

## California Arbovirus Surveillance Bulletin #28

Week 43 Friday, October 23, 2020



### Weekly Update

#### **Humans**

##### West Nile virus

A total of 12 human cases of West Nile virus (WNV) illness were reported this week from 6 counties: Los Angeles (3), Merced (1), Orange (3), San Bernardino (1), Stanislaus (3), and Tulare (1). **This is the first WNV case reported from San Bernardino County this year.** In 2020, a total of 135 human WNV cases have been reported from 21 counties. Of the 135 cases, 100 (74%) had neuroinvasive illness and 5 (3.7%) were fatal. The median age of the individuals was 60 years, and 85 (63%) were male. Dates of symptom onset ranged from June 2 to October 9. In addition to the 135 cases, 13 asymptomatic WNV infections have been reported from Fresno (2), Los Angeles (3), Merced (1), Orange (1), Sacramento (2), San Joaquin (1), and Stanislaus (3) counties. At this time last year, 169 human WNV cases had been reported from 20 counties.

##### St. Louis encephalitis virus

**One human case of St. Louis encephalitis virus (SLEV) disease was reported this week from San Joaquin County. This is the first case of SLEV disease reported from San Joaquin County since 1973.** In 2020, two cases of SLEV disease have been reported from two counties: Madera (1) and San Joaquin (1). At this time last year, five human SLEV cases had been reported from three counties.

#### **Dead Birds**

A total of 17 WNV positive dead birds were reported this week from 6 counties: Contra Costa (3), Los Angeles (6), Orange (4), Sacramento (2), Santa Clara (1), and Yolo (1). In 2020, a total of 333 WNV positive dead birds have been reported from 20 counties. At this time last year, 205 WNV positive dead birds had been reported from 21 counties.

#### **Mosquito Pools**

##### West Nile virus

A total of 64 WNV positive mosquito pools were reported this week from 8 counties: Fresno (4), Los Angeles (24), Orange (28), Riverside (1), San Joaquin (2), Santa Barbara (1), Stanislaus (1), and Tulare (3). **This is the first detection of WNV activity in Santa Barbara County this year.** In 2020, a total of 2,598 WNV positive mosquito pools have been reported from 28 counties. At this time last year, 3,264 WNV positive mosquito pools had been reported from 24 counties.

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### St. Louis encephalitis virus

A total of 5 SLEV positive mosquito pools were reported this week from Fresno County. In 2020, a total of 509 SLEV positive mosquito pools have been reported from 9 counties: Fresno (232), Imperial (10), Kern (31), Kings (11), Madera (17), Riverside (159), San Joaquin (2), Stanislaus (2), and Tulare (45). At this time last year, 355 SLEV positive mosquito pools had been reported from 12 counties.

### **Sentinel Chickens**

A total of 6 WNV positive chickens were reported this week from Los Angeles County. In 2020, a total of 129 chickens have tested positive for WNV from 15 counties. At this time last year, 133 WNV positive chickens had been reported from 17 counties.

2019 & 2020 YTD West Nile Virus Comparisons		
	2019	2020
Total # Dead Bird Reports	5,147	5,230
# Positive Counties	33	38
# Human Cases	169	135
# Positive Dead Birds / # Tested	205 / 1,658	333 / 1,472
# Positive Mosquito Pools / # Tested	3,264 / 41,712	2,598 / 38,770
# Seroconversions / # Tested	133 / 8,517	129 / 5,939

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<b>YTD WNV Activity by Element and County, 2020</b>					
<b>County</b>	<b>Humans</b>	<b>Horses</b>	<b>Dead Birds</b>	<b>Mosquito Pools</b>	<b>Sentinel Chickens</b>
Alameda			6		
Alpine			1		
Amador		1			
Butte	4	1	4	28	23
Contra Costa	3		22	13	4
El Dorado	1				
Fresno	6		5	321	
Glenn	1	1		3	2
Imperial				3	
Kern	2			83	
Kings	1	1		87	
Lake				12	2
Los Angeles	37		100	408	31
Madera	6			77	
Marin			1		
Merced	10	1	2	42	14
Modoc		1			
Napa			1	2	
Nevada		1			
Orange	13		43	326	
Placer	1		2	58	
Riverside	3	2	2	64	
Sacramento	1		91	115	4
San Benito					1
San Bernardino	1	1		13	
San Diego	1			2	
San Joaquin		4	4	260	
San Mateo			1		
Santa Barbara				1	
Santa Clara			7	8	
Shasta				25	3
Solano			3	8	3
Stanislaus	35	3	4	351	
Sutter	1			20	26
Tehama	1				5
Tulare	5		5	189	9
Yolo	2		29	77	1
Yuba				2	1
<b>Totals</b>	<b>135</b>	<b>17</b>	<b>333</b>	<b>2,598</b>	<b>129</b>

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## TESTING SUMMARIES

### Humans

		WNV	SLEV	WEEV
Human Cases	Week	12	1	0
	YTD	135	2	0

### Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	39	17
	YTD	1,472	333

### Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	153	6	0	0
	YTD	5,939	129	0	0

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### Mosquitoes

		Positive / Total Tested					
Mosquito Pools	Week	WNV	SLEV	WEEV	CHIK	DENV	ZIKA
		64 / 1,096	5 / 955	0 / 821	0 / 40	0 / 40	0 / 40
		2,598 / 38,770	509 / 38,482	0 / 33,812	0 / 596	0 / 596	0 / 596

## NEW POSITIVES

### Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Contra Costa	Contra Costa MVCD	Brentwood	94513	American Crow	10/8/2020	WNV
Contra Costa	Contra Costa MVCD	Brentwood	94513	American Crow	10/14/2020	WNV
Contra Costa	Contra Costa MVCD	Concord	94518	California Scrub-Jay	10/6/2020	WNV
Los Angeles	Greater Los Angeles Co VCD - SFS	Signal Hill	90755	American Crow	10/8/2020	WNV
Los Angeles	Los Angeles Co West VCD	Culver City	90230	American Crow	10/10/2020	WNV
Los Angeles	Los Angeles Co West VCD	Los Angeles	90020	American Crow	10/15/2020	WNV
Los Angeles	Los Angeles Co West VCD	Los Angeles	90034	American Crow	10/13/2020	WNV
Los Angeles	Los Angeles Co West VCD	Los Angeles	90068	American Crow	10/13/2020	WNV
Los Angeles	Los Angeles Co West VCD	Torrance	90505	American Crow	10/10/2020	WNV
Orange	Orange Co VCD	Anaheim	92804	American Crow	10/13/2020	WNV
Orange	Orange Co VCD	Anaheim	92805	American Crow	10/1/2020	WNV
Orange	Orange Co VCD	Anaheim	92805	American Crow	10/7/2020	WNV
Orange	Orange Co VCD	Anaheim	92806	American Crow	10/8/2020	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95815	California Scrub-Jay	10/9/2020	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95821	California Scrub-Jay	10/15/2020	WNV
Santa Clara	Santa Clara Co VCD	Saratoga	95070	American Crow	10/15/2020	WNV
Yolo	Sacramento-Yolo MVCD	Davis	95616	American Crow	10/12/2020	WNV

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### Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Fresno	CNSL1417	1353	Cx. quinquefasciatus	Clovis	50	GRVD	10/13/2020	SLEV
Fresno	CNSL2520	1659	Cx. quinquefasciatus	Sanger	50	GRVD	10/15/2020	SLEV
Fresno	CNSL5038	1358	Cx. quinquefasciatus	Kingsburg	31	GRVD	10/13/2020	WNV
Fresno	CNSL6235	1677	Cx. quinquefasciatus	Riverdale	50	GRVD	10/16/2020	SLEV
Fresno	CNSL9122	1672	Cx. quinquefasciatus	Fresno	41	GRVD	10/16/2020	WNV
Fresno	FRNO176	648	Cx. quinquefasciatus	Fresno	50	GRVD	10/13/2020	SLEV
Fresno	FRWS200003	479	Cx. tarsalis	Dos Palos	50	CO2	10/20/2020	SLEV
Fresno	FRWS500011	470	Cx. tarsalis	Tranquillity	50	CO2	10/20/2020	WNV
Fresno	FRWS5110	474	Cx. tarsalis	Tranquillity	50	CO2	10/20/2020	WNV
Los Angeles	GRLA2115	730	Cx. quinquefasciatus	Bell	50	GRVD	10/15/2020	WNV
Los Angeles	GRLA2166	745	Cx. quinquefasciatus	Montebello	50	GRVD	10/15/2020	WNV
Los Angeles	GRLA2268	742	Cx. quinquefasciatus	Cerritos	26	GRVD	10/15/2020	WNV
Los Angeles	GRLA2270	722	Cx. quinquefasciatus	Bellflower	23	GRVD	10/15/2020	WNV
Los Angeles	GRLA2346	746	Cx. quinquefasciatus	Montebello	50	GRVD	10/15/2020	WNV
Los Angeles	GRLA2500	6020	Cx. quinquefasciatus	Los Angeles	50	GRVD	10/15/2020	WNV
Los Angeles	GRLA2574	6028	Cx. quinquefasciatus	Sherman Oaks	50	GRVD	10/16/2020	WNV
Los Angeles	GRLA2866	5998	Cx. quinquefasciatus	Studio City	50	GRVD	10/14/2020	WNV
Los Angeles	GRLA2866	6000	Cx. quinquefasciatus	Studio City	38	GRVD	10/14/2020	WNV
Los Angeles	GRLA2866	6003	Cx. quinquefasciatus	Studio City	35	GRVD	10/14/2020	WNV
Los Angeles	GRLA2866	6005	Cx. quinquefasciatus	Studio City	38	GRVD	10/14/2020	WNV
Los Angeles	GRLA2936	6027	Cx. quinquefasciatus	Burbank	48	GRVD	10/15/2020	WNV
Los Angeles	GRLA2937	6026	Cx. quinquefasciatus	Burbank	50	GRVD	10/15/2020	WNV
Los Angeles	GRLA2952	736	Cx. quinquefasciatus	South Whittier	44	GRVD	10/15/2020	WNV
Los Angeles	GRLA3034	6037	Cx. quinquefasciatus	North Hills	30	BGSENT	10/16/2020	WNV
Los Angeles	GRLA3058	724	Cx. quinquefasciatus	Lynwood	41	GRVD	10/15/2020	WNV
Los Angeles	LACW1054	612	Cx. quinquefasciatus	Inglewood	28	CO2	10/15/2020	WNV
Los Angeles	SGVA1071	1275	Cx. quinquefasciatus	Monterey Park	50	GRVD	10/20/2020	WNV
Los Angeles	SGVA450	1251	Cx. quinquefasciatus	La Puente	50	GRVD	10/20/2020	WNV
Los Angeles	SGVA505	1277	Cx. quinquefasciatus	Monterey Park	50	GRVD	10/20/2020	WNV
Los Angeles	SGVA686	1252	Cx. quinquefasciatus	West Covina	50	GRVD	10/20/2020	WNV
Los Angeles	SGVA688	1276	Cx. quinquefasciatus	Alhambra	50	GRVD	10/20/2020	WNV
Los Angeles	SGVA887	1278	Cx. quinquefasciatus	Alhambra	50	GRVD	10/20/2020	WNV
Los Angeles	SGVA960	1271	Cx. quinquefasciatus	Rosemead	43	GRVD	10/20/2020	WNV
Orange	ORCO1009	4941	Cx. quinquefasciatus	Garden Grove	40	GRVD	10/20/2020	WNV
Orange	ORCO1040	4753	Cx. quinquefasciatus	Orange	38	GRVD	10/7/2020	WNV
Orange	ORCO168	4977	Cx. quinquefasciatus	Santa Ana	20	GRVD	10/20/2020	WNV
Orange	ORCO208	4758	Cx. quinquefasciatus	Santa Ana	13	CO2	10/7/2020	WNV
Orange	ORCO208	5010	Cx. quinquefasciatus	Santa Ana	9	CO2	10/21/2020	WNV
Orange	ORCO218	4684	Cx. quinquefasciatus	Anaheim	31	GRVD	10/6/2020	WNV
Orange	ORCO218	4693	Cx. quinquefasciatus	Anaheim	37	GRVD	10/6/2020	WNV
Orange	ORCO218	4721	Cx. quinquefasciatus	Anaheim	29	GRVD	10/7/2020	WNV
Orange	ORCO218	4731	Cx. quinquefasciatus	Anaheim	31	GRVD	10/7/2020	WNV
Orange	ORCO218	4734	Cx. quinquefasciatus	Anaheim	19	GRVD	10/7/2020	WNV
Orange	ORCO218	4937	Cx. quinquefasciatus	Anaheim	37	GRVD	10/20/2020	WNV
Orange	ORCO227	4997	Cx. quinquefasciatus	Brea	33	GRVD	10/20/2020	WNV
Orange	ORCO236	4724	Cx. quinquefasciatus	Garden Grove	45	GRVD	10/7/2020	WNV
Orange	ORCO236	4725	Cx. quinquefasciatus	Garden Grove	44	GRVD	10/7/2020	WNV
Orange	ORCO241	4748	Cx. quinquefasciatus	Stanton	51	GRVD	10/7/2020	WNV
Orange	ORCO242	4737	Cx. quinquefasciatus	Fountain Valley	31	GRVD	10/7/2020	WNV
Orange	ORCO243	4728	Cx. quinquefasciatus	Anaheim	24	GRVD	10/7/2020	WNV

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Orange	ORCO244	4980	Cx. quinquefasciatus	Garden Grove	38	GRVD	10/20/2020	WNV
Orange	ORCO29	4740	Cx. quinquefasciatus	Santa Ana	53	GRVD	10/7/2020	WNV
Orange	ORCO29	4763	Cx. quinquefasciatus	Santa Ana	30	CO2	10/7/2020	WNV
Orange	ORCO303	4749	Cx. quinquefasciatus	Garden Grove	43	GRVD	10/7/2020	WNV
Orange	ORCO303	4973	Cx. quinquefasciatus	Garden Grove	50	GRVD	10/20/2020	WNV
Orange	ORCO319	4696	Cx. quinquefasciatus	Buena Park	31	GRVD	10/7/2020	WNV
Orange	ORCO323	4929	Cx. quinquefasciatus	Buena Park	40	GRVD	10/20/2020	WNV
Orange	ORCO33	4760	Cx. quinquefasciatus	Westminster	19	GRVD	10/7/2020	WNV
Orange	ORCO41	4747	Cx. quinquefasciatus	Anaheim	31	GRVD	10/7/2020	WNV
Orange	ORCO52	4743	Cx. quinquefasciatus	Anaheim	38	GRVD	10/7/2020	WNV
Orange	ORCO68	4764	Cx. quinquefasciatus	San Juan Capistrano	6	CO2	10/7/2020	WNV
Riverside	COAV51	4647	Cx. tarsalis	North Shore	33	CO2	10/20/2020	WNV
San Joaquin	SJCM8208	2687	Cx. pipiens	Lodi	20	CO2	10/22/2020	WNV
San Joaquin	SJCM8232	2646	Cx. pipiens	Oakdale	52	CO2	10/20/2020	WNV
Santa Barbara	SBCO5000	198	Cx. quinquefasciatus	Santa Barbara	47	GRVD	10/9/2020	WNV
Stanislaus	EAST1088	20614	Cx. pipiens	Modesto	35	GRVD	10/14/2020	WNV
Tulare	DLTA8422	2771	Cx. quinquefasciatus	Goshen	50	BGSENT	10/20/2020	WNV
Tulare	DLTA8422	2782	Cx. quinquefasciatus	Goshen	50	BGSENT	10/20/2020	WNV
Tulare	DLTA8422	2785	Cx. quinquefasciatus	Goshen	42	BGSENT	10/20/2020	WNV

### Sentinel Chickens

County	Site Code	Nearest City	Date Bled	Virus	Band 01	Band 02	Band 03
Los Angeles	LONG0002	Long Beach	10/12/2020	WNV	1121	1123	1124
Los Angeles	LONG0003	Long Beach	10/12/2020	WNV	1131	1136	1140

## 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.

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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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*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.maps.calsurv.org](http://www.maps.calsurv.org). For national information on WNV and other arboviruses, please visit the CDC websites: [www.cdc.gov](http://www.cdc.gov) and [www.cdc.gov/arbonet/maps/ADB\\_Diseases\\_Map/index.html](http://www.cdc.gov/arbonet/maps/ADB_Diseases_Map/index.html)

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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).*