

California Arbovirus Surveillance Bulletin #33

Week 42 Friday, October 18, 2013



WEEKLY UPDATE

Human Cases

West Nile virus

A total of 38 new cases of West Nile virus (WNV) illness were reported this week from 10 counties: Butte (1), Contra Costa (1), Glenn (1), Kern (2), Los Angeles (22), Madera (1), Riverside (6), Stanislaus (1), Yolo (1), and Yuba (2). As of October 15, 2013, a total of 275 cases of WNV illness have been reported in 26 counties. Of the 275 case-patients, 179 (65%) had neuroinvasive illness. The median age of the 275 individuals for whom data are available is 56 years (range: 5 - 93 years); 175 (64%) are male. Dates of symptom onset range from May 22 to September 30, 2013. Seven WNV-related fatalities have been reported in Sacramento (1), Los Angeles (3), Glenn (1), San Joaquin (1), and Sutter (1) counties. A total of 46 WNV-positive blood donors have been reported this year; six developed symptoms and were classified as case-patients. At this time last year, 301 cases had been reported from 30 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

No new equine cases were reported this week. In 2013, 11 horses from seven counties have tested positive for WNV; five have died as a result of their infection. At this time last year, 21 horses had tested positive for WNV from 12 counties.

Dead Birds & Squirrels

A total of 30 WNV positive birds were reported this week from the following 11 counties: Alameda (5), Contra Costa (1), Kings (1), Los Angeles (2), Riverside (1), Sacramento (3), San Bernardino (1), Santa Clara (12), Shasta (1), Tulare (1), and Yolo (2). In 2013, 1,188 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, 1,569 dead birds and 19 squirrels tested positive for recent WNV infection from 38 and 5 counties, respectively.

Mosquito Pools

A total of 13 WNV positive mosquito pools were reported this week from the following 5 counties: Kern (1), Los Angeles (5), Sacramento (3), San Bernardino (3), and Yolo (1). In 2013, 2,493 mosquito pools from 27 counties have tested positive for WNV. At this time last year, 2,757 mosquito pools from 28 counties had tested positive for WNV.

Sentinel Chickens

A total of 10 sentinel chickens tested positive for WNV antibodies this week from 4 flocks in the following 2 counties: Los Angeles (8), and Shasta (2). In 2013, 463 WNV antibody-positive chickens have been detected among 107 flocks in 25 counties. At this time last year, 477 WNV antibody-positive chickens had been detected among 100 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			18			
Butte	22		42	33	57	
Colusa	2		1		8	
Contra Costa	4	1	68	13	7	1
El Dorado	1					
Fresno	5		11	66		
Glenn	8		8	16	9	
Humboldt			1			
Kern	18	2	2	181	12	
Kings			12	78		
Lake			10	61	6	
Los Angeles	111		306	404	138	3
Madera	3		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	26	1	22	80	41	
Sacramento	3	3	175	383	6	
San Benito		1				
San Bernardino	5		37	236	28	1
San Diego			6			
San Francisco	1					
San Joaquin	6		34	162		
San Luis Obispo			1	1		
Santa Clara	2		65	25	2	
Santa Cruz			1	1		
Shasta			37	15	20	1
Solano	1		13	1	12	
Sonoma			27	5	1	
Stanislaus	16	2	13	158	8	
Sutter	9		16	61	35	
Tehama			3		8	
Trinity			1			
Tulare	4		6	95	5	
Ventura	2		8			1
Yolo	7		103	246	10	
Yuba	6		11	14	11	
Totals	275	11	1,188	2,493	463	8

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2012 & 2013 YTD West Nile Virus Comparisons		
	2012	2013
Total # Dead Bird Reports	19,174	13,831
# Positive Counties	42	41
# Human Cases	301	275
# Horse Cases	21	11
# Positive Dead Birds / # Tested	1,569 / 3,977	1,188 / 3,096
# Positive Mosquito Pools / # Tested	2,757 / 30,882	2,493 / 29,009
# Seroconversions / # Tested	477 / 20,844	463 / 15,208
# Positive Squirrels / # Tested	19 / 167	8 / 97

TESTING SUMMARIES

Humans and Horses

		WNV		WEEV		SLEV	
		Local	Imported	Local	Imported	Local	Imported
Human Cases	Week	38	0	0	0	0	0
	YTD	275	0	0	0	1	0
Horse Cases	Week	0	0	0	0	0	0
	YTD	11	0	0	0	0	0

Dead Birds & Squirrels

		Number Tested	WNV Positive (recent only)
Dead Birds	Week	41	30
	YTD	3,096	1,188
Tree Squirrels	Week	0	0
	YTD	97	8

Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	282	10	0	0
	YTD	15,208	463	0	0
Mosquito Pools	Week	520	13	0	0
	YTD	29,009	2,493	0	0

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POSITIVES

Dead Birds & Squirrels

County	Agency	City	Zip	Species	Reported	Virus	Type of Infection	Method
Alameda	Alameda MAD	Fremont	94539	American Crow	9/25/2013	WNV	Recent	RAMP
Alameda	Alameda MAD	Livermore	94550	American Crow	9/20/2013	WNV	Recent	RAMP
Alameda	Alameda MAD	Livermore	94550	American Crow	10/8/2013	WNV	Recent	RAMP
Alameda	Alameda MAD	Livermore	94550	American Crow	10/3/2013	WNV	Recent	RAMP
Alameda	Alameda MAD	Pleasanton	94588	American Crow	9/23/2013	WNV	Recent	RAMP
Contra Costa	Contra Costa MVCD	Alamo	94507	American Crow	10/11/2013	WNV	Recent	RAMP
Kings	Kings MAD	Hanford	93230	American Crow	9/12/2013	WNV	Recent	RT-PCR
Los Angeles	LA West VCD	Culver City	90232	American Crow	10/11/2013	WNV	Recent	RT-PCR
Los Angeles	San Gabriel Valley MVCD	Altadena	91001	American Crow	10/9/2013	WNV	Recent	RAMP
Riverside	NW Mosquito VCD	Riverside	92506	American Crow	9/13/2013	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Carmichael	95608	Yellow-billed Magpie	10/8/2013	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95823	American Goldfinch	10/11/2013	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95826	American Crow	10/11/2013	WNV	Recent	RT-PCR
San Bernardino	San Bernardino VCP	Yucaipa	92399	American Crow	10/1/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	Morgan Hill	95037	Western Scrub-Jay	9/18/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	Saratoga	95070	American Crow	10/2/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	San Jose	95112	American Crow	9/12/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	San Jose	95119	American Crow	9/11/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	San Jose	95123	American Crow	9/18/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	San Jose	95123	American Crow	10/4/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	San Jose	95125	American Crow	9/17/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	San Jose	95126	American Crow	9/16/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	San Jose	95132	American Crow	9/12/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	San Jose	95132	American Crow	10/7/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	San Jose	95138	American Crow	9/13/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	Milpitas	96035	American Crow	9/13/2013	WNV	Recent	RT-PCR
Shasta	Shasta MVCD	Anderson	96007	Western Scrub-Jay	10/7/2013	WNV	Recent	RT-PCR
Tulare	Delta VCD	Visalia	93277	Western Scrub-Jay	10/15/2013	WNV	Recent	RAMP
Yolo	Sac-Yolo MVCD	Davis	95618	American Crow	10/6/2013	WNV	Recent	RT-PCR
Yolo	Sac-Yolo MVCD	Winters	95694	American Crow	10/3/2013	WNV	Recent	RT-PCR

Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap	Collected	Virus	Method
Kern	KERN156	518	Cx. quinquefasciatus	Butttonwillow	50	CO2	10/8/13	WNV	RTPCR
Los Angeles	LACW1010	314	Cx. quinquefasciatus	Los Angeles(Miracle Mile)	36	GRVD	10/8/13	WNV	RTPCR
Los Angeles	SGVA4	168	Cx. quinquefasciatus	Arcadia	23	CO2	7/31/12	WNV	RAMP
Los Angeles	SGVA624	188	Cx. quinquefasciatus	Alhambra	24	CO2	8/31/12	WNV	RAMP
Los Angeles	SGVA640	196	Cx. quinquefasciatus	San Gabriel	35	CO2	9/12/12	WNV	RAMP
Los Angeles	SGVA646	199	Cx. quinquefasciatus	Rosemead	7	CO2	9/14/12	WNV	RAMP
Sacramento	SAYO261003	6367	Cx. tarsalis	Isleton	32	CO2	10/8/13	WNV	RTPCR
Sacramento	SAYO271007	6372	Cx. tarsalis	Isleton	48	CO2	10/8/13	WNV	RTPCR
Sacramento	SAYO271007	6373	Cx. tarsalis	Isleton	10	CO2	10/8/13	WNV	RTPCR
San Bernardino	WVAL5008	1300	Cx. quinquefasciatus	Rancho Cucamonga	7	GRVD	10/15/13	WNV	RTPCR
San Bernardino	WVAL6004	1317	Cx. quinquefasciatus	Ontario	44	GRVD	10/16/13	WNV	RTPCR
San Bernardino	WVAL7002	1316	Cx. quinquefasciatus	Montclair	36	GRVD	10/15/13	WNV	RTPCR
Yolo	SAYO116002	6436	Cx. tarsalis	Knights Landing	3	CO2	10/11/13	WNV	RTPCR

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Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01	Band 02	Band 03	Band 04
Los Angeles	GRLA2132	Wilmington	9/30/2013	WNV	2671	2672	2676	2679
Los Angeles	GRLA2371	South El Monte	10/3/2013	WNV	2647			
Los Angeles	SGVA0002	Monterey Park	10/4/2013	WNV	3806	3807	3808	
Shasta	SHAS9702	Millville	10/10/2013	WNV	1810	1811		

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