

California Arbovirus Surveillance Bulletin #26

Week 39 Friday, September 27, 2019



Weekly Update

Humans

West Nile virus

A total of 14 human cases of West Nile virus (WNV) illness were reported this week from 8 counties: Fresno (3), Kern (2), Los Angeles (1), Riverside (1), San Joaquin (1), San Luis Obispo (1), Stanislaus (4), and Tulare (1). **This is the first WNV case reported from San Luis Obispo County this year.** In 2019, 112 WNV human cases have been reported from 17 counties. Of the 112 reported cases, 59 (53%) had neuroinvasive disease and 3 (2.7%) fatalities have been reported. The median age of the individuals is 55 years (range: 11–93 years) and 68 (61%) are male. Dates of symptom onset range from May 12 to September 9. In addition to the 112 cases, 16 asymptomatic infections have also been reported from Butte (1), El Dorado (1), Kern (3), Madera (1), Merced (1), Orange (1), San Bernardino (4), San Joaquin (1), Stanislaus (1), Sutter (1), and Tulare (1) counties. At this time last year, 114 human cases had been reported from 25 counties.

St. Louis encephalitis virus

One human case of St. Louis encephalitis virus (SLEV) disease was reported this week from Kern County; **this is the first SLEV case reported from Kern County this year.** 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.

Dead Birds

A total of 36 WNV positive dead birds were reported this week from 8 counties: Los Angeles (11), Merced (1), Orange (11), Riverside (2), Sacramento (4), Santa Clara (1), Tulare (1), and Yolo (5). **This is the first WNV positive dead bird in Riverside County this year.** In 2019, a total of 175 WNV positive dead birds have been reported from 18 counties. At this time last year, 469 WNV positive dead birds had been reported from 20 counties.

Mosquito Pools

West Nile virus

A total of 56 WNV positive mosquito pools were reported this week from 12 counties: Fresno (10), Los Angeles (4), Madera (2), Merced (2), Orange (18), Placer (1), Riverside (1), Sacramento (1), San Joaquin (6), Stanislaus (4), Tulare (6), and Yolo (1). In 2019, a total of 3,126 WNV positive mosquito pools have been reported from 24 counties. At this time last year, 1,889 WNV positive mosquito pools had been reported from 28 counties.

St. Louis encephalitis virus

A total of 15 SLEV positive mosquito pools were reported this week from 5 counties: Fresno (1), Merced (1), Riverside (5), Stanislaus (2), and Tulare (6). In 2019, a total of 320 SLEV positive mosquito pools have been reported from 12 counties: Fresno (53), Imperial (5), Kern (54), Kings (3), Los Angeles (1), Madera (3), Merced (2), Orange (1), Riverside (101), San Bernardino (1), Stanislaus (10), and Tulare (86). At this time last year, 370 SLEV positive mosquito pools had been reported from 8 counties.

California Arbovirus Surveillance Bulletin #26

Week 39 Friday, September 27, 2019

Sentinel Chickens

West Nile virus

A total of 9 WNV seroconversions were reported this week from 5 counties: Los Angeles (5), Sacramento (1), San Benito (1), Ventura (1), and Yolo (1). **This is the first detection of WNV activity in San Benito County and the first WNV positive chickens reported from Sacramento, Ventura, and Yolo counties this year.** In 2019, 114 WNV positive chickens have been reported from 16 counties. At this time last year, 139 WNV positive chickens had been reported from 15 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	6,865	4,656
# Positive Counties	37	33
# Human Cases	114	112
# Positive Dead Birds / # Tested	469 / 1,849	175 / 1,481
# Positive Mosquito Pools / # Tested	1,889 / 37,059	3,126 / 38,275
# Seroconversions / # Tested	139 / 8,146	114 / 7,369

California Arbovirus Surveillance Bulletin #26

Week 39 Friday, September 27, 2019

YTD WNV Activity by Element and County, 2019					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Amador	1				
Butte	4			44	33
Colusa					4
Contra Costa			1		1
Fresno	44	2	10	489	
Glenn				1	1
Imperial	3			2	
Kern	12	2	2	126	
Kings				61	
Lake				6	
Los Angeles	7		29	64	16
Madera	1	2		81	
Merced	2	1	3	48	16
Orange	1		38	138	
Placer			3	52	8
Riverside	5	1	2	516	
Sacramento			42	72	1
San Benito					1
San Bernardino	4	1	3	46	
San Diego	3		1		
San Joaquin	4	1	5	279	
San Luis Obispo	1				
Santa Clara			4		
Shasta				3	
Solano	1			5	4
Stanislaus	9	2	4	197	
Sutter				15	8
Tehama					4
Tulare	10		17	802	10
Tuolumne			1		
Ventura		1		1	1
Yolo			7	56	1
Yuba			3	22	5
Totals	112	13	175	3,126	114

California Arbovirus Surveillance Bulletin #26

Week 39 Friday, September 27, 2019

TESTING SUMMARIES

Humans

		WNV	SLEV	WEEV
Human Cases	Week	14	1	0
	YTD	112	5	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	83	36
	YTD	1,481	175

Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	257	9	0	0
	YTD	7,369	114	3	0

Mosquitoes

		Positive / Total Tested						
Mosquito Pools	Week	WNV	SLEV	WEEV	CHIK	DENV	ZIKA	
		Week	56 / 1,759	15 / 1,534	0 / 1,354	0 / 24	0 / 24	0 / 24
		YTD	3,126 / 38,275	320 / 34,666	0 / 32,187	0 / 743	0 / 743	0 / 743

POSITIVES

Dead Birds

County	Agency	City	Zip Code	Species	Reported	Virus
Los Angeles	Los Angeles Co Vet	Los Angeles	90035	American Crow	9/9/2019	WNV
Los Angeles	Los Angeles Co Vet	Los Angeles	90064	House Sparrow	9/24/2019	WNV
Los Angeles	Los Angeles Co Vet	Los Angeles	90064	American Crow	9/24/2019	WNV
Los Angeles	Los Angeles Co Vet	Canoga Park	91304	American Crow	9/12/2019	WNV
Los Angeles	Los Angeles Co Vet	Canoga Park	91304	American Crow	9/19/2019	WNV
Los Angeles	Los Angeles Co Vet	Porter Ranch	91326	American Crow	9/23/2019	WNV
Los Angeles	Los Angeles Co Vet	Reseda	91335	American Crow	9/23/2019	WNV
Los Angeles	Los Angeles Co Vet	North Hollywood	91601	American Crow	9/11/2019	WNV
Los Angeles	Los Angeles Co West VCD	Los Angeles	90036	American Crow	9/12/2019	WNV
Los Angeles	Los Angeles Co West VCD	Inglewood	90302	American Crow	9/11/2019	WNV
Los Angeles	San Gabriel Valley MVCD	Covina	91722	American Crow	9/18/2019	WNV

California Arbovirus Surveillance Bulletin #26

Week 39 Friday, September 27, 2019

Merced	Merced Co MAD	Merced	95348	American Crow	9/14/2019	WNV
Orange	Orange Co VCD	Buena Park	90620	American Crow	9/17/2019	WNV
Orange	Orange Co VCD	Buena Park	90620	American Crow	9/18/2019	WNV
Orange	Orange Co VCD	Stanton	90630	American Crow	9/14/2019	WNV
Orange	Orange Co VCD	Cypress	90630	American Crow	9/25/2019	WNV
Orange	Orange Co VCD	Anaheim	92801	American Crow	9/25/2019	WNV
Orange	Orange Co VCD	Anaheim	92802	American Crow	9/23/2019	WNV
Orange	Orange Co VCD	Anaheim	92804	American Crow	9/15/2019	WNV
Orange	Orange Co VCD	Anaheim	92804	American Crow	9/24/2019	WNV
Orange	Orange Co VCD	Anaheim	92804	American Crow	9/26/2019	WNV
Orange	Orange Co VCD	Anaheim	92805	American Crow	9/16/2019	WNV
Orange	Orange Co VCD	Fullerton	92832	American Crow	9/21/2019	WNV
Riverside	Northwest Mosquito VCD	Riverside	92504	American Crow	9/6/2019	WNV
Riverside	Northwest Mosquito VCD	Corona	92880	American Crow	9/17/2019	WNV
Sacramento	Sacramento-Yolo MVCD	ELK GROVE	95624	American Crow	9/20/2019	WNV
Sacramento	Sacramento-Yolo MVCD	Elverta	95626	Northern Flicker	9/20/2019	WNV
Sacramento	Sacramento-Yolo MVCD	Fair Oaks	95628	Cedar Waxwing	9/19/2019	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95823	American Crow	9/22/2019	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95136	American Crow	9/25/2019	WNV
Tulare	Delta VCD	Visalia	93277	American Crow	9/19/2019	WNV
Yolo	Sacramento-Yolo MVCD	Davis	95616	Empidonax Flycatcher	9/19/2019	WNV
Yolo	Sacramento-Yolo MVCD	Davis	95616	Anna's Hummingbird	9/21/2019	WNV
Yolo	Sacramento-Yolo MVCD	Davis	95616	California Scrub-Jay	9/23/2019	WNV
Yolo	Sacramento-Yolo MVCD	Davis	95618	American Crow	9/20/2019	WNV
Yolo	Sacramento-Yolo MVCD	Woodland	95776	California Scrub-Jay	9/20/2019	WNV

Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Fresno	CNSL1086	846	Cx. quinquefasciatus	Fresno	20	GRVD	9/19/19	WNV
Fresno	CNSL1645	856	Cx. quinquefasciatus	Fresno	40	GRVD	9/20/19	WNV
Fresno	CNSL2463	814	Cx. quinquefasciatus	Sanger	29	GRVD	9/17/19	WNV
Fresno	CNSL6299	810	Cx. quinquefasciatus		21	GRVD	9/17/19	WNV
Fresno	CNSL8130	823	Cx. quinquefasciatus	Clovis	14	GRVD	9/18/19	WNV
Fresno	CNSL8136	817	Cx. quinquefasciatus	Fresno	18	GRVD	9/18/19	WNV
Fresno	CNSL8143	825	Cx. quinquefasciatus	Clovis	13	GRVD	9/18/19	WNV
Fresno	FRNO2	624	Cx. quinquefasciatus	Kerman	36	CO2	9/24/19	WNV
Fresno	FRWS5101	317	Cx. tarsalis		50	CO2	9/24/19	SLEV
Fresno	FRWS5101	318	Cx. tarsalis		50	CO2	9/24/19	WNV
Fresno	FRWS5302	316	Cx. tarsalis		50	CO2	9/24/19	WNV
Los Angeles	GRLA3027	5911	Cx. quinquefasciatus		29	GRVD	9/20/19	WNV
Los Angeles	SGVA1054	856	Cx. quinquefasciatus	San Dimas	27	GRVD	9/19/19	WNV
Los Angeles	SGVA459	852	Cx. quinquefasciatus	West Covina	15	GRVD	9/19/19	WNV
Los Angeles	SGVA7	883	Cx. quinquefasciatus	Claremont	19	GRVD	9/24/19	WNV
Madera	MADR12	314	Cx. quinquefasciatus	Madera Acres	50	CO2	9/20/19	WNV
Madera	MADR195	313	Cx. tarsalis		40	CO2	9/20/19	WNV
Merced	MERC201720	700	Cx. tarsalis	Hilmar-Irwin	10	CO2	9/24/19	SLEV

California Arbovirus Surveillance Bulletin #26

Week 39 Friday, September 27, 2019

Merced	MERC405	711	Cx. tarsalis		50	CO2	9/24/19	WNV
Merced	MERC702	736	Cx. pipiens	McSwain	33	CO2	9/25/19	WNV
Orange	ORCO1005	4198	Cx. quinquefasciatus	Buena Park	45	GRVD	9/24/19	WNV
Orange	ORCO1005	4295	Cx. quinquefasciatus	Buena Park	50	GRVD	9/25/19	WNV
Orange	ORCO1005	4318	Cx. quinquefasciatus	Buena Park	35	GRVD	9/25/19	WNV
Orange	ORCO1040	4246	Cx. quinquefasciatus	Orange	32	GRVD	9/24/19	WNV
Orange	ORCO218	4313	Cx. quinquefasciatus	Anaheim	52	GRVD	9/25/19	WNV
Orange	ORCO218	4315	Cx. quinquefasciatus	Anaheim	17	GRVD	9/25/19	WNV
Orange	ORCO218	4316	Cx. quinquefasciatus	Anaheim	23	GRVD	9/25/19	WNV
Orange	ORCO218	4319	Cx. quinquefasciatus	Anaheim	49	GRVD	9/25/19	WNV
Orange	ORCO218	4324	Cx. quinquefasciatus	Anaheim	40	GRVD	9/25/19	WNV
Orange	ORCO218	4327	Cx. quinquefasciatus	Anaheim	40	GRVD	9/25/19	WNV
Orange	ORCO218	4328	Cx. quinquefasciatus	Anaheim	39	GRVD	9/25/19	WNV
Orange	ORCO218	4331	Cx. quinquefasciatus	Anaheim	41	GRVD	9/25/19	WNV
Orange	ORCO235	4199	Cx. quinquefasciatus	Stanton	51	GRVD	9/24/19	WNV
Orange	ORCO243	4268	Cx. quinquefasciatus	Anaheim	21	GRVD	9/24/19	WNV
Orange	ORCO304	4242	Cx. quinquefasciatus	Placentia	27	GRVD	9/24/19	WNV
Orange	ORCO322	4273	Cx. quinquefasciatus	Garden Grove	13	GRVD	9/24/19	WNV
Orange	ORCO52	4265	Cx. quinquefasciatus	Anaheim	17	GRVD	9/24/19	WNV
Orange	ORCO82	4258	Cx. quinquefasciatus	Cypress	27	BGSENT	9/24/19	WNV
Placer	PLCR516	2467	Cx. stigmatosoma		13	CO2	9/24/19	WNV
Riverside	COAV132	5366	Cx. tarsalis		50	CO2	9/24/19	SLEV
Riverside	COAV27	5345	Cx. tarsalis	Oasis	50	CO2	9/24/19	SLEV
Riverside	COAV537	5319	Cx. tarsalis		11	CO2	9/24/19	SLEV
Riverside	COAV68	5348	Cx. tarsalis		50	CO2	9/24/19	SLEV
Riverside	COAV726	5396	Cx. quinquefasciatus	Palm Springs	45	BGSENT	9/25/19	WNV
Riverside	NWST295	193	Cx. tarsalis	Eastvale	19	CO2	9/18/19	SLEV
Sacramento	SAYO222001	6111	Cx. pipiens	Sacramento	45	CO2	9/24/19	WNV
San Joaquin	SJCM8029	2404	Cx. pipiens		50	CO2	9/26/19	WNV
San Joaquin	SJCM8029	2405	Cx. pipiens		50	CO2	9/26/19	WNV
San Joaquin	SJCM8206	2288	Cx. tarsalis		50	CO2	9/24/19	WNV
San Joaquin	SJCM8218	2417	Cx. pipiens		50	CO2	9/26/19	WNV
San Joaquin	SJCM8218	2418	Cx. pipiens		30	CO2	9/26/19	WNV
San Joaquin	SJCM8222	2258	Cx. pipiens	Stockton	18	CO2	9/24/19	WNV
Stanislaus	TRLK1225	1263	Cx. pipiens	Turlock	50	CO2	9/24/19	WNV
Stanislaus	TRLK1301	1234	Cx. pipiens	Denair	50	CO2	9/19/19	WNV
Stanislaus	TRLK18102	1293	Cx. tarsalis		50	CO2	9/24/19	SLEV
Stanislaus	TRLK19518	1245	Cx. pipiens		41	CO2	9/20/19	SLEV
Stanislaus	TRLK19522	1255	Cx. pipiens	Turlock	30	CO2	9/20/19	WNV
Stanislaus	TRLK516	1250	Cx. pipiens		50	CO2	9/20/19	WNV
Tulare	DLTA6404	3516	Cx. tarsalis		45	CO2	9/24/19	SLEV
Tulare	DLTA6404	3518	Cx. quinquefasciatus		50	CO2	9/24/19	SLEV
Tulare	DLTA8421	3498	Cx. tarsalis	Visalia	40	CO2	9/20/19	SLEV
Tulare	DLTA8422	3531	Cx. quinquefasciatus	Visalia	50	BGSENT	9/24/19	WNV
Tulare	DLTA8423	3541	Cx. quinquefasciatus	Visalia	50	BGSENT	9/24/19	SLEV
Tulare	DLTA8527	3549	Cx. quinquefasciatus	Visalia	10	BGSENT	9/24/19	WNV
Tulare	DLTA8631	3561	Cx. quinquefasciatus	Farmersville	10	GRVD	9/25/19	WNV
Tulare	TLRE192434	56	Cx. quinquefasciatus		50	GRVD	9/6/19	SLEV
Tulare	TLRE192435	66	Cx. quinquefasciatus	Tulare	31	GRVD	9/25/19	WNV
Tulare	TLRE202404	57	Cx. quinquefasciatus	Tulare	19	GRVD	9/11/19	WNV
Tulare	TLRE202409	47	Cx. quinquefasciatus	Tulare	50	GRVD	9/5/19	SLEV
Tulare	TLRE202411	51	Cx. quinquefasciatus	Tulare	50	GRVD	9/6/19	WNV
Yolo	SAYO115008	6142	Cx. tarsalis		50	CO2	9/24/19	WNV

California Arbovirus Surveillance Bulletin #26

Week 39 Friday, September 27, 2019

Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01	Band 02
Los Angeles	GRLA2371	South El Monte	9/18/2019	WNV	3432	
Los Angeles	LACW1007	Baldwin Hills	9/19/2019	WNV	1635	
Los Angeles	LACW1009	Los Angeles	9/18/2019	WNV	1637	1640
Los Angeles	LACW1012	Venice	9/18/2019	WNV	1647	
Sacramento	SAYO203023	Elverta	9/16/2019	WNV	2664	
San Benito	SBVC0100	Hollister	9/23/2019	WNV	2167	
Ventura	VENT0600	Fillmore	9/17/2019	WNV	1244	
Yolo	SAYO116006	Knights Landing	9/16/2019	WNV	2671	

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.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