

California Arbovirus Surveillance Bulletin #29

Week 42 Friday, October 18, 2019



Weekly Update

Humans

West Nile virus

A total of 13 human cases of West Nile virus (WNV) illness were reported this week from 6 counties: Los Angeles (7), Merced (1), Orange (1), San Joaquin (1), Stanislaus (2), and Tulare (1). In 2019, 158 human WNV cases have been reported from 20 counties. Of the 158 reported cases, 99 (63%) had neuroinvasive disease and 4 (2.5%) fatalities have been reported. The median age of the individuals is 58 years (range: 11–93 years) and 96 (61%) are male. Dates of symptom onset range from May 12 to September 25. In addition to the 158 cases, 17 asymptomatic infections have also been reported from Butte (1), El Dorado (1), Kern (3), Madera (1), Merced (1), Orange (2), San Bernardino (4), San Joaquin (1), Stanislaus (1), Sutter (1), and Tulare (1) counties. At this time last year, 143 human cases had been reported from 28 counties.

St. Louis encephalitis virus

No new cases were reported this week. In 2019, 5 SLEV human cases have been reported from 3 counties: Fresno (2), Kern (1), and Imperial (2). Of the 5 reported cases, 5 (100%) had neuroinvasive disease. The median age of the individuals is 54 years and dates of symptom onset range from July 14 to August 10. No fatalities have been reported. At this time last year, 1 SLEV human case had been reported from 1 county.

Dead Birds

A total of 9 WNV positive dead birds were reported this week from 4 counties: Butte (1), Los Angeles (3), Orange (4), and Santa Clara (1). **This is the first WNV positive dead bird reported from Butte County this year.** In 2019, a total of 202 WNV positive dead birds have been reported from 21 counties. At this time last year, 490 WNV positive dead birds had been reported from 20 counties.

Mosquito Pools

West Nile virus

A total of 37 WNV positive mosquito pools were reported this week from 5 counties: Los Angeles (6), Orange (27), Riverside (2), San Joaquin (1), and Tulare (1). In 2019, a total of 3,262 WNV positive mosquito pools have been reported from 24 counties. At this time last year, 1,952 WNV positive mosquito pools had been reported from 29 counties.

St. Louis encephalitis virus

A total of 5 SLEV positive mosquito pools were reported this week from 3 counties: Madera (1), Orange (2), and Riverside (2). In 2019, a total of 350 SLEV positive mosquito pools have been reported from 12 counties: Fresno (56), Imperial (5), Kern (56), Kings (4), Los Angeles (2), Madera (5), Merced (2), Orange (3), Riverside (106), San Bernardino (2), Stanislaus (13), and Tulare (96). At this time last year, 387 SLEV positive mosquito pools had been reported from 8 counties.

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Sentinel Chickens

West Nile virus

No new seroconversions were reported this week. In 2019, 130 WNV positive chickens have been reported from 16 counties. At this time last year, 152 WNV positive chickens had been reported from 16 counties.

St. Louis encephalitis virus

No new seroconversions were reported this week. In 2019, 3 SLEV positive chickens have been reported from 1 county (Merced). At this time last year, 1 SLEV positive chicken had been reported from 1 county.

2018 & 2019 YTD West Nile Virus Comparisons		
	2018	2019
Total # Dead Bird Reports	7,386	5,047
# Positive Counties	39	33
# Human Cases	143	158
# Positive Dead Birds / # Tested	490 / 1,999	202 / 1,639
# Positive Mosquito Pools / # Tested	1,952 / 40,453	3,232 / 41,193
# Seroconversions / # Tested	152 / 9,157	130 / 8,181

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YTD WNV Activity by Element and County, 2019					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Amador	1				
Butte	5		1	44	33
Colusa	1				6
Contra Costa			1		2
Fresno	45	2	10	495	
Glenn				1	1
Imperial	3			2	
Kern	15	2	2	128	
Kings				63	
Lake				6	
Los Angeles	18		44	86	24
Madera	2	2		85	
Merced	8	1	3	48	16
Orange	2		42	194	
Placer			3	52	8
Riverside	10	1	2	522	
Sacramento	1	1	44	74	1
San Benito					1
San Bernardino	5	1	4	52	
San Diego	2		1		
San Joaquin	5	1	5	288	
San Luis Obispo	1				
Santa Clara			6		
Shasta			1	3	
Solano	1			5	4
Stanislaus	16	2	4	203	
Sutter				15	11
Tehama					4
Tulare	16		17	814	10
Tuolumne		1	1		
Ventura	1	1	1	1	3
Yolo			7	59	1
Yuba			3	22	5
Totals	158	15	202	3,262	130

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TESTING SUMMARIES

Humans

		WNV	SLEV	WEEV
Human Cases	Week	13	0	0
	YTD	158	5	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	83	9
	YTD	1,639	202

Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	261	0	0	0
	YTD	8,181	130	3	0

Mosquitoes

		Positive / Total Tested					
		WNV	SLEV	WEEV	CHIK	DENV	ZIKA
Mosquito Pools	Week	37 / 627	5 / 609	0 / 535	0 / 96	0 / 96	0 / 96
	YTD	3,262 / 41,193	350 / 37,385	0 / 34,610	0 / 839	0 / 839	0 / 839

POSITIVES

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Butte	Butte Co MVCD	Chico	95973	American Crow	9/17/2019	WNV
Los Angeles	Los Angeles Co Veterinarian	Los Angeles	90025	American Crow	10/7/2019	WNV
Los Angeles	Los Angeles Co Veterinarian	Los Angeles	90036	American Crow	10/8/2019	WNV
Los Angeles	Los Angeles Co Veterinarian	Los Angeles	90066	American Crow	10/8/2019	WNV
Orange	Orange Co VCD	La Habra	90631	American Crow	10/8/2019	WNV
Orange	Orange Co VCD	Fullerton	92833	American Crow	10/2/2019	WNV
Orange	Orange Co VCD	Buena Park	90620	American Crow	10/10/2019	WNV
Orange	Orange Co VCD	Anaheim	92806	American Crow	10/14/2019	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95129	American Crow	10/18/2019	WNV

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Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Los Angeles	GRLA2270	1092	Cx. quinquefasciatus	Bellflower	27	GRVD	10/10/19	WNV
Los Angeles	GRLA2414	6009	Cx. quinquefasciatus	Los Angeles	47	GRVD	10/10/19	WNV
Los Angeles	GRLA2651	6002	Cx. quinquefasciatus	Los Angeles	50	GRVD	10/10/19	WNV
Los Angeles	SGVA450	1003	Cx. quinquefasciatus	West Valinda	50	GRVD	10/11/19	WNV
Los Angeles	SGVA505	1012	Cx. quinquefasciatus	Monterey Park	13	GRVD	10/15/19	WNV
Los Angeles	SGVA967	1008	Cx. quinquefasciatus	Temple City	50	GRVD	10/15/19	WNV
Madera	MADR195	341	Cx. quinquefasciatus		44	CO2	10/9/19	SLEV
Orange	ORCO1005	4391	Cx. quinquefasciatus	Buena Park	20	GRVD	10/1/19	WNV
Orange	ORCO1005	4610	Cx. quinquefasciatus	Buena Park	50	GRVD	10/8/19	WNV
Orange	ORCO1005	4729	Cx. quinquefasciatus	Buena Park	9	GRVD	10/9/19	WNV
Orange	ORCO1009	4554	Cx. quinquefasciatus	Garden Grove	37	GRVD	10/3/19	WNV
Orange	ORCO1009	4577	Cx. quinquefasciatus	Garden Grove	28	GRVD	10/3/19	WNV
Orange	ORCO1011	4353	Cx. quinquefasciatus	La Habra	29	GRVD	9/26/19	WNV
Orange	ORCO1014	4648	Cx. quinquefasciatus	Mission Viejo	11	GRVD	10/8/19	WNV
Orange	ORCO1015	4547	Cx. quinquefasciatus	Orange	32	GRVD	10/3/19	WNV
Orange	ORCO218	4381	Cx. quinquefasciatus	Anaheim	28	GRVD	10/1/19	WNV
Orange	ORCO218	4432	Cx. quinquefasciatus	Anaheim	10	GRVD	10/1/19	WNV
Orange	ORCO218	4458	Cx. quinquefasciatus	Anaheim	10	GRVD	10/1/19	WNV
Orange	ORCO218	4557	Cx. quinquefasciatus	Anaheim	50	GRVD	10/3/19	WNV
Orange	ORCO218	4563	Cx. quinquefasciatus	Anaheim	21	GRVD	10/3/19	WNV
Orange	ORCO218	4791	Cx. quinquefasciatus	Anaheim	31	GRVD	10/10/19	SLEV
Orange	ORCO235	4506	Cx. quinquefasciatus	Stanton	31	GRVD	10/2/19	WNV
Orange	ORCO235	4642	Cx. quinquefasciatus	Stanton	50	GRVD	10/8/19	WNV
Orange	ORCO236	4474	Cx. quinquefasciatus	Garden Grove	30	GRVD	10/1/19	WNV
Orange	ORCO238	4781	Cx. quinquefasciatus	Anaheim	35	GRVD	10/10/19	WNV
Orange	ORCO243	4477	Cx. quinquefasciatus	Anaheim	15	GRVD	10/1/19	WNV
Orange	ORCO299	4814	Cx. quinquefasciatus	Los Alamitos	28	GRVD	10/10/19	WNV
Orange	ORCO3	4725	Cx. quinquefasciatus	Garden Grove	43	GRVD	10/8/19	WNV
Orange	ORCO300	4823	Cx. quinquefasciatus	Seal Beach	48	GRVD	10/10/19	SLEV
Orange	ORCO303	4714	Cx. quinquefasciatus	Garden Grove	27	GRVD	10/8/19	WNV
Orange	ORCO317	4472	Cx. quinquefasciatus	Fullerton	35	GRVD	10/1/19	WNV
Orange	ORCO319	4652	Cx. quinquefasciatus	Buena Park	31	GRVD	10/8/19	WNV
Orange	ORCO322	4706	Cx. quinquefasciatus	Garden Grove	50	GRVD	10/8/19	WNV
Orange	ORCO322	4707	Cx. quinquefasciatus	Garden Grove	30	GRVD	10/8/19	WNV
Orange	ORCO41	4667	Cx. quinquefasciatus	Anaheim	37	GRVD	10/8/19	WNV
Orange	ORCO5	4758	Cx. quinquefasciatus	Huntington Beach	8	GRVD	10/9/19	WNV
Riverside	COAV115	5884	Cx. tarsalis	North Shore	24	CO2	10/16/19	SLEV
Riverside	COAV123	5857	Cx. tarsalis		50	CO2	10/16/19	WNV
Riverside	COAV307	5827	Cx. quinquefasciatus	Coachella	47	GRVD	10/16/19	SLEV
Riverside	NWST198	237	Cx. tarsalis	Eastvale	50	CO2	10/9/19	WNV
San Joaquin	SJCM8206	2681	Cx. pipiens		50	CO2	10/15/19	WNV
Tulare	DLTA6404	3714	Cx. quinquefasciatus		22	CO2	10/4/19	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 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.

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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/arbonet/maps/ADB_Diseases_Map/index.html