

California Arbovirus Surveillance Bulletin #38

Week 46 Friday, November 20, 2015



Weekly Update

Humans

A total of 24 new human cases of West Nile virus (WNV) illness were reported this week from the following 5 counties: Los Angeles (15), Orange (4), Riverside (2), San Bernardino (2), and Santa Clara (1). As of November 11, a total of 594 human cases of WNV illness have been reported to the California Department of Public Health from 30 counties; 37 (6%) were fatal. At this time last year, 733 cases had been reported from 31 counties. Of the 594 case-patients, 439 (74%) had neuroinvasive illness. The median age of the individuals is 60 years (range: 5-98 years); 363 (61%) are male. Dates of symptom onset range from May 15 to October 27. In addition, a total of 63 asymptomatic WNV-positive blood donors have been reported this year in 16 local health jurisdictions: Butte (5), Fresno (5), Glenn (2), Kern (1), Los Angeles (16), Merced (1), Napa (1), Orange (4), Placer (1), Riverside (13), Sacramento (2), San Bernardino (6), San Diego (2), Tehama (2), Tulare (1), and Yolo (1).

Dead Birds

A total of 22 WNV positive dead birds were reported this week from the following 4 counties: Los Angeles (6), Orange (3), San Diego (12), and Tulare (1). In 2015, 1,316 birds have tested positive for WNV from 37 counties. At this time last year, 2,417 WNV positive birds had been detected in 36 counties.

Mosquito Pools

A total of 6 WNV positive mosquito pools were reported this week from Los Angeles County. In 2015, 3,280 mosquito pools have tested positive for WNV from 29 counties, and 38 mosquito pools have tested positive for St. Louis encephalitis virus (SLEV) from one county (Riverside). At this time last year, 3,338 WNV mosquito pools had been reported from 30 counties.

Sentinel Chickens

A total of 12 WNV seroconversions were reported this week from 7 flocks located in the following 3 counties: Los Angeles (10), San Diego (1), and Ventura (1). In addition, one SLEV seroconversion was reported from Riverside County. In 2015, 442 WNV seroconversions have been detected among 96 flocks located in 22 counties and 9 SLEV seroconversions have been detected from 2 flocks in Riverside County. At this time last year, 437 WNV positive chickens had been reported from 96 flocks in 23 counties.

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 website, www.cdc.gov, and the USGS website, www.westnilemaps.usgs.gov

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YTD WNV Activity by Element and County, 2015				
County	Humans	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda		16	15	
Butte	53	38	94	37
Colusa	1	3		10
Contra Costa	1	11	8	18
El Dorado		4		
Fresno	7	3	108	
Glenn	19	4	21	10
Humboldt		2		
Kern	11	1	135	
Kings		3	144	
Lake	2	5	31	4
Los Angeles	163	92	286	137
Madera	4	1	21	
Marin	1	3		
Mendocino	1			
Merced	1	3	8	23
Napa		7		
Nevada	2	10		4
Orange	77	79	540	
Placer		21	52	8
Riverside	111	82	158	22
Sacramento	2	103	164	2
San Bernardino	43	25	291	30
San Diego	33	341	42	12
San Joaquin	2	18	208	
San Mateo		22	5	
Santa Barbara		3	1	
Santa Clara	8	231	20	5
Shasta	3	16	48	22
Siskiyou	1			
Solano	1	10	6	7
Sonoma		11	12	
Stanislaus	12	14	84	9
Sutter	2	16	54	36
Tehama	5			18
Trinity		2		
Tulare	7	23	528	
Ventura	6	26		11
Yolo	7	61	173	6
Yuba	8	6	23	11
Totals	594	1,316	3,280	442

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2014 & 2015 YTD West Nile Virus Comparisons		
	2014	2015
Total # Dead Bird Reports	14,302	10,475
# Positive Counties	40	40
# Human Cases	733	594
# Positive Dead Birds / # Tested	2,417 / 3,995	1,316 / 3,128
# Positive Mosquito Pools / # Tested	3,338 / 31,260	3,280 / 36,305
# Seroconversions / # Tested	437 / 14,641	442 / 12,328

TESTING SUMMARIES

Humans

		WNV	SLE	WEE
Human Cases	Week	24	0	0
	YTD	594	0	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	37	22
	YTD	3,128	1,316

Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	296	12	1	0
	YTD	12,328	442	9	0
Mosquito Pools	Week	215	6	0	0
	YTD	36,305	3,280	38	0

NEW POSITIVES

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Los Angeles	Los Angeles Co Veterinarian	Culver City	90232	American Crow	11/10/2015	WNV
Los Angeles	Los Angeles Co Veterinarian	Los Angeles	90045	American Crow	11/16/2015	WNV
Los Angeles	Los Angeles Co Veterinarian	Pasadena	91016	American Crow	11/16/2015	WNV
Los Angeles	Los Angeles Co Veterinarian	Sherman Oaks	91302	American Crow	11/17/2015	WNV
Los Angeles	Los Angeles Co Veterinarian	Valencia	91355	American Crow	11/15/2015	WNV
Los Angeles	Los Angeles Co Veterinarian	Venice	90291	American Crow	11/16/2015	WNV
Orange	Orange Co VCD	Anaheim	92804	American Crow	11/5/2015	WNV
Orange	Orange Co VCD	Anaheim	92805	American Crow	11/4/2015	WNV

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Orange	Orange Co VCD	Irvine	92614	American Crow	11/2/2015	WNV
San Diego	San Diego Co VCP	Chula Vista	91910	American Crow	11/16/2015	WNV
San Diego	San Diego Co VCP	Chula Vista	91910	American Crow	11/19/2015	WNV
San Diego	San Diego Co VCP	Escondido	92025	Sharp-shinned Hawk	11/19/2015	WNV
San Diego	San Diego Co VCP	Escondido	92029	American Crow	11/19/2015	WNV
San Diego	San Diego Co VCP	Lakeside	92040	American Crow	11/18/2015	WNV
San Diego	San Diego Co VCP	Ramona	92065	American Crow	11/19/2015	WNV
San Diego	San Diego Co VCP	Ramona	92065	Common Raven	11/19/2015	WNV
San Diego	San Diego Co VCP	San Diego	92037	American Crow	11/19/2015	WNV
San Diego	San Diego Co VCP	San Diego	92107	American Crow	11/17/2015	WNV
San Diego	San Diego Co VCP	San Diego	92127	American Crow	11/18/2015	WNV
San Diego	San Diego Co VCP	San Diego	92128	American Crow	11/16/2015	WNV
San Diego	San Diego Co VCP	San Diego	92129	Western Scrub-Jay	11/19/2015	WNV
Tulare	Delta VCD	Visalia	93292	Western Scrub-Jay	10/13/2015	WNV

Mosquitoes

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Los Angeles	GRLA3027	5951	Cx. quinquefasciatus	Studio City	24	GRVD	11/13/2015	WNV
Los Angeles	GRLA3039	5952	Cx. quinquefasciatus	Los Angeles	50	GRVD	11/13/2015	WNV
Los Angeles	GRLA3061	785	Cx. quinquefasciatus	Los Angeles	50	GRVD	11/10/2015	WNV
Los Angeles	GRLA3079	5958	Cx. quinquefasciatus	North Hollywood	50	GRVD	11/13/2015	WNV
Los Angeles	SGVA948	459	Cx. quinquefasciatus	La Puente	42	GRVD	11/13/2015	WNV
Los Angeles	SGVA948	460	Cx. quinquefasciatus	La Puente	42	GRVD	11/13/2015	WNV

Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01	Band 02	Band 03	Band 04
Los Angeles	GRLA2615	Newhall	11/9/2015	WNV	5361	5362	5365	5369
Los Angeles	LACW1002	Torrance	10/29/2015	WNV	1409	1412		
Los Angeles	LACW1005	El Segundo	11/5/2015	WNV	1427	1428		
Los Angeles	LACW1006	Playa Del Rey	11/4/2015	WNV	1513			
Los Angeles	LACW1009	Los Angeles	10/29/2015	WNV	1517			
Riverside	COAV0035	Mecca	11/9/2015	SLEV	2549			
San Diego	SAND0450	El Cajon	11/9/2015	WNV	1990			
Ventura	VENT0700	Simi Valley	11/9/2015	WNV	2323			

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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.

Dead Birds

Oral swab samples from corvids are collected onto RNA preservation cards and tested by the UC Davis Center for Vectorborne Diseases (CVEC) 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 submitted to the California Department of Public Health Vector-Borne Disease Laboratory and tested for the presence of antibodies to West Nile, western equine encephalomyelitis, and St. Louis encephalitis viruses by EIA. Positive samples are confirmed by IFA, western-blot, or PRNT.

Mosquito Pools:

Mosquito pools are submitted to CVEC and screened for West Nile, western equine encephalomyelitis, and St. Louis encephalitis viral RNA using a Taqman multiplex RT-PCR. CVEC no longer performs confirmatory testing on PCR-positive pools of *Cx. tarsalis* and *Cx. quinquefasciatus* but will continue to confirm multiplex PCR-positive results for other mosquito species using singleplex RT-PCR.

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