

# California Arbovirus Surveillance Bulletin # 33

Week 38 Friday, September 25, 2009

## Weekly Summary

### WEEKLY COMMENTS



As of September 25, 2009, 41 counties have reported West Nile virus (WNV) activity. At this time last year, 43 counties had reported WNV activity.

#### **Humans**

Fourteen new cases of West Nile virus have been reported from the following 8 counties: Fresno (2), Kings (1), Los Angeles (1), Orange (2), Riverside (1), San Joaquin (2), Stanislaus (3), and Yolo (2). These are the first human cases reported from Riverside and Yolo counties this year. In 2009, 61 human cases of West Nile virus (WNV) have been identified in 14 counties: Butte (1), Contra Costa (1), El Dorado (1), Fresno (9), Kern (11), Kings (3), Los Angeles (10), Merced (1), Orange (3), Riverside (1), San Diego (2), San Joaquin (4), Stanislaus (12), and Yolo (2). Of the 61 individuals, 31 (51%) developed neuroinvasive symptoms. The median age of the 61 individuals is 53 years (range: 15-88 years), and 39 (64%) are male. Two fatalities have been reported in Fresno (1) and Merced (1) counties. In addition, 15 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, 236 human cases had been reported from 22 counties.

#### **Horses**

Two new equine cases of WNV have been reported from Merced and Tehama counties. In 2009, 11 equine cases of WNV have been identified in 8 counties: Contra Costa (1), Los Angeles (1), Merced (1), Shasta (1), San Joaquin (3), Solano (1), Stanislaus (2), and Tehama (1). 4 of the cases were euthanized as a result of their illness. At this time last year, 18 cases had been reported from 11 counties.

#### **Dead Birds & Tree Squirrels**

Twenty-three WNV positive dead birds were reported this week from the following 12 counties: Contra Costa (5), Fresno (1), Glenn (1), Los Angeles (5), Orange (1), Sacramento (1), San Bernardino (1), San Diego (3), Stanislaus (1), Tulare (2), Ventura (1), and Yolo (1). In 2009, 443 birds from 35 counties have tested positive for WNV. At this time last year, 1,965 WNV positive dead birds had been reported from 40 counties.

Three WNV positive tree squirrels were reported this week from Sacramento (1), San Bernardino (1), and Santa Clara (1) counties. This is the first WNV positive tree squirrel reported from Sacramento County this year. In 2009, 9 tree squirrels from 7 counties have tested positive for WNV. At this time last year, 22 WNV positive tree squirrels had been reported from 5 counties.

#### **Mosquito Pools**

Forty-one WNV positive mosquito pools were reported this week from the following 11 counties: Fresno (7), Kern (1), Kings (8), Los Angeles (8), Merced (3), Orange (1), Placer (1), San Bernardino (5), San Joaquin (2), Stanislaus (4), and Tulare (1). In 2009, 1,008 mosquito pools have tested positive for WNV from 27 counties. At this time last year, 1,723 WNV positive mosquito pools had been reported from 26 counties.

#### **Sentinel Chickens**

Fifty-one WNV seroconversions were reported this week from the following 9 counties: Butte (10), Contra Costa (5), Kern (13), Merced (2), Placer (7), Riverside (1), Stanislaus (7), Sutter (1), and Tulare (5). These are the first WNV positive chickens detected in Placer County this year. In 2009, 306 chickens from 19 counties have tested positive for WNV antibodies. At this time last year, 255 WNV seroconversions had been reported from 18 counties.

**Website Information:** For updated information on WNV in California, please visit the California WNV website, [www.westnile.ca.gov](http://www.westnile.ca.gov), or the California Vectorborne Disease Surveillance System website, [www.calsurv.org](http://www.calsurv.org). For national information on WNV and other arboviruses, please visit the CDC website, [www.cdc.gov](http://www.cdc.gov), and the USGS website, [www.westnilemaps.usgs.gov](http://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		
Amador			1			
Butte	1		12	4	23	
Colusa			2			
Contra Costa	1	1	36	17	10	1
El Dorado	1		9			
Fresno	9		62	131	11	1
Glenn			5			
Imperial				3	34	
Kern	11		27	128	76	1
Kings	3		9	105		
Lake			2	2		
Los Angeles	10	1	65	76	31	
Madera			11	3		
Merced	1	1	4	11	9	
Modoc			1			
Mono				1		
Monterey			3			
Napa					3	
Orange	3		7	11		
Placer			4	40	7	
Riverside	1		1	24	20	
Sacramento			22	36	2	1
San Bernardino			14	49	8	2
San Diego	2		31	5	4	
San Francisco			1			
San Joaquin	4	3	22	80	9	
San Mateo			1			
Santa Barbara			1			
Santa Clara			11	14		2
Santa Cruz			1			
Shasta		1	6	2		
Solano		1	2	2	5	
Stanislaus	12	2	25	92	21	
Sutter				25	6	
Tehama		1				1
Tulare			24	129	25	
Tuolumne			2			
Ventura			3			
Yolo	2		6	16	2	
Yuba				1		
<b>Total</b>	<b>61</b>	<b>11</b>	<b>443</b>	<b>1008</b>	<b>306</b>	<b>9</b>

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2009 & 2008 YTD West Nile Virus Comparisons		
	2008	2009
Total # Dead Bird Reports	28,161	13,676
# Positive Counties	43	41
# Human Cases / # Tested	236 / 823	61 / 745
# Horse Cases / # Tested	18 / 198	11 / 162
# Positive Dead Birds / # Tested	1,965 / 4,859	443 / 2,411
# Positive Mosquito Pools / # Tested	1,723 / 25,560	1,008 / 22,583
# Positive Chicken Sera / # Tested	255 / 23,101	306 / 19,653
# Positive Squirrels / # Tested	22 / 231	9 / 85

## TEST SUMMARIES

### Human & Horse Cases

		Number Tested	WNV		WEE		SLE		Other	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
Humans Tested*	Week	17	0	14	0	0	0	0	0	0
	YTD	745	1	60	0	0	0	0	0	0
Horses Tested	Week	9	0	2	0	0	0	0	0	0
	YTD	162	0	11	0	0	0	0	0	0

### Dead Birds & Tree Squirrels

		Number Tested	WNV Positive
Dead Birds	Week	64	23
	YTD	2,411	443
Tree Squirrels	Week	4	3
	YTD	85	9

### Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	SLE Positive	WEE Positive
Chicken Sera	Week	875	51	0	0
	YTD	19,653	306	0	0
Mosquito Pools: RT-PCR	Week	1,143	39	0	0
	YTD	21,586	941	0	0
Mosquito Pools: RAMP	Week	109	2	N/A	N/A
	YTD	997	67	N/A	N/A

## POSITIVES

### Dead Birds & Tree Squirrels

County	Submitting Agency	City	Zip	Species	Reported	Tested	Method	Virus
Contra Costa	Contra Costa MVCD	Brentwood	94513	American Crow	9/22/09	9/22/09	RAMP	WNV
Contra Costa	Contra Costa MVCD	Brentwood	94513	American Crow	9/17/09	9/17/09	RAMP	WNV
Contra Costa	Contra Costa MVCD	Brentwood	94513	Western Scrub-Jay	9/18/09	9/18/09	RAMP	WNV
Contra Costa	Contra Costa MVCD	Danville	94526	American Crow	9/21/09	9/22/09	RAMP	WNV
Contra Costa	Contra Costa MVCD	San Ramon	94583	American Crow	9/22/09	9/23/09	RAMP	WNV
Fresno	Fresno MVCD	Fresno	93711	American Crow	8/3/09	9/21/09	RT-PCR	WNV
Glenn	Glenn Co MVCD	Orland	95963	Yellow-billed Magpie	9/16/09	9/21/09	RT-PCR	WNV
Los Angeles	Greater Los Angeles Co VCD	Cerritos	90703	American Crow	9/9/09	9/21/09	RT-PCR	WNV
Los Angeles	Greater Los Angeles Co VCD	Los Angeles	91040	American Crow	9/14/09	9/21/09	RT-PCR	WNV

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Los Angeles	Los Angeles Co Vet	Sherman Oaks	91403	American Crow	9/10/09	9/21/09	RT-PCR	WNV
Los Angeles	Los Angeles Co Vet	Sherman Oaks	91423	American Crow	9/15/09	9/21/09	RT-PCR	WNV
Los Angeles	Los Angeles Co Vet	Valencia	91355	American Crow	9/14/09	9/21/09	RT-PCR	WNV
Orange	Orange Co VCD	Anaheim	92807	American Crow	7/7/09	9/21/09	RT-PCR	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95831	Western Scrub-Jay	9/10/09	9/21/09	RT-PCR	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95841	Eastern Gray Squirrel	9/9/09	9/21/09	RT-PCR	WNV
San Bernardino	San Bernardino VCD	Running Springs	92382	Fox Squirrel	9/10/09	9/23/09	RT-PCR	WNV
San Bernardino	West Valley MVCD	Rancho Cucamonga	91737	American Crow	9/16/09	9/16/09	VecTest	WNV
San Diego	San Diego Co VCP	Escondido	92025	American Crow	9/14/09	9/16/09	RT-PCR	WNV
San Diego	San Diego Co VCP	Pine Valley	91962	American Crow	9/15/09	9/16/09	RT-PCR	WNV
San Diego	San Diego Co VCP	San Diego	92139	American Crow	9/14/09	9/16/09	RT-PCR	WNV
Santa Clara	Santa Clara VCD	San Jose	95130	Eastern Gray Squirrel	9/14/09	9/23/09	RT-PCR	WNV
Stanislaus	East Side MAD	Modesto	95357	American Crow	9/15/09	9/15/09	RAMP	WNV
Tulare	Delta VCD	Visalia	93277	American Crow	9/14/09	9/21/09	RT-PCR	WNV
Tulare	Delta VCD	Visalia	93277	American Crow	9/14/09	9/21/09	RT-PCR	WNV
Ventura	Ventura Co Env Health Dept	Ojai	93023	Western Scrub-Jay	9/16/09	9/21/09	RT-PCR	WNV
Yolo	Sacramento-Yolo MVCD	Davis	95616	American Crow	9/11/09	9/21/09	RT-PCR	WNV

## Mosquitoes

County	Site Code	Pool #	Species	# in Pool	Collected	Tested	City	Virus	Method
Fresno	CNSL4124	691	Cx tarsalis	39	9/22/2009	9/24/2009	Selma	WNV	RTPCR
Fresno	CNSL6142	686	Cx quinquefasciatus	50	9/17/2009	9/23/2009	Riverdale	WNV	RTPCR
Fresno	FRNO0003	45	Cx tarsalis	40	9/16/2009	9/24/2009	Herndon/Milburn inte	WNV	RTPCR
Fresno	FRNO0053	54	Cx tarsalis	50	9/17/2009	9/24/2009	Fresno	WNV	RTPCR
Fresno	FRNO0053	55	Cx tarsalis	21	9/17/2009	9/24/2009	Fresno	WNV	RTPCR
Fresno	FRNO0054	57	Cx quinquefasciatus	12	9/17/2009	9/24/2009	Fresno	WNV	RTPCR
Fresno	FRWS4102	210	Cx tarsalis	50	9/22/2009	9/24/2009	Kerman	WNV	RTPCR
Kern	KERN3014	572	Cx tarsalis	15	9/18/2009	9/22/2009	Bakersfield	WNV	RTPCR
Kings	KNGS3022	449	Cx tarsalis	50	9/8/2009	9/21/2009	Hanford	WNV	RTPCR
Kings	KNGS3022	451	Cx tarsalis	50	9/8/2009	9/21/2009	Hanford	WNV	RTPCR
Kings	KNGS3030	439	Cx tarsalis	50	9/8/2009	9/21/2009	Lemoore	WNV	RTPCR
Kings	KNGS3030	442	Cx tarsalis	50	9/8/2009	9/21/2009	Lemoore	WNV	RTPCR
Kings	KNGS3030	443	Cx tarsalis	50	9/8/2009	9/21/2009	Lemoore	WNV	RTPCR
Kings	KNGS3030	477	Cx tarsalis	50	9/16/2009	9/22/2009	Lemoore	WNV	RTPCR
Kings	KNGS3030	480	Cx erythrothorax	14	9/16/2009	9/22/2009	Lemoore	WNV	RTPCR
Kings	KNGS4003	485	Cx tarsalis	7	9/16/2009	9/22/2009	Hanford	WNV	RTPCR
Los Angeles	GRLA2444	5999	Cx quinquefasciatus	34	9/17/2009	9/24/2009	Glendale	WNV	RTPCR
Los Angeles	GRLA2450	5998	Cx quinquefasciatus	46	9/17/2009	9/24/2009	Glendale	WNV	RTPCR
Los Angeles	GRLA2636	5979	Cx quinquefasciatus	50	9/15/2009	9/24/2009	Van Nuys	WNV	RTPCR
Los Angeles	GRLA2650	5972	Cx quinquefasciatus	50	9/15/2009	9/24/2009	Encino	WNV	RTPCR
Los Angeles	GRLA2655	5977	Cx quinquefasciatus	50	9/15/2009	9/24/2009	Encino	WNV	RTPCR
Los Angeles	GRLA2938	5996	Cx quinquefasciatus	49	9/17/2009	9/24/2009	Burbank	WNV	RTPCR
Los Angeles	LACW1007	451	Cx quinquefasciatus	28	9/17/2009	9/24/2009	Baldwin Hills	WNV	RTPCR
Los Angeles	LACW1054	440	Cx quinquefasciatus	50	9/16/2009	9/24/2009	Inglewood	WNV	RTPCR
Merced	MERC0028	231	Cx pipiens	15	9/17/2009	9/21/2009	Merced	WNV	RTPCR
Merced	MERC0405	189	Cx pipiens	50	9/16/2009	9/21/2009	Hilmar	WNV	RTPCR
Merced	TRLK0003	1362	Cx tarsalis	50	9/22/2009	9/24/2009	Newman	WNV	RTPCR

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Orange	ORCO0030	1212	Cx quinquefasciatus	21	9/17/2009	9/21/2009	La Habra	WNV	RTPCR
Placer	PLCR0476	931	Cx tarsalis	50	9/16/2009	9/23/2009	Roseville	WNV	RTPCR
San Bernardino	WVAL1007	942	Cx quinquefasciatus	28	9/15/2009	9/22/2009	Ontario	WNV	RTPCR
San Bernardino	WVAL2002	956	Cx quinquefasciatus	7	9/16/2009	9/22/2009	Chino Hills	WNV	RTPCR
San Bernardino	WVAL2002	957	Cx tarsalis	29	9/16/2009	9/22/2009	Chino Hills	WNV	RTPCR
San Bernardino	WVAL2002	958	Cx tarsalis	29	9/16/2009	9/22/2009	Chino Hills	WNV	RTPCR
San Bernardino	WVAL2006	971	Cx tarsalis	45	9/16/2009	9/22/2009	Chino	WNV	RTPCR
San Joaquin	SJCM8026	1020	Cx tarsalis	18	9/22/2009	9/23/2009	Stockton	WNV	RAMP
San Joaquin	SJCM8083	1061	Cx pipiens	50	9/23/2009	9/25/2009	Escalon	WNV	RAMP
Stanislaus	TRLK0414	1207	Cx pipiens	50	9/22/2009	9/24/2009	Modesto	WNV	RTPCR
Stanislaus	TRLK0437	1272	Cx pipiens	50	9/22/2009	9/24/2009	Patterson	WNV	RTPCR
Stanislaus	TRLK0625	1094	Cx pipiens	50	9/15/2009	9/21/2009	Turlock	WNV	RTPCR
Stanislaus	TRLK9732	1289	Cx tarsalis	50	9/22/2009	9/24/2009	Newman	WNV	RTPCR
Tulare	DLTA8413	861	Cx quinquefasciatus	30	9/16/2009	9/22/2009	Visalia	WNV	RTPCR

### Sentinel Chickens

County	Site Code	Nearest City	Virus	Date Bled	Band 01	Band 02	Band 03	Band 04	Band 05
Butte	BUCO0001	Chico	WNV	9/1/2009	3258	3263			
Butte	BUCO0001	Chico	WNV	9/15/2009	3261	3264			
Butte	BUCO0002	Oroville	WNV	8/31/2009	3273	3277			
Butte	BUCO0002	Oroville	WNV	9/15/2009	3268	3272			
Butte	BUCO0003	Oroville	WNV	9/15/2009	3282				
Butte	BUCO0004	Gridley	WNV	9/15/2009	3290				
Contra Costa	CNTR8152	Knightsen	WNV	9/14/2009	3002	3003	3004	3007	3010
Kern	DLNO0035		WNV	9/17/2009	2967	2969	2974		
Kern	KERN0104	Old River	WNV	9/15/2009	2611				
Kern	KERN0107	Arvin	WNV	9/15/2009	2704	2711	2712		
Kern	KERN0111	Arvin	WNV	9/15/2009	2692	2709			
Kern	KERN0112	Wasco	WNV	9/14/2009	2662	2668			
Kern	KERN0114	Bakersfield	WNV	9/15/2009	2627	2716			
Merced	MERC0501	El Nido	WNV	9/4/2009	2262				
Merced	MERC0501	El Nido	WNV	9/21/2009	2264				
Placer	PLCR0017	Sheridan	WNV	8/31/2009	3448	3449	3453		
Placer	PLCR0017	Sheridan	WNV	9/14/2009	3450	3451			
Placer	PLCR0025	Lincoln	WNV	8/31/2009	3456				
Placer	PLCR0401	Auburn	WNV	8/31/2009	3471				
Riverside	NWST0004	Flabob Airport	WNV	9/11/2009	2044				
Stanislaus	TRLK0402	Denair	WNV	9/3/2009	1114	1117			
Stanislaus	TRLK0402	Denair	WNV	9/16/2009	1112	1115	1121		
Stanislaus	TRLK0403	Newman	WNV	9/17/2009	1122				
Stanislaus	TRLK9703	Crows Landing	WNV	9/3/2009	1153				
Sutter	SUYA0014	Sutter	WNV	9/17/2009	1289				
Tulare	DLNO0021	Earlimart	WNV	9/3/2009	2953	2958			
Tulare	DLNO0021	Earlimart	WNV	9/17/2009	2956	2957	2961		

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## NATIONAL COMMENTS

As of September 22, 2009, 345 human cases had been reported nationwide in the following 31 states: Arizona (15), Arkansas (1), California (47), Colorado (51), Georgia (2), Idaho (8), Illinois (1), Indiana (3), Iowa (2), Kansas (4), Kentucky (2), Louisiana (13), Minnesota (1), Mississippi (37), Missouri (1), Montana (3), Nebraska (21), Nevada (12), New Mexico (6), New York (1), North Dakota (1), Ohio (2), Oklahoma (4), Oregon (7), Pennsylvania (2), South Carolina (3), South Dakota (14), Tennessee (2), Texas (55), Washington (17), and Wyoming (7). Of the 345 individuals, 174 (50%) have neuroinvasive illness. The median age of the 345 individuals is 54 years (range: 2-91 years); 58% are male. There have been twelve fatalities in California (2), Idaho (1), Indiana (1), Mississippi (3), New Mexico (1), Texas (3), and Wyoming (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.

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### **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.

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### **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.

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### **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.

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### **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.

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