
Riverside	COAV302	3696	Cx. quinquefasciatus	Rancho Mirage	50	CO2	7/3/19	WNV
Riverside	COAV321	3715	Cx. quinquefasciatus	Rancho Mirage	18	CO2	7/3/19	WNV
Riverside	COAV322	3623	Cx. quinquefasciatus	Cathedral City	11	GRVD	6/28/19	WNV
Riverside	COAV322	3745	Cx. quinquefasciatus	Cathedral City	24	GRVD	7/3/19	WNV
Riverside	COAV33	3659	Cx. tarsalis	Mecca	45	CO2	7/2/19	WNV
Riverside	COAV34	3639	Cx. tarsalis	Mecca	32	CO2	7/2/19	WNV
Riverside	COAV37	3692	Cx. quinquefasciatus	Mecca	50	CO2	7/2/19	WNV
Riverside	COAV407	3621	Cx. quinquefasciatus	Palm Springs	32	GRVD	6/28/19	WNV
Riverside	COAV410	3703	Cx. quinquefasciatus	Rancho Mirage	48	GRVD	7/3/19	WNV
Riverside	COAV412	3702	Cx. quinquefasciatus	Rancho Mirage	13	CO2	7/3/19	WNV
Riverside	COAV413	3664	Cx. quinquefasciatus	Palm Desert	46	GRVD	7/3/19	WNV
Riverside	COAV414	3711	Cx. quinquefasciatus	Palm Desert	22	CO2	7/3/19	WNV
Riverside	COAV424	3599	Cx. quinquefasciatus	Coachella	50	GRVD	7/2/19	WNV
Riverside	COAV430	3627	Cx. quinquefasciatus	Indio	50	GRVD	7/2/19	WNV
Riverside	COAV431	3710	Cx. quinquefasciatus	Palm Springs	39	GRVD	7/3/19	WNV
Riverside	COAV538	3675	Cx. quinquefasciatus	Thermal	8	CO2	7/2/19	WNV
Riverside	COAV6	3648	Cx. tarsalis	Mecca	50	CO2	7/2/19	WNV
Riverside	COAV6	3649	Cx. tarsalis	Mecca	50	CO2	7/2/19	WNV
Riverside	COAV6	3651	Cx. quinquefasciatus	Mecca	50	CO2	7/2/19	WNV
Riverside	COAV8	3660	Cx. tarsalis	Mecca	50	CO2	7/2/19	WNV
San Joaquin	SJCM7000	655	Cx. tarsalis	manteca	21	GRVD	7/2/19	WNV
San Joaquin	SJCM8210	745	Cx. pipiens	Escalon	50	CO2	7/2/19	WNV
Tulare	DLTA6407	1355	Cx. quinquefasciatus	Dinuba	15	GRVD	6/27/19	WNV
Tulare	DLTA6417	1352	Cx. quinquefasciatus	Dinuba	14	GRVD	6/27/19	WNV
Tulare	DLTA6420	1354	Cx. quinquefasciatus	Dinuba	27	GRVD	6/27/19	WNV
Tulare	DLTA8422	1294	Cx. quinquefasciatus	Goshen	50	BGSENT	6/25/19	WNV
Tulare	DLTA8423	1319	Cx. quinquefasciatus	Visalia	46	GRVD	6/26/19	WNV
Tulare	DLTA8424	1409	Cx. quinquefasciatus	Visalia	46	BGSENT	7/2/19	WNV
Tulare	DLTA8425	1292	Cx. quinquefasciatus	Visalia	48	GRVD	6/25/19	WNV
Tulare	DLTA8426	1436	Cx. quinquefasciatus	Visalia	33	GRVD	7/2/19	WNV
Tulare	DLTA8427	1277	Cx. quinquefasciatus	Visalia	21	GRVD	6/25/19	WNV
Tulare	DLTA8427	1443	Cx. quinquefasciatus	Visalia	11	GRVD	7/2/19	WNV
Tulare	DLTA8434	1496	Cx. quinquefasciatus	Visalia	35	BGSENT	7/3/19	WNV
Tulare	DLTA8435	1356	Cx. quinquefasciatus	Visalia	13	GRVD	6/28/19	WNV
Tulare	DLTA8435	1411	Cx. quinquefasciatus	Visalia	14	GRVD	7/2/19	WNV
Tulare	DLTA8436	1272	Cx. quinquefasciatus	Visalia	13	GRVD	6/25/19	WNV
Tulare	DLTA8436	1308	Cx. quinquefasciatus	Visalia	50	GRVD	6/26/19	WNV
Tulare	DLTA8436	1309	Cx. quinquefasciatus	Visalia	21	GRVD	6/26/19	WNV
Tulare	DLTA8436	1427	Cx. quinquefasciatus	Visalia	50	GRVD	7/2/19	WNV
Tulare	DLTA8436	1428	Cx. quinquefasciatus	Visalia	37	GRVD	7/2/19	WNV
Tulare	DLTA8436	1473	Cx. quinquefasciatus	Visalia	43	GRVD	7/3/19	WNV

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Tulare	DLTA8530	1267	Cx. quinquefasciatus	Visalia	33	GRVD	6/25/19	WNV
Tulare	DLTA8530	1425	Cx. quinquefasciatus	Visalia	10	GRVD	7/2/19	WNV
Tulare	DLTA8530	1469	Cx. quinquefasciatus	Visalia	18	GRVD	7/3/19	WNV
Tulare	DLTA8531	1422	Cx. quinquefasciatus	Visalia	38	GRVD	7/2/19	WNV
Tulare	DLTA8531	1479	Cx. quinquefasciatus	Visalia	19	GRVD	7/3/19	WNV
Tulare	DLTA8531	1494	Cx. quinquefasciatus	Visalia	17	BGSENT	7/3/19	WNV
Tulare	DLTA8533	1475	Cx. quinquefasciatus	Visalia	35	GRVD	7/3/19	WNV
Tulare	DLTA9401	1300	Cx. quinquefasciatus	Visalia	15	GRVD	6/26/19	WNV
Tulare	DLTA9401	1307	Cx. quinquefasciatus	Visalia	22	GRVD	6/26/19	WNV
Tulare	DLTA9401	1414	Cx. quinquefasciatus	Visalia	39	GRVD	7/2/19	WNV
Tulare	DLTA9401	1472	Cx. quinquefasciatus	Visalia	15	GRVD	7/3/19	WNV
Tulare	DLTA9401	1485	Cx. quinquefasciatus	Visalia	26	BGSENT	7/3/19	WNV
Tulare	DLTA9402	1420	Cx. quinquefasciatus	Visalia	50	GRVD	7/2/19	SLEV
Tulare	DLTA9402	1420	Cx. quinquefasciatus	Visalia	50	GRVD	7/2/19	WNV
Tulare	DLTA9402	1421	Cx. quinquefasciatus	Visalia	15	GRVD	7/2/19	WNV
Tulare	DLTA9403	1498	Cx. quinquefasciatus	Visalia	15	BGSENT	7/3/19	WNV
Tulare	DLTA9411	1482	Cx. quinquefasciatus	Visalia	50	GRVD	7/3/19	WNV
Tulare	DLTA9411	1483	Cx. quinquefasciatus	Visalia	32	GRVD	7/3/19	WNV
Tulare	DLTA9412	1271	Cx. quinquefasciatus	Visalia	11	GRVD	6/25/19	WNV
Tulare	DLTA9412	1351	Cx. quinquefasciatus	Visalia	11	GRVD	6/27/19	WNV
Tulare	DLTA9412	1434	Cx. quinquefasciatus	Visalia	50	GRVD	7/2/19	WNV
Tulare	DLTA9412	1435	Cx. quinquefasciatus	Visalia	13	GRVD	7/2/19	WNV
Tulare	DLTA9504	1374	Cx. quinquefasciatus	Visalia	34	GRVD	6/28/19	SLEV
Tulare	DLTA9504	1374	Cx. quinquefasciatus	Visalia	34	GRVD	6/28/19	WNV
Tulare	DLTA9504	1407	Cx. quinquefasciatus	Visalia	10	BGSENT	7/2/19	WNV
Tulare	DLTA9505	1273	Cx. quinquefasciatus	Visalia	19	GRVD	6/25/19	WNV
Tulare	DLTA9505	1478	Cx. quinquefasciatus	Visalia	34	GRVD	7/3/19	WNV
Tulare	DLTA9506	1275	Cx. quinquefasciatus	Visalia	38	GRVD	6/25/19	WNV
Tulare	DLTA9506	1429	Cx. quinquefasciatus	Visalia	50	GRVD	7/2/19	WNV
Tulare	DLTA9506	1430	Cx. quinquefasciatus	Visalia	17	GRVD	7/2/19	WNV
Tulare	DLTA9506	1480	Cx. quinquefasciatus	Visalia	22	GRVD	7/3/19	WNV
Tulare	DLTA9521	1456	Cx. quinquefasciatus		50	CO2	7/3/19	WNV
Tulare	DLTA9606	1357	Cx. quinquefasciatus	Farmersville	32	GRVD	6/28/19	WNV
Tulare	DLTA9607	1349	Cx. quinquefasciatus	Farmersville	12	GRVD	6/27/19	WNV
Tulare	DLTA9607	1384	Cx. quinquefasciatus	Farmersville	50	BGSENT	6/28/19	WNV
Tulare	DLTA9611	1342	Cx. quinquefasciatus	Exeter	13	BGSENT	6/27/19	WNV
Ventura	VENT5015	17	Cx. tarsalis	Ventura	50	CO2	6/27/19	WNV
Yuba	SUYA10	83	Cx. tarsalis	Olivehurst	50	CO2	7/2/19	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.

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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.

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.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