

## California Arbovirus Surveillance Bulletin #30

Week 43 Friday, October 27, 2017



### Weekly Update

#### **Humans**

A total of 43 new human cases of West Nile virus (WNV) illness were reported this week from the following 7 counties: Kern (3), Los Angeles (29), Orange (2), Riverside (3), San Bernardino (3), San Joaquin (2), and Stanislaus (1). To date this year, 403 human cases of WNV illness have been reported from 23 counties. Of the 403 case-patients, 304 (75%) had neuroinvasive disease and 24 fatalities have been reported from Kern (1), Los Angeles (17), Orange (1), San Bernardino (2), Stanislaus (1), and Yolo (2) counties. The median age of the individuals is 62 years (range: 4–96 years) and 262 (65%) are male. Dates of symptom onset ranged from March 16 to October 12. In addition to the 403 symptomatic cases, 30 asymptomatic WNV-positive blood donors have been reported from Fresno (1), Humboldt (1), Los Angeles (11), Orange (5), Placer (1), San Bernardino (8), and Stanislaus (3) counties. As of this date in 2016, 370 human WNV cases had been reported from 29 counties.

#### **Dead Birds**

A total of seven WNV positive dead birds were reported this week from the following four counties: San Diego (1), San Luis Obispo (1), Santa Clara (4), and Ventura (1). To date this year, 481 birds from 39 counties have tested positive for WNV. As of this date in 2016, 1,340 WNV positive birds had been reported from 33 counties.

#### **Mosquito Pools**

##### West Nile Virus

A total of 21 WNV positive mosquito pools were reported this week from the following 5 counties: Contra Costa (1), Los Angeles (16), Riverside (1), San Bernardino (1), and Solano (2). To date this year, 3,325 WNV positive mosquito pools have been reported from 26 counties. As of this date in 2016, 3,481 WNV positive mosquito pools had been reported from 31 counties.

##### St. Louis Encephalitis Virus

No new positives were reported this week. To date this year, 179 SLEV positive mosquito pools have been reported from 14 counties: Butte (1), Fresno (63), Imperial (3), Kern (18), Kings (21), Los Angeles (1), Madera (10), Merced (2), Placer (1), Riverside (23), San Bernardino (2), Stanislaus (27), Tulare (6), and Yuba (1). As of this date in 2016, 179 SLEV positive mosquito pools had been reported from 8 counties.

#### **Sentinel Chickens**

##### West Nile Virus

One WNV seroconversion was reported this week from Yolo County. To date this year, 297 WNV seroconversions have been reported from 18 counties. As of this date in 2016, 335 WNV seroconversions had been detected from 19 counties.

##### St. Louis Encephalitis Virus

No SLEV seroconversions were reported this week. To date this year, 9 SLEV positive chickens have been reported from Los Angeles (2), Merced (1), and San Bernardino (6) counties. As of this date in 2016, 4 SLEV seroconversions had been detected in 2 counties.

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YTD WNV Activity by Element and County, 2017					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda			2		
Butte	2		5	47	31
Calaveras					1
Colusa			1		
Contra Costa	2	1	19	9	7
El Dorado			2		
Fresno	3	1	5	167	
Glenn		1	2	12	1
Humboldt			1		
Imperial	3				
Inyo	4			9	
Kern	25	2	3	152	
Kings	1		1	79	
Lake			4	17	2
Lassen		3			
Los Angeles	216	1	93	559	138
Madera	1		1	62	
Marin			1		
Merced			1	40	19
Monterey			1		
Nevada			1		
Orange	33		52	262	
Placer			3	59	5
Plumas		1			
Riverside	23	4	40	195	
Sacramento	1	1	86	153	2
San Benito					1
San Bernardino	39		45	292	35
San Diego	2	1	36	9	
San Francisco	1		1		
San Joaquin	14	2	7	242	
San Luis Obispo			3		
San Mateo			1		
Santa Barbara			1		4
Santa Clara			12		
Santa Cruz			1		
Shasta	1		2		4
Solano			4	9	11
Sonoma			5	1	
Stanislaus	21		6	196	
Sutter	1		3	16	22
Tehama	1	1			4
Tuolumne		1			
Tulare	4		8	630	
Ventura	1		2	3	
Yolo	4		14	87	2
Yuba			6	18	8
<b>Totals</b>	<b>403</b>	<b>20</b>	<b>481</b>	<b>3,325</b>	<b>297</b>

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.calsurv.org](http://www.calsurv.org). For national information on WNV and other arboviruses, please visit the CDC website, [www.cdc.gov](http://www.cdc.gov), and the USGS website, [www.westnilemaps.usgs.gov](http://www.westnilemaps.usgs.gov)

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2016 & 2017 YTD West Nile Virus Comparisons		
	2016	2017
Total # Dead Bird Reports	8,790	7,195
# Positive Counties	38	47
# Human Cases	370	403
# Positive Dead Birds / # Tested	1,340 / 2,759	481 / 1,876
# Positive Mosquito Pools / # Tested	3,481 / 42,165	3,325 / 42,637
# Seroconversions / # Tested	335 / 10,170	297 / 10,537

### TESTING SUMMARIES

#### Humans

		WNV	SLE	WEE
Human Cases	Week	43	0	0
	YTD	403	0	0

#### Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	29	7
	YTD	1,876	481

#### Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	256	1	0	0
	YTD	10,537	297	9	0

#### Mosquitoes

		Positive / Total Tested					
Mosquito Pools	Week	WNV	SLEV	WEEV	CHIK	DENV	ZIKA
		21 / 637	0 / 583	0 / 582	0 / 69	0 / 69	0 / 69
		3,325 / 42,637	179 / 34,726	0 / 32,933	0 / 1,710	0 / 1,710	0 / 1,710

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### New Positives

#### Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
San Diego	San Diego Co VCP	La Mesa	91942	American Crow	10/23/2017	WNV
San Luis Obispo	San Luis Obispo Public Health Lab	Atascadero	93422	American Crow	10/10/2017	WNV
Santa Clara	Santa Clara Co VCD	Los Altos	94022	American Crow	10/18/2017	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95129	American Crow	10/16/2017	WNV
Santa Clara	Santa Clara Co VCD	Los Altos	94022	American Crow	10/13/2017	WNV
Santa Clara	Santa Clara Co VCD	Gilroy	95020	American Robin	10/21/2017	WNV
Ventura	Ventura Co Env Health Dept	Simi Valley	93063	American Crow	10/10/2017	WNV

#### Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Contra Costa	CNTR2302	552	Cx. tarsalis	Martinez	50	CO2	10/23/17	WNV
Los Angeles	GRLA2065	936	Cx. quinquefasciatus	Gardena	32	GRVD	10/19/17	WNV
Los Angeles	GRLA2221	927	Cx. quinquefasciatus	Rowland Heights	39	GRVD	10/18/17	WNV
Los Angeles	GRLA2301	949	Cx. quinquefasciatus	Willowbrook	50	GRVD	10/20/17	WNV
Los Angeles	GRLA2321	935	Cx. quinquefasciatus	Carson	28	GRVD	10/19/17	WNV
Los Angeles	GRLA2416	5876	Cx. quinquefasciatus	Panorama City	50	GRVD	10/18/17	WNV
Los Angeles	GRLA2500	5882	Cx. quinquefasciatus	Los Angeles	14	GRVD	10/19/17	WNV
Los Angeles	GRLA2503	5883	Cx. quinquefasciatus	Los Angeles	50	GRVD	10/19/17	WNV
Los Angeles	GRLA2920	941	Cx. stigmatosoma	Carson	10	CO2	10/19/17	WNV
Los Angeles	GRLA3032	934	Cx. quinquefasciatus	Carson	50	GRVD	10/19/17	WNV
Los Angeles	GRLA3052	929	Cx. quinquefasciatus	La Habra Heights	50	GRVD	10/18/17	WNV
Los Angeles	GRLA3053	928	Cx. quinquefasciatus	Hacienda Heights	50	GRVD	10/18/17	WNV
Los Angeles	LACW1012	329	Cx. quinquefasciatus	Venice	50	GRVD	10/17/17	WNV
Los Angeles	LACW1048	345	Cx. quinquefasciatus	Inglewood	50	CO2	10/19/17	WNV
Los Angeles	SGVA1007	2423	Cx. quinquefasciatus		25	GRVD	10/13/17	WNV
Los Angeles	SGVA761	2393	Cx. quinquefasciatus	El Monte	25	BGSENT	10/9/17	WNV
Los Angeles	SGVA761	2394	Cx. quinquefasciatus	El Monte	15	BGSENT	10/9/17	WNV
Riverside	NWST92	451	Cx. tarsalis	Lake Elsinore	21	CO2	10/12/17	WNV
San Bernardino	WVAL8001	2505	Cx. tarsalis	Corona	50	CO2	10/18/17	WNV
Solano	SOLA295	290	Cx. tarsalis		50	CO2	10/26/17	WNV
Solano	SOLA308	285	Cx. tarsalis	Suisun City	40	CO2	10/26/17	WNV

#### Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01
Yolo	SAYO116006	Knights Landing	10/16/2017	WNV	1356

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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 or confirmation.

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#### **Dead Birds**

Oral swab samples from corvids are collected onto RNA preservation cards and tested by the UC Davis Arbovirus Research and Training laboratory (DART) for West Nile virus by the singleplex qRT-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.

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#### **Sentinel Chickens:**

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

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#### **Mosquito Pools:**

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

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