

California Arbovirus Surveillance Bulletin #32

Week 41 Friday, October 11, 2013



WEEKLY UPDATE

Human Cases

West Nile virus

A total of 31 new cases of West Nile virus (WNV) illness were reported this week from 13 counties: Butte (1), Fresno (2), Kern (4), Los Angeles (10), Placer (1), Riverside (4), San Bernardino (1), San Joaquin (1), Santa Clara (1), Stanislaus (3), Sutter (1), Ventura (1), and Yolo (1). As of October 8, 2013, a total of 237 cases of WNV illness have been reported in 26 counties. Of the 237 case-patients, 155 (65%) had neuroinvasive illness. The median age of the 237 individuals for whom data are available is 56 years (range: 5 - 93 years); 148 (62%) are male. Dates of symptom onset range from May 22 to September 20, 2013. Six WNV-related fatalities have been reported in Sacramento (1), Los Angeles (3), Glenn (1), and San Joaquin (1) counties. A total of 44 WNV-positive blood donors have been reported this year; six developed symptoms and were classified as case-patients. At this time last year, 266 cases had been reported from 28 counties.

National Comments: No new update. As of September 24, 2013, 1,135 cases of WNV had been reported nationwide from 45 states. Of these, 529 (47%) were classified as neuroinvasive disease, and 44 (4%) died.

Horses

One new equine case was reported this week from Kern County. In 2013, 11 horses from seven counties have tested positive for WNV; four have died as a result of their infection. At this time last year, 20 horses had tested positive for WNV from 12 counties.

Dead Birds & Squirrels

A total of 24 WNV positive birds were reported this week from the following 10 counties: Contra Costa (1), Fresno (1), Los Angeles (1), Marin (1), Orange (2), Sacramento (2), San Bernardino (5), Santa Clara (4), Sonoma (5), Yolo (2). One WNV positive squirrel was reported from Orange County; this is their first positive squirrel this year. In 2013, 1,158 dead birds have tested positive for WNV from 38 counties and 8 dead squirrels have tested positive for WNV from 6 counties. At this time last year, 1,511 dead birds and 17 squirrels tested positive for recent WNV infection from 38 and 5 counties, respectively.

Mosquito Pools

A total of 40 WNV positive mosquito pools were reported this week from the following 9 counties: Kern (1), Kings (1), Los Angeles (9), Madera (1), Orange (15), San Bernardino (8), San Joaquin (1), Stanislaus (2), and Tulare (2). In 2013, 2,480 mosquito pools from 27 counties have tested positive for WNV. At this time last year, 2,704 mosquito pools from 28 counties had tested positive for WNV.

Sentinel Chickens

A total of 28 sentinel chickens tested positive for WNV antibodies this week from 14 flocks in the following 5 counties: Lake (1), Los Angeles (12), Riverside (6), San Bernardino (8), and Tulare (1). In 2013, 453 WNV antibody-positive chickens have been detected among 107 flocks in 25 counties. At this time last year, 463 WNV antibody-positive chickens had been detected among 99 flocks in 21 counties.

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YTD WNV Activity by Element and County, 2013						
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens	Squirrels
Alameda			13			
Butte	21		42	33	57	
Colusa	2		1		8	
Contra Costa	3	1	67	13	7	1
El Dorado	1					
Fresno	5		11	66		
Glenn	7		8	16	9	
Humboldt			1			
Kern	16	2	2	180	12	
Kings			11	78		
Lake			10	61	6	
Los Angeles	89		304	399	130	3
Madera	2		7	16	2	
Marin	2		6		1	
Mendocino			2			
Merced			38	8	21	
Napa	1		2			
Nevada			6		2	
Orange	5		31	45		1
Placer	5	1	38	89	13	
Riverside	20	1	21	80	41	
Sacramento	3	3	172	380	6	
San Benito		1				
San Bernardino	5		36	233	28	1
San Diego			6			
San Francisco	1					
San Joaquin	6		34	162		
San Luis Obispo			1	1		
Santa Clara	2		53	25	2	
Santa Cruz			1	1		
Shasta			36	15	18	1
Solano	1		13	1	12	
Sonoma			27	5	1	
Stanislaus	15	2	13	158	8	
Sutter	9		16	61	35	
Tehama			3		8	
Trinity			1			
Tulare	4		5	95	5	
Ventura	2		8			1
Yolo	6		101	245	10	
Yuba	4		11	14	11	
Totals	237	11	1,158	2,480	453	8

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2012 & 2013 YTD West Nile Virus Comparisons		
	2012	2013
Total # Dead Bird Reports	18,691	13,604
# Positive Counties	42	41
# Human Cases	266	237
# Horse Cases	20	11
# Positive Dead Birds / # Tested	1,511 / 3,822	1,158 / 3,055
# Positive Mosquito Pools / # Tested	2,704 / 30,247	2,480 / 28,489
# Seroconversions / # Tested	463 / 20,208	453 / 14,926
# Positive Squirrels / # Tested	17 / 156	8 / 97

TESTING SUMMARIES

Humans and Horses

		WNV		WEEV		SLEV	
		Local	Imported	Local	Imported	Local	Imported
Human Cases	Week	31	0	0	0	0	0
	YTD	237	0	0	0	1	0
Horse Cases	Week	1	0	0	0	0	0
	YTD	11	0	0	0	0	0

Dead Birds & Squirrels

		Number Tested	WNV Positive (recent only)
Dead Birds	Week	32	24
	YTD	3,055	1,158
Tree Squirrels	Week	1	1
	YTD	97	8

Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	546	28	0	0
	YTD	14,926	453	0	0
Mosquito Pools	Week	848	40	0	0
	YTD	28,489	2,480	0	0

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POSITIVES

Dead Birds & Squirrels

County	Agency	City	Zip	Species	Reported	Virus	Type of Infection	Method
Contra Costa	Contra Costa MVCD	Pleasant Hill	94523	American Crow	10/4/2013	WNV	Recent	RAMP
Fresno	Fresno MVCD	Fresno	93723	American Crow	10/3/2013	WNV	Recent	RAMP
Los Angeles	LA West VCD	Beverly Hills	90210	American Crow	10/1/2013	WNV	Recent	RT-PCR
Marin	Marin-Sonoma MVCD	Novato	94947	American Crow	10/1/2013	WNV	Recent	RT-PCR
Orange	Orange Co VCD	Huntington Beach	92648	American Crow	9/26/2013	WNV	Recent	RT-PCR
Orange	Orange Co VCD	Anaheim	92801	American Crow	9/25/2013	WNV	Recent	RT-PCR
Orange County	Orange Co VCD	Fullerton	92833	Fox Squirrel	9/19/2013	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Citrus Heights	95610	American Crow	10/2/2013	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95816	American Crow	10/3/2013	WNV	Recent	RT-PCR
San Bernardino	San Bernardino VCP	Fontana	92337	American Crow	9/25/2013	WNV	Recent	RT-PCR
San Bernardino	San Bernardino VCP	Redlands	92373	American Crow	9/25/2013	WNV	Recent	RT-PCR
San Bernardino	San Bernardino VCP	Yucaipa	92399	American Crow	9/26/2013	WNV	Recent	RT-PCR
San Bernardino	San Bernardino VCP	Yucaipa	92399	American Crow	9/19/2013	WNV	Recent	RT-PCR
San Bernardino	San Bernardino VCP	Yucaipa	92399	American Crow	9/25/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	Santa Clara	95051	American Crow	9/25/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	Saratoga	95070	American Crow	9/27/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	San Jose	95119	American Crow	10/1/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	San Jose	95123	American Crow	9/25/2013	WNV	Recent	RT-PCR
Sonoma	Marin-Sonoma MVCD	Santa Rosa	95403	American Crow	10/2/2013	WNV	Recent	RT-PCR
Sonoma	Marin-Sonoma MVCD	Santa Rosa	95407	American Crow	9/30/2013	WNV	Recent	RT-PCR
Sonoma	Marin-Sonoma MVCD	Sebastopol	95472	American Crow	9/30/2013	WNV	Recent	RT-PCR
Sonoma	Marin-Sonoma MVCD	Sebastopol	95472	Western Scrub-Jay	10/3/2013	WNV	Recent	RT-PCR
Sonoma	Marin-Sonoma MVCD	Sebastopol	95472	American Crow	10/2/2013	WNV	Recent	RT-PCR
Yolo	Sac-Yolo MVCD	Davis	95618	House Finch	10/4/2013	WNV	Recent	RT-PCR
Yolo	Sac-Yolo MVCD	Woodland	95776	American Crow	10/2/2013	WNV	Recent	RT-PCR

Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap	Collected	Virus	Method
Kern	KERN1104	505	Cx. tarsalis	Wasco	50	CO2	10/1/2013	WNV	RTPCR
Kings	KNGS5501	412	Cx. pipiens	Hanford	9	CO2	10/1/2013	WNV	RTPCR
Los Angeles	GRLA2031	6104	Cx. quinquefasciatus	Northridge	28	GRVD	10/4/2013	WNV	RTPCR
Los Angeles	GRLA2033	6087	Cx. quinquefasciatus	Tujunga	21	GRVD	10/2/2013	WNV	RTPCR
Los Angeles	GRLA2116	995	Cx. quinquefasciatus	Bell	37	GRVD	10/1/2013	WNV	RTPCR
Los Angeles	GRLA2635	6102	Cx. quinquefasciatus	Van Nuys	50	GRVD	10/4/2013	WNV	RTPCR
Los Angeles	GRLA3046	1001	Cx. quinquefasciatus	Bellflower	50	GRVD	10/1/2013	WNV	RTPCR
Los Angeles	GRLA3065	1010	Cx. quinquefasciatus	Los Angeles	50	GRVD	10/2/2013	WNV	RTPCR
Los Angeles	GRLA3067	1027	Cx. quinquefasciatus	Gardena	50	GRVD	10/4/2013	WNV	RTPCR
Los Angeles	GRLA3132	6089	Cx. quinquefasciatus	Los Angeles	40	GRVD	10/2/2013	WNV	RTPCR
Los Angeles	LACW1049	309	Cx. quinquefasciatus	Inglewood	40	GRVD	10/1/2013	WNV	RTPCR
Madera	MADR164	83	Cx. quinquefasciatus	Chowchilla	50	CO2	9/25/2013	WNV	RTPCR
Orange	ORCO0	1432	Cx. quinquefasciatus	Garden Grove	34	CO2	9/20/2013	WNV	RTPCR
Orange	ORCO17	1490	Cx. quinquefasciatus	Orange	29	GRVD	9/26/2013	WNV	RTPCR
Orange	ORCO17	1524	Cx. quinquefasciatus	Orange	25	GRVD	10/1/2013	WNV	RTPCR
Orange	ORCO170	1437	Cx. quinquefasciatus	Anaheim	47	GRVD	9/24/2013	WNV	RTPCR
Orange	ORCO3	1464	Cx. tarsalis	Garden Grove	4	CO2	9/24/2013	WNV	RTPCR
Orange	ORCO3	1531	Cx. quinquefasciatus	Garden Grove	39	GRVD	10/1/2013	WNV	RTPCR

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Orange	ORCO3	1532	Cx. quinquefasciatus	Garden Grove	29	GRVD	10/1/2013	WNV	RTPCR
Orange	ORCO3	1552	Cx. quinquefasciatus	Garden Grove	42	GRVD	10/2/2013	WNV	RTPCR
Orange	ORCO33	1452	Cx. quinquefasciatus	Westminster	31	GRVD	9/24/2013	WNV	RTPCR
Orange	ORCO33	1486	Cx. quinquefasciatus	Westminster	19	GRVD	9/26/2013	WNV	RTPCR
Orange	ORCO34	1440	Cx. quinquefasciatus	Brea	30	GRVD	9/24/2013	WNV	RTPCR
Orange	ORCO41	1547	Cx. quinquefasciatus	Anaheim	13	GRVD	10/2/2013	WNV	RTPCR
Orange	ORCO50	1553	Cx. quinquefasciatus	Buena Park	30	GRVD	10/2/2013	WNV	RTPCR
Orange	ORCO82	1551	Cx. quinquefasciatus	Cypress	33	GRVD	10/2/2013	WNV	RTPCR
Orange	ORCO84	1514	Cx. quinquefasciatus	Orange	9	GRVD	10/1/2013	WNV	RTPCR
San Bernardino	WVAL2006	1276	Cx. tarsalis	Chino	47	CO2	10/8/2013	WNV	RTPCR
San Bernardino	WVAL5004	1251	Cx. quinquefasciatus	Rancho Cucamonga	13	GRVD	10/8/2013	WNV	RTPCR
San Bernardino	WVAL5005	1268	Cx. quinquefasciatus	Rancho Cucamonga	50	GRVD	10/8/2013	WNV	RTPCR
San Bernardino	WVAL6001	1270	Cx. quinquefasciatus	Ontario	6	GRVD	10/8/2013	WNV	RTPCR
San Bernardino	WVAL6004	1244	Cx. quinquefasciatus	Ontario	50	GRVD	10/4/2013	WNV	RTPCR
San Bernardino	WVAL6004	1280	Cx. quinquefasciatus	Ontario	50	GRVD	10/9/2013	WNV	RTPCR
San Bernardino	WVAL6009	1258	Cx. quinquefasciatus	Ontario	50	GRVD	10/8/2013	WNV	RTPCR
San Bernardino	WVAL6012	1266	Cx. quinquefasciatus	Ontario	3	GRVD	10/8/2013	WNV	RTPCR
San Joaquin	SJCM8161	1565	Cx. pipiens	Ripon	49	CO2	10/8/2013	WNV	RTPCR
Stanislaus	TRLK548	1154	Cx. tarsalis	Newman	30	CO2	10/8/2013	WNV	RTPCR
Stanislaus	TRLK606	1144	Cx. pipiens	Turlock	38	CO2	10/3/2013	WNV	RTPCR
Tulare	DLTA7529	531	Cx. quinquefasciatus	Visalia	50	CO2	10/2/2013	WNV	RTPCR
Tulare	DLTA8511	534	Cx. quinquefasciatus	Ivanhoe	50	CO2	10/4/2013	WNV	RTPCR

Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01	Band 02	Band 03	Band 04	Band 05
Lake	LAKE1000	Upper Lake	10/7/2013	WNV	1267				
Los Angeles	ANTV2667	Palmdale	10/2/2013	WNV	3639				
Los Angeles	ANTV2877	Lancaster	10/2/2013	WNV	3627				
Los Angeles	ANTV8652	Palmdale	10/2/2013	WNV	3632	3633			
Los Angeles	GRLA2465	Los Feliz	9/30/2013	WNV	2604	2610			
Los Angeles	GRLA2651	Encino	9/30/2013	WNV	2623	2626	2629		
Los Angeles	LACW1006	Playa Del Rey	9/25/2013	WNV	1333	1334	1335		
Riverside	COAV0122	Mecca	9/30/2013	WNV	3208	3210	3220		
Riverside	COAV0200	Mecca	9/30/2013	WNV	3139				
Riverside	RIVR0072	Mead Valley	10/2/2013	WNV	3943	3944			
San Bernardino	SANB0007	Fontana	9/30/2013	WNV	3351	3352			
San Bernardino	SANB0011	Rialto	9/30/2013	WNV	3371	3372	3373	3374	3375
San Bernardino	WVAL0001	Chino	9/26/2013	WNV	3752				
Tulare	DLTA8530	Visalia	10/4/2013	WNV	1191				

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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.

Horses:

Serum or brain tissue specimens from horses displaying neurological symptoms are submitted to the California Animal Health and Safety Laboratory (CAHFS) and tested by EIA and PRNT.

Dead Birds:

Oral swab samples from corvids are collected onto RNase 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.

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 (WEEV), and St. Louis encephalitis (SLEV) viruses by EIA and IFA. Positive samples are confirmed by western-blot or PRNT.

Mosquito Pools:

Mosquito pools are submitted to CVEC and screened for WEEV, SLEV, and WNV viral RNA using a Taqman multiplex RT-PCR. CVEC will cease confirmation 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.

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. 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