

California Arbovirus Surveillance Bulletin # 31

Week 36 Monday, September 14, 2009

Weekly Summary

WEEKLY COMMENTS



As of September 11, 2009, 40 counties have reported West Nile virus (WNV) activity. At this time last year, 40 counties had reported WNV activity.

Humans

Eight new cases of West Nile virus were reported last week from the following 5 counties: Butte (1), Kern (2), Los Angeles (2), San Joaquin (1), and Stanislaus (2). These are the first human cases reported from Butte and San Joaquin counties this year. In 2009, 34 human cases of WNV have been identified in 10 counties. Of the 34 individuals, 16 (47%) developed neuroinvasive symptoms. The median age of the 34 individuals is 52 years (range: 15-81 years), and 25 (74%) are male. None of the cases have resulted in fatalities. In addition, 13 WNV-positive blood donation samples have been reported this year; 5 of the individuals developed symptoms and were reclassified as cases. At this time last year, 155 human cases had been reported from 18 counties.

Horses

Three new horse cases of WNV have been reported from Los Angeles, Shasta, and Stanislaus counties; these are the first WNV positive horses reported from Los Angeles and Shasta counties this year. In 2009, 8 equine cases of WNV have been reported from 7 counties; 3 of the cases were euthanized as a result of their illness. At this time last year, 8 equine WNV cases had been reported from 6 counties.

Dead Birds & Tree Squirrels

Last week, 20 WNV positive dead birds were reported from the following 12 counties: Alameda (1), Contra Costa (2), El Dorado (3), Fresno (2), Glenn (3), Los Angeles (3), Placer (1), San Bernardino (1), San Diego (1), Santa Clara (1), Stanislaus (1), and Toulumne (1). In 2009, 405 birds from 34 counties have tested positive for WNV. At this time last year, 1,658 WNV positive dead birds had been reported from 38 counties.

No positive tree squirrels were reported last week. In 2009, 6 tree squirrels from 6 counties have tested positive for WNV. At this time last year, 13 WNV positive tree squirrels had been reported from 4 counties.

Mosquito Pools

Last week, 63 WNV positive mosquito pools were reported from the following 13 counties: Fresno (3), Kern (5), Kings (1), Los Angeles (7), Merced (1), Placer (5), Sacramento (5), San Bernardino (9), San Joaquin (13), Shasta (1), Stanislaus (3), Tulare (7), and Yolo (3). In 2009, 908 mosquito pools have tested positive for WNV from 27 counties. At this time last year, 1,518 WNV positive mosquito pools had been reported from 24 counties.

Sentinel Chickens

Last week, 52 WNV seroconversions were reported from the following 9 counties: Butte (5), Contra Costa (1), Kern (23), Napa (2), San Bernardino (2), Solano (4), Stanislaus (11), Sutter (2), and Tulare (2). In 2009, 223 chickens from 18 counties have tested positive for WNV antibodies. At this time last year, 173 WNV seroconversions had been reported from 15 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, 2009

County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens	Squirrels
Alameda			10	1		
Butte	1		11	4	13	
Colusa			2			
Contra Costa	1	1	28	17	5	1
El Dorado			9			
Fresno	5		60	118	1	1
Glenn			4			
Imperial				2	31	
Kern	10		27	124	63	1
Kings	1		9	97		
Lake			2	2		
Los Angeles	7	1	60	61	23	
Madera			11	2		
Merced			4	4	5	
Modoc			1			
Mono				1		
Monterey			3			
Napa					3	
Orange	1		6	7		
Placer			4	35		
Riverside			1	20	14	
Sacramento			17	34	2	
San Bernardino			12	40	7	1
San Diego	2		27	4	4	
San Francisco			1			
San Joaquin	1	2	21	76	9	
San Mateo			1			
Santa Barbara			1			
Santa Clara			11	14		1
Santa Cruz			1			
Shasta		1	6	2		
Solano		1	2	2	5	
Stanislaus	5	2	23	76	14	
Sutter				23	5	
Tehama						1
Tulare			22	125	17	
Tuolumne			2			
Ventura			2			
Yolo			4	16	2	
Yuba				1		
Total	34	8	405	908	223	6

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2009 & 2008 YTD West Nile Virus Comparisons		
	2008	2009
Total # Dead Bird Reports	25,884	13,116
# Positive Counties	40	40
# Human Cases / # Tested	155 / 776	34 / 706
# Horse Cases / # Tested	8 / 163	8 / 149
# Positive Dead Birds / # Tested	1,658 / 4,419	405 / 2,289
# Positive Mosquito Pools / # Tested	1,518 / 23,069	908 / 20,469
# Positive Chicken Sera / # Tested	173 / 21,288	223 / 17,984
# Positive Squirrels / # Tested	13 / 212	6 / 80

TEST SUMMARIES

Human & Horse Cases

		Number Tested	WNV		WEE		SLE		Other	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
Humans Tested*	Week	23	0	8	0	0	0	0	0	0
	YTD	706	1	33	0	0	0	0	0	0
Horses Tested	Week	3	0	3	0	0	0	0	0	0
	YTD	149	0	8	0	0	0	0	0	0

Dead Birds & Tree Squirrels

		Number Tested	WNV Positive
Dead Birds	Week	82	20
	YTD	2,289	405
Tree Squirrels	Week	5	0
	YTD	80	6

Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	SLE Positive	WEE Positive
Chicken Sera	Week	781	52	0	0
	YTD	17,984	223	0	0
Mosquito Pools: RT-PCR	Week	858	52	0	0
	YTD	19,697	849	0	0
Mosquito Pools: RAMP	Week	148	11	N/A	N/A
	YTD	772	59	N/A	N/A

POSITIVES

Dead Birds & Tree Squirrels

County	Submitting Agency	City	Zip Code	Species	Reported	Tested	Virus	Method
Alameda	Alameda Co MAD	Livermore	94550	Western Scrub-Jay	8/28/09	9/8/09	WNV	RT-PCR
Contra Costa	Contra Costa MVCD	Brentwood	94513	American Crow	9/3/09	9/3/09	WNV	RAMP
Contra Costa	Contra Costa MVCD	Brentwood	94513	Western Scrub-Jay	9/8/09	9/8/09	WNV	RAMP
El Dorado	El Dorado Co Env Mgmt	Cool	95614	Western Scrub-Jay	8/28/09	9/8/09	WNV	RT-PCR
El Dorado	El Dorado Co Env Mgmt	El Dorado Hills	95762	Western Scrub-Jay	8/31/09	9/8/09	WNV	RT-PCR
El Dorado	El Dorado Co Env Mgmt	Placerville	95667	Western Scrub-Jay	8/26/09	9/8/09	WNV	RT-PCR
Fresno	Consolidated MAD	Fresno	93720	American Crow	8/24/09	9/8/09	WNV	RT-PCR
Fresno	Consolidated MAD	Riverdale	93656	House Sparrow	8/17/09	9/8/09	WNV	RT-PCR
Glenn	Glenn Co MVCD	Orland	95963	Yellow-billed	8/27/09	9/8/09	WNV	RT-PCR

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				Magpie				
Glenn	Glenn Co MVCD	Orland	95963	Western Scrub-Jay	9/1/09	9/8/09	WNV	RT-PCR
Glenn	Glenn Co MVCD	Orland	95963	Yellow-billed Magpie	9/2/09	9/8/09	WNV	RT-PCR
Los Angeles	Los Angeles Co Veterinarian	Santa Clarita	91355	American Crow	9/1/09	9/8/09	WNV	RT-PCR
Los Angeles	Los Angeles Co Veterinarian	Santa Clarita	91355	American Crow	9/1/09	9/8/09	WNV	RT-PCR
Los Angeles	Los Angeles Co Veterinarian	Santa Clarita	91355	American Crow	9/1/09	9/8/09	WNV	RT-PCR
Placer	Placer MVCD	Roseville	95678	Yellow-billed Magpie	8/26/09	9/8/09	WNV	RT-PCR
San Bernardino	San Bernardino VCP	Upland	91784	House Sparrow	9/1/09	9/8/09	WNV	RT-PCR
San Diego	San Diego Co VCP	San Diego	92130	American Crow	9/1/09	9/2/09	WNV	RT-PCR
Santa Clara	Santa Clara Co VCD	San Jose	95129	American Crow	9/1/09	9/1/09	WNV	VecTest
Stanislaus	Turlock MAD	Turlock	95382	Yellow-billed Magpie	8/31/09	9/8/09	WNV	RT-PCR
Tuolumne	Tuolumne Co Dept of Env Health	Long Barn	95335	Western Tanager	8/18/09	9/8/09	WNV	RT-PCR

Mosquitoes

County	Site Code	Pool #	Species	# in Pool	Collected	Tested	City	Virus	Method
Fresno	FRWS2105	191	Cx tarsalis	50	9/9/2009	9/10/2009	Dos Palos	WNV	RTPCR
Fresno	FRWS4102	194	Cx tarsalis	50	9/9/2009	9/10/2009	Kerman	WNV	RTPCR
Fresno	FRWS4102	196	Cx tarsalis	26	9/9/2009	9/10/2009	Kerman	WNV	RTPCR
Kern	AFSB0112	5176	Cx tarsalis	10	9/3/2009	9/9/2009	Bakersfield	WNV	RTPCR
Kern	AFSB0121	5180	Cx quinquefasciatus	21	9/3/2009	9/9/2009	Bakersfield	WNV	RTPCR
Kern	KERN0009	518	Cx tarsalis	50	9/2/2009	9/9/2009	Bakersfield	WNV	RTPCR
Kern	KERN0038	530	Cx tarsalis	50	9/4/2009	9/9/2009	Shafter	WNV	RTPCR
Kern	KERN0043	527	Cx quinquefasciatus	50	9/4/2009	9/9/2009	Shafter	WNV	RTPCR
Kings	KNGS3022	377	Cx tarsalis	50	9/1/2009	9/4/2009	Hanford	WNV	RTPCR
Los Angeles	GRLA2268	1607	Cx quinquefasciatus	38	9/1/2009	9/9/2009	Cerritos	WNV	RTPCR
Los Angeles	GRLA2274	1602	Cx quinquefasciatus	50	9/1/2009	9/9/2009	Lakewood	WNV	RTPCR
Los Angeles	GRLA2414	5955	Cx quinquefasciatus	34	9/3/2009	9/9/2009	Granada Hills	WNV	RTPCR
Los Angeles	GRLA2669	5949	Cx quinquefasciatus	14	9/1/2009	9/9/2009	Granada Hills	WNV	RTPCR
Los Angeles	GRLA2953	1615	Cx quinquefasciatus	50	9/3/2009	9/9/2009	Santa Fe Springs	WNV	RTPCR
Los Angeles	GRLA2954	1633	Cx quinquefasciatus	50	9/3/2009	9/9/2009	Cerritos	WNV	RTPCR
Los Angeles	GRLA2957	1627	Cx quinquefasciatus	44	9/3/2009	9/11/2009	Hawaiian Gardens	WNV	RTPCR
Merced	TRLK0003	1006	Cx tarsalis	50	9/9/2009	9/10/2009	Newman	WNV	RTPCR
Placer	PLCR0017	772	Cx tarsalis	50	9/3/2009	9/10/2009	Sheridan	WNV	RTPCR
Placer	PLCR0139	775	Cx tarsalis	50	9/3/2009	9/10/2009	Roseville	WNV	RTPCR
Placer	PLCR0296	800	Cx pipiens	5	9/3/2009	9/10/2009	Auburn	WNV	RTPCR
Placer	PLCR0516	818	Cx tarsalis	40	9/9/2009	9/10/2009	Roseville	WNV	RTPCR
Placer	PLCR2027	805	Cx tarsalis	50	9/2/2009	9/10/2009	Sheirdan	WNV	RTPCR
Sacramento	SAYO2108	3590	Cx tarsalis	51	9/1/2009	9/9/2009	Elverta	WNV	RTPCR
Sacramento	SAYO4122	3708	Cx tarsalis	17	9/4/2009	9/8/2009	Citrus Heights	WNV	RTPCR
Sacramento	SAYO4254	3727	Cx tarsalis	21	9/9/2009	9/10/2009	Elk Grove	WNV	RTPCR
Sacramento	SAYO7000	3738	Cx tarsalis	24	9/9/2009	9/10/2009	Elk Grove	WNV	RTPCR
Sacramento	SAYO7005	3598	Cx tarsalis	9	9/1/2009	9/9/2009	Rancho Cordova	WNV	RTPCR
San Bernardino	WVAL2005	882	Cx tarsalis	47	9/2/2009	9/10/2009	Chino	WNV	RTPCR
San Bernardino	WVAL2006	859	Cx tarsalis	50	8/26/2009	9/10/2009	Chino	WNV	RTPCR
San Bernardino	WVAL2006	860	Cx quinquefasciatus	15	8/26/2009	9/10/2009	Chino	WNV	RTPCR
San Bernardino	WVAL5002	873	Cx quinquefasciatus	8	9/1/2009	9/10/2009	Rancho Cucamonga	WNV	RTPCR
San Bernardino	WVAL6002	850	Cx quinquefasciatus	50	8/25/2009	9/1/2009	Ontario	WNV	RTPCR
San Bernardino	WVAL6002	852	Cx quinquefasciatus	50	8/25/2009	9/1/2009	Ontario	WNV	RTPCR
San Bernardino	WVAL6002	853	Cx stigmatosoma	50	8/25/2009	9/1/2009	Ontario	WNV	RTPCR
San Bernardino	WVAL6002	870	Cx stigmatosoma	33	9/1/2009	9/10/2009	Ontario	WNV	RTPCR
San Bernardino	WVAL6012	824	Cx quinquefasciatus	29	8/25/2009	9/1/2009	Ontario	WNV	RTPCR

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San Joaquin	SJCM8004	843	Cx tarsalis	49	9/3/2009	9/10/2009	Lodi	WNV	RTPCR
San Joaquin	SJCM8008	743	Cx tarsalis	31	8/19/2009	9/8/2009	Manteca	WNV	RAMP
San Joaquin	SJCM8008	836	Cx pipiens	12	9/2/2009	9/8/2009	Manteca	WNV	RAMP
San Joaquin	SJCM8027	832	Cx pipiens	17	9/2/2009	9/10/2009	McDonald Isl. bridge	WNV	RTPCR
San Joaquin	SJCM8079	829	Cx pipiens	50	9/2/2009	9/8/2009	Manteca	WNV	RAMP
San Joaquin	SJCM8100	872	Cx tarsalis	17	9/8/2009	9/10/2009	Tracy	WNV	RAMP
San Joaquin	SJCM8159	748	Cx pipiens	50	8/24/2009	9/8/2009	Stockton	WNV	RAMP
San Joaquin	SJCM8159	803	Cx pipiens	50	8/31/2009	9/8/2009	Stockton	WNV	RAMP
San Joaquin	SJCM8159	856	Cx pipiens	50	9/8/2009	9/10/2009	Stockton	WNV	RAMP
San Joaquin	SJCM8161	753	Cx pipiens	50	8/24/2009	9/8/2009	Ripon	WNV	RAMP
San Joaquin	SJCM8161	818	Cx pipiens	16	8/31/2009	9/8/2009	Ripon	WNV	RAMP
San Joaquin	SJCM8161	851	Cx pipiens	44	9/8/2009	9/10/2009	Ripon	WNV	RAMP
San Joaquin	SJCM8161	854	Cx pipiens	50	9/8/2009	9/10/2009	Ripon	WNV	RAMP
Shasta	SHAS0062	282	Cx pipiens	50	9/9/2009	9/11/2009	Anderson	WNV	RTPCR
Stanislaus	TRLK0432	836	Cx pipiens	50	9/1/2009	9/8/2009	Turlock	WNV	RTPCR
Stanislaus	TRLK9769	899	Cx pipiens	50	9/9/2009	9/10/2009	Grayson	WNV	RTPCR
Stanislaus	TRLK9771	904	Cx pipiens	50	9/9/2009	9/10/2009	Grayson	WNV	RTPCR
Tulare	DLTA7520	808	Cx quinquefasciatus	50	9/2/2009	9/9/2009	Yetttem	WNV	RTPCR
Tulare	DLTA7529	794	Cx quinquefasciatus	50	9/2/2009	9/9/2009	Visalia	WNV	RTPCR
Tulare	DLTA7529	799	Cx quinquefasciatus	50	9/2/2009	9/9/2009	Visalia	WNV	RTPCR
Tulare	DLTA8427	826	Cx quinquefasciatus	49	9/9/2009	9/10/2009	Visalia	WNV	RTPCR
Tulare	DLTA8434	829	Cx quinquefasciatus	22	9/9/2009	9/10/2009	Visalia	WNV	RTPCR
Tulare	DLTA8531	821	Cx quinquefasciatus	35	9/4/2009	9/9/2009	Visalia	WNV	RTPCR
Tulare	DLTA9403	834	Cx quinquefasciatus	15	9/9/2009	9/10/2009	Visalia	WNV	RTPCR
Yolo	SAYO1108	3631	Cx tarsalis	3	9/1/2009	9/9/2009	Guindo	WNV	RTPCR
Yolo	SAYO6003	3629	Cx tarsalis	6	9/1/2009	9/9/2009	Winters	WNV	RTPCR
Yolo	SAYO6003	3630	Cx pipiens	14	9/1/2009	9/9/2009	Winters	WNV	RTPCR

Sentinel Chickens

County	Site Code	Nearest City	Date Bled	Virus	Band 01	Band 02	Band 03	Band 04	Band 05	Band 06
Butte	BUCO0003	Oroville	8/17/2009	WNV	3287					
Butte	BUCO0003	Oroville	8/31/2009	WNV	3283	3285	3288			
Butte	BUCO0004	Gridley	8/31/2009	WNV	3292					
Contra Costa	CNTR8152	Knightsen	8/31/2009	WNV	3001					
Kern	DLNO0035		9/3/2009	WNV	2968	2970	2972	2973		
Kern	KERN0102	Buttonwillow	8/31/2009	WNV	2702					
Kern	KERN0104	Old River	9/1/2009	WNV	2612	2614	2693	2700		
Kern	KERN0107	Arvin	9/1/2009	WNV	2649					
Kern	KERN0111	Arvin	9/1/2009	WNV	2651	2655	2658	2691		
Kern	KERN0112	Wasco	8/31/2009	WNV	2661	2663	2664	2667	2670	2698
Kern	KERN0113	Bakersfield	9/1/2009	WNV	2602	2609	2706			
Napa	NAPA2808	St Helena	9/2/2009	WNV	2172	2174				
San Bernardino	WVAL0002	Chino	9/1/2009	WNV	3713					
San Bernardino	WVAL0006	Ontario	9/1/2009	WNV	3719					
Solano	SOLA0015	Winters	9/1/2009	WNV	1337	1339	1341	1346		
Stanislaus	EAST1947	Modesto	9/2/2009	WNV	2895	2896	2897			
Stanislaus	EAST1959	OAKDALE	9/2/2009	WNV	2907					
Stanislaus	TRLK0402	Denair	8/20/2009	WNV	1113					
Stanislaus	TRLK9701	Grayson	8/20/2009	WNV	1134	1135				
Stanislaus	TRLK9701	Grayson	9/3/2009	WNV	1136	1139	1141			
Stanislaus	TRLK9703	Crows Landing	8/20/2009	WNV	1154					
Sutter	SUYA0014	Sutter	9/3/2009	WNV	1282	1286				
Tulare	DLNO0021	Earlimart	9/3/2009	WNV	2955	2959				

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NATIONAL COMMENTS

As of September 8, 2009, 196 human cases had been reported nationwide in the following 28 states: Arizona (12), Arkansas (1), California (26), Colorado (33), Georgia (2), Idaho (8), Illinois (1), Indiana (1), Iowa (1), Kansas (4), Louisiana (10), Minnesota (1), Mississippi (26), Missouri (1), Montana (3), Nebraska (7), Nevada (12), New Mexico (3), New York (1), Ohio (1), Oklahoma (2), Pennsylvania (1), South Carolina (1), South Dakota (11), Tennessee (2), Texas (21), Washington (1), and Wyoming (3). Of the 196 individuals, 97 (49%) have neuroinvasive illness. There have been six fatalities in Idaho (1), Indiana (1), Mississippi (2), New Mexico (1) and Texas (1).

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 by plaque reduction neutralization test (PRNT).

*Human denominator data only includes specimens tested at VRDL and does not include additional negative specimens that are tested by local agencies only.

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 and Tree Squirrels:

Dead birds and tree squirrels are necropsied at CAHFS laboratory at University of California, Davis. Oral swabs from American Crows and kidney tissue from all other dead birds and squirrels are forwarded to the UC Davis Center for Vectorborne Diseases (CVEC) for West Nile virus testing using the singleplex RT-PCR Taqman assay and confirmed with a second primer set. The WNV Dead Bird Surveillance Coordinator, Erin Parker, can be reached directly at (510) 412-6254.

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 (WEE), and St. Louis encephalitis (SLE) 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 WEE, SLE, 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) 412-6298 or email: tina.feiszli@cdph.ca.gov
