

California Arbovirus Surveillance Bulletin #41

Week 50 Friday, December 18, 2015



Weekly Update

Humans

As of December 16, a total of 707 human cases of West Nile virus (WNV) illness have been reported to the California Department of Public Health from 32 counties; 45 (6%) were fatal. At this time last year, 789 cases had been reported from 31 counties. Of the 707 case-patients, 526 (74%) had neuroinvasive illness. The median age of the individuals is 60 years (range: 5-98 years); 436 (62%) are male. Dates of symptom onset range from May 15 to November 14. In addition, a total of 75 asymptomatic WNV-positive blood donors have been reported this year from 16 counties: Butte (5), Fresno (5), Glenn (2), Kern (1), Los Angeles (26), Merced (1), Napa (1), Orange (5), Placer (1), Riverside (13), Sacramento (2), San Bernardino (6), San Diego (2), Tehama (2), Tulare (2), and Yolo (1).

Dead Birds

A total of 5 WNV positive dead birds were reported this week from three counties: Alameda (1), Los Angeles (3), and San Diego (1). In 2015, 1,345 birds have tested positive for WNV from 37 counties. At this time last year, 2,437 WNV positive birds had been detected in 36 counties.

Mosquito Pools

No positive mosquito pools were reported this week. In 2015, 3,328 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, 3,340 WNV positive mosquito pools had been reported from 30 counties.

Sentinel Chickens

No new seroconversions were reported this week. In 2015, 449 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, 443 WNV positive chickens had been reported from 97 flocks in 23 counties.

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

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YTD WNV Activity by Element and County, 2015				
County	Humans	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda		19	16	
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		
Imperial	1			
Kern	11	1	135	
Kings		3	144	
Lake	2	5	31	4
Los Angeles	233	103	294	138
Madera	4	1	21	
Marin	1	3		
Mendocino	1			
Merced	1	3	8	23
Napa		7		
Nevada	2	10		4
Orange	84	83	576	
Placer		21	52	8
Riverside	124	82	158	22
Sacramento	4	103	164	2
San Bernardino	49	25	290	36
San Diego	40	351	46	12
San Joaquin	2	18	208	
San Mateo		23	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	13	23	528	
Ventura	6	26		11
Yolo	8	61	173	6
Yuba	8	6	23	11
Totals	707	1,345	3,328	449

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2014 & 2015 YTD West Nile Virus Comparisons		
	2014	2015
Total # Dead Bird Reports	14,542	10,757
# Positive Counties	40	41
# Human Cases	789	707
# Positive Dead Birds / # Tested	2,437 / 4,062	1,345 / 3,211
# Positive Mosquito Pools / # Tested	3,340 / 31,498	3,328 / 36,425
# Seroconversions / # Tested	443 / 14,974	449 / 12,501

TESTING SUMMARIES

Humans

		WNV	SLE	WEE
Human Cases	Week	26	0	0
	YTD	707	0	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	16	5
	YTD	3,211	1,345

Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	50	0	0	0
	YTD	12,501	449	9	0
Mosquito Pools	Week	36	0	0	0
	YTD	36,425	3,328	38	0

NEW POSITIVES

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Alameda	Alameda Co MAD	San Lorenzo	94580	American Crow	12/11/2015	WNV
Los Angeles	Los Angeles Co Veterinarian	Woodland Hills	91367	American Crow	12/8/2015	WNV
Los Angeles	Los Angeles Co Veterinarian	Cheviot Hills	90064	American Crow	12/14/2015	WNV
Los Angeles	Los Angeles Co West VCD	Lawndale	90260	American Crow	12/11/2015	WNV
San Diego	San Diego Co VCP	San Diego	92115	Sharp-shinned Hawk	12/11/2015	WNV

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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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