

California Arbovirus Surveillance Bulletin #32

Week 41 Friday, October 14, 2016



Weekly Update

Humans

West Nile virus

A total of 17 new cases of West Nile virus (WNV) illness were reported this week from the following 7 counties: Kern (2), Kings (1), Los Angeles (9), Sacramento (1), San Diego (1), Solano (1), and Stanislaus (2). To date this year, 327 cases of WNV illness have been reported from 29 counties. Of the 327 case-patients, 242 (74%) had neuroinvasive illness and 11 fatalities have been reported from 8 counties. The median age of the individuals is 60 years (range: 8-91 years) and 201 (61%) are male. Dates of symptom onset range from June 17 to September 26. In addition, 36 asymptomatic WNV-positive blood donors have been reported from Fresno (2), Los Angeles (10), Madera (1), Orange (3), Riverside (1), Sacramento (4), San Diego (2), San Francisco (1), San Luis Obispo (1), Stanislaus (4), Sutter (2), Tehama (1), Tulare (1), and Yolo (3) counties.

St. Louis encephalitis virus

No new cases were reported this week. In 2016, one case of St. Louis encephalitis virus (SLEV) disease has been reported from Sacramento County.

Dead Birds

This week, a total of 18 dead birds tested positive for WNV from the following 9 counties: Contra Costa (4), Los Angeles (5), Orange (2), Placer (1), Sacramento (2), San Diego (1), Santa Clara (1), Stanislaus (1), and Yolo (1). In 2016, 1,322 dead birds have tested positive for WNV from 33 counties, whereas at this time last year, 1,170 WNV positive birds had been reported from 37 counties.

Mosquito Pools

West Nile virus

A total of 19 WNV positive mosquito pools were reported this week from the following 5 counties: Los Angeles (5), Orange (10), Riverside (1), San Joaquin (2), and Stanislaus (1). In 2016, 3,438 WNV positive mosquito pools have been reported from 31 counties, whereas at this time last year, 2,938 WNV positive mosquito pools had been reported from 29 counties.

St. Louis encephalitis virus

No SLEV positive mosquito pools were reported this week. To date this year, 176 SLEV positive mosquito pools have been reported from 8 counties: Fresno (1), Kern (75), Kings (4), Los Angeles (2), Madera (2), Orange (2), Riverside (89), and Tulare (1). At this time last year, 38 SLEV positive mosquito pools had been reported from Riverside County.

Sentinel Chickens

West Nile virus

A total of 9 WNV positive chickens were reported this week from 2 counties: Los Angeles (7) and Sacramento (2). **These are the first WNV positive chickens detected in Sacramento County in 2016.** To date this year, 323 WNV seroconversions have been detected in 77 flocks located in 18 counties, whereas at this time last year, 362 WNV seroconversions had been detected in 87 flocks from 22 counties.

St. Louis encephalitis virus

One SLEV positive chicken was reported this week from a new flock located in Los Angeles County. In 2016, 4 SLEV seroconversions have been detected in 3 flocks located in 2 counties: Los Angeles (2) and San Bernardino (2). At this time last year, 6 SLEV seroconversions had detected in 2 flocks from Riverside County.

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YTD WNV Activity by Element and County, 2016				
County	Humans	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda		11	2	
Butte	21	22	48	38
Colusa	2			9
Contra Costa	1	33	10	5
El Dorado	1	4		
Fresno	9	6	184	
Glenn	5	4	11	10
Imperial			1	
Kern	12		80	
Kings	3	4	118	
Lake	1	4	39	5
Los Angeles	114	117	414	113
Madera	5	5	100	
Marin		5		
Merced		5	12	33
Monterey	1			
Napa		1	4	
Nevada		2		1
Orange	24	82	416	
Placer	5	30	103	7
Riverside	4	16	32	
Sacramento	21	411	455	2
San Bernardino	7	5	79	20
San Diego	13	257	65	9
San Joaquin	7	36	350	
San Mateo		13	5	
Santa Clara	1	87	13	
Santa Cruz		2	3	
Shasta	1	3	12	3
Solano	3	13	16	10
Sonoma		8	2	
Stanislaus	21	14	259	
Sutter	10	10	68	33
Tehama	5			8
Tulare	7	3	260	
Ventura	2	33		
Yolo	12	72	259	4
Yuba	9	4	18	13
Totals	327	1,322	3,438	323

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2015 & 2016 YTD West Nile Virus Comparisons		
	2015	2016
Total # Dead Bird Reports	9,769	8,641
# Positive Counties	40	38
# Human Cases	366	327
# Positive Dead Birds / # Tested	1,170 / 2,860	1,322 / 2,718
# Positive Mosquito Pools / # Tested	2,938 / 34,210	3,438 / 41,001
# Seroconversions / # Tested	362 / 11,013	323 / 9,650

TESTING SUMMARIES

Humans

		WNV	SLE	WEE
Number of Cases Reported	Week	17	0	0
	YTD	327	1	0

Dead Birds

		Total Tested	WNV Positive
Dead Birds	Week	42	18
	YTD	2,718	1,322

Sentinel Chickens

		Total Tested	WNV +	SLEV +	WEEV +
Chicken Sera	Week	298	9	1	0
	YTD	9,650	323	4	0

Mosquitoes

		Positive / Total Tested					
		WNV	SLEV	WEEV	CHIK	DENV	ZIKA
Mosquito Pools	Week	19 / 835	0 / 535	0 / 535	0 / 65	0 / 65	0 / 65
	YTD	3,438 / 41,001	176 / 26,502	0 / 26,502	0 / 643	0 / 643	0 / 643

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NEW POSITIVES

Dead Birds

County	Agency	City	Zip Code	Species	Date	Virus
Contra Costa	Contra Costa MVCD	Concord	94520	American	10/11/2016	WNV
Contra Costa	Contra Costa MVCD	Walnut Creek	94598	American	10/7/2016	WNV
Contra Costa	Contra Costa MVCD	Walnut Creek	94598	American	10/10/2016	WNV
Contra Costa	Contra Costa MVCD	Walnut Creek	94598	American	10/11/2016	WNV
Los Angeles	Greater Los Angeles Co VCD - SFS	Lakewood	90713	American	9/6/2016	WNV
Los Angeles	Greater Los Angeles Co VCD - SFS	Long Beach	90808	American	8/25/2016	WNV
Los Angeles	Los Angeles Co Veterinarian	Glendale	91201	American	9/27/2016	WNV
Los Angeles	Los Angeles Co Veterinarian	Wilmington	90744	American	10/6/2016	WNV
Los Angeles	Los Angeles Co West VCD	Marina Del Rey	90292	American	10/5/2016	WNV
Orange	Orange Co VCD	Rancho Santa	92679	American	10/4/2016	WNV
Orange	Orange Co VCD	Santa Ana	92701	American	10/5/2016	WNV
Placer	Placer MVCD	Auburn	95603	Unknown	10/5/2016	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95822	American	9/30/2016	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95864	American	9/21/2016	WNV
San Diego	San Diego Co VCP	Escondido	92027	American	10/12/2016	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95119	American	10/2/2016	WNV
Stanislaus	Turlock MAD	Turlock	95380	Unknown	10/7/2016	WNV
Yolo	Sacramento-Yolo MVCD	Davis	95618	American	10/3/2016	WNV

Mosquitoes

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Los Angeles	GRLA2035	5837	Cx. quinquefasciatus	Tarzana	18	GRVD	10/7/2016	WNV
Los Angeles	GRLA2636	5833	Cx. quinquefasciatus	Van Nuys	50	GRVD	10/7/2016	WNV
Los Angeles	LACW1083	480	Cx. tarsalis	Torrance	50	CO2	10/6/2016	WNV
Los Angeles	SGVA21	597	Cx. tarsalis	Azusa	2	GRVD	10/11/2016	WNV
Los Angeles	SGVA898	605	Cx. quinquefasciatus	San Gabriel	50	GRVD	10/12/2016	WNV
Orange	ORCO1000	4268	Cx. quinquefasciatus	Placentia	10	CO2	10/6/2016	WNV
Orange	ORCO1011	4285	Cx. quinquefasciatus	La Habra	50	GRVD	10/6/2016	WNV
Orange	ORCO1011	4286	Cx. quinquefasciatus	La Habra	27	GRVD	10/6/2016	WNV
Orange	ORCO1015	4271	Cx. quinquefasciatus	Orange	12	CO2	10/6/2016	WNV
Orange	ORCO1031	4315	Cx. quinquefasciatus	Los Alamitos	25	GRVD	10/12/2016	WNV
Orange	ORCO1031	4316	Cx. quinquefasciatus	Los Alamitos	24	GRVD	10/12/2016	WNV
Orange	ORCO218	4218	Cx. quinquefasciatus	Anaheim	29	GRVD	10/5/2016	WNV
Orange	ORCO238	4274	Cx. quinquefasciatus	Anaheim	45	GRVD	10/6/2016	WNV
Orange	ORCO3	4253	Cx. quinquefasciatus	Garden Grove	20	GRVD	10/6/2016	WNV
Orange	ORCO55	4337	Cx. quinquefasciatus	Mission Viejo	20	GRVD	10/12/2016	WNV
Riverside	NWST219	325	Cx. quinquefasciatus	Norco	50	CO2	10/7/2016	WNV
San Joaquin	SJCM8008	2701	Cx. tarsalis	Manteca	55	CO2	10/11/2016	WNV
San Joaquin	SJCM8197	2731	Cx. pipiens	Stockton	11	CO2	10/12/2016	WNV
Stanislaus	TRLK1202	1377	Cx. pipiens	Hughson	46	CO2	10/11/2016	WNV

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Sentinel Chickens

County	Site Code	City	Date Bled		Band 01	Band 02
Los Angeles	ANTV2667	Palmdale	10/5/2016	SLEV	1039	
Los Angeles	ANTV3247	Lancaster	10/5/2016	WNV	1004	1006
Los Angeles	ANTV8652	Palmdale	10/5/2016	WNV	1031	
Los Angeles	GRLA2056	Long Beach	10/4/2016	WNV	1225	
Los Angeles	GRLA2132	Wilmington	10/4/2016	WNV	1214	1217
Los Angeles	GRLA2371	S. El Monte	9/20/2016	WNV	1231	
Sacramento	SAYO261013	Isleton	10/6/2016	WNV	1335	1354

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.

Dead Birds

Oral swab samples from corvids are collected onto RNA preservation cards and tested by the University of California, Davis Arbovirus Research and Training laboratory (DART) 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.

Sentinel Chickens:

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

Mosquito Pools:

Mosquito pools submitted to DART are tested for West Nile, western equine encephalomyelitis, and St. Louis encephalitis viral RNA using a Taqman multiplex RT-PCR. Invasive *Aedes* mosquitoes (*Ae. aegypti* and *Ae. albopictus*) are also tested for chikungunya, dengue, and Zika viral RNA.

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Website Information: For updated information on WNV in California, please visit the California WNV website, www.westmile.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 website, www.cdc.gov, and the USGS website, www.westmilemaps.usgs.gov
