

# California Arbovirus Surveillance Bulletin # 25

Week 30 Friday, July 31, 2009

## Weekly Summary

### WEEKLY COMMENTS



As of July 31, 2009, 33 counties have reported West Nile virus (WNV) activity. At this time last year, 28 counties had reported WNV activity.

#### **Humans**

No new cases were reported this week. In 2009, one human case of West Nile virus (WNV) neuroinvasive illness has been identified in San Diego County. In addition, two asymptomatic blood donors have been reported in Los Angeles and San Joaquin counties. At this time last year, 12 human cases had been reported in California from seven counties.

#### **Horses**

A horse from San Joaquin County has tested positive for WNV; this is the first reported equine case of WNV in 2009. The 2-year-old horse was not vaccinated against WNV and developed neurological symptoms on July 10, 2009; the horse was euthanized as a result of the infection. At this time last year, four equine WNV cases had been reported from four counties.

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

This week, 22 WNV positive dead birds were reported from 12 counties: Butte (1), Contra Costa (1), El Dorado (1), Fresno (5), Kern (2), Los Angeles (3), Merced (1), Sacramento (2), San Joaquin (2), Shasta (1), Stanislaus (2), and Tulare (1). In 2009, 240 birds from 31 counties have tested positive for WNV. At this time last year, 557 WNV positive dead birds had been reported from 26 counties.

No positive tree squirrels were reported this week. In 2009, one tree squirrel from Fresno County has tested positive for WNV. At this time last year, three WNV positive tree squirrels had been reported from two counties.

#### **Mosquito Pools**

Fifty-nine WNV positive mosquito pools were reported this week from 13 counties: Contra Costa (1), Fresno (9), Imperial (1), Kern (7), Kings (14), Los Angeles (1), Placer (1), Sacramento (2), San Bernardino (1), San Joaquin (10), Stanislaus (3), Sutter (3), and Tulare (6). These are the first WNV positive mosquitoes detected in Imperial and Placer counties this year. In 2009, 292 mosquito pools have tested positive for WNV from 18 counties. At this time last year, 462 WNV positive mosquito pools had been reported from 19 counties.

#### **Sentinel Chickens**

Eleven WNV seroconversions were reported this week from four counties: Contra Costa (1), Imperial (4), Kern (5), and Sacramento (1). This is the first indication of WNV activity in Imperial County this year, and the first WNV positive chickens detected in all four of these counties. In 2009, 24 chickens from seven counties have tested positive for WNV antibodies. At this time last year, 23 WNV seroconversions had been reported from five 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).

2009 & 2008 YTD West Nile Virus Comparisons		
	2008	2009
Total # Dead Bird Reports	18,204	10,519
# Positive Counties	28	33
# Human Cases / # Tested	12 / 465	1 / 550
# Horse Cases / # Tested	4 / 129	1 / 117
# Positive Dead Birds / # Tested	557 / 2,771	240 / 1,739
# Positive Mosquito Pools / # Tested	462 / 13,414	292 / 14,174
# Positive Chicken Sera / # Tested	23 / 15,595	24 / 13,617
# Positive Squirrels / # Tested	3 / 91	1 / 58

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## YTD WNV Activity by Element and County, 2009

County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens	Squirrels
Alameda			7			
Butte			5			
Colusa			2			
Contra Costa			13	14	1	
El Dorado			2			
Fresno			49	79		1
Imperial				1	4	
Kern			23	46	5	
Kings			8	29		
Lake			1			
Los Angeles			38	6	10	
Madera			7	1		
Merced			2			
Modoc			1			
Orange			5	1		
Placer			3	1		
Riverside			1	6		
Sacramento			8	9	1	
San Bernardino			4	5		
San Diego	1		14		2	
San Francisco			1			
San Joaquin		1	10	33		
San Mateo			1			
Santa Barbara			1			
Santa Clara			8	14		
Santa Cruz			1			
Shasta			6			
Stanislaus			8	8		
Sutter				6		
Tulare			8	29		
Tuolumne			1			
Ventura			1			
Yolo			1	4	1	
<b>Total</b>	<b>1</b>	<b>1</b>	<b>240</b>	<b>292</b>	<b>24</b>	<b>1</b>

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## TEST SUMMARIES

### Human & Horse Cases

		Number Tested	WNV		WEE		SLE		Other	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
Humans Tested*	Week	70	0	0	0	0	0	0	0	0
	YTD	550	1	0	0	0	0	0	0	0
Horses Tested	Week	1	0	1	0	0	0	0	0	0
	YTD	117	0	1	0	0	0	0	0	0

### Dead Birds & Tree Squirrels

		Number Tested	WNV Positive
Dead Birds	Week	88	22
	YTD	1,739	240
Tree Squirrels	Week	1	0
	YTD	58	1

### Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	SLE Positive	WEE Positive
Chicken Sera	Week	804	11	0	0
	YTD	13,617	24	0	0
Mosquito Pools: RT-PCR	Week	1,105	59	0	0
	YTD	13,700	266	0	0
Mosquito Pools: RAMP	Week	26	0	N/A	N/A
	YTD	474	26	N/A	N/A

## POSITIVES

### Dead Birds & Tree Squirrels

County	City	Zip Code	Species	Reported	Tested	Virus	Method
Butte	Chico	95928	Goldfinch	7/16/09	7/27/09	WNV	RT-PCR
Contra Costa	Danville	94526	Cooper's Hawk	7/21/09	7/27/09	WNV	RT-PCR
El Dorado	Placerville	95667	House Sparrow	7/17/09	7/27/09	WNV	RT-PCR
Fresno	Fresno	93703	American Crow	7/23/09	7/23/09	WNV	RAMP
Fresno	Fresno	93704	Western Scrub-Jay	7/7/09	7/27/09	WNV	RT-PCR
Fresno	Fresno	93711	American Crow	7/27/09	7/27/09	WNV	RAMP
Fresno	Fresno	93722	American Crow	7/7/09	7/27/09	WNV	RT-PCR
Fresno	Fresno	93722	American Crow	7/22/09	7/23/09	WNV	RAMP
Kern	Bakersfield	93312	House Sparrow	7/16/09	7/27/09	WNV	RT-PCR
Kern	Bakersfield	93313	Red-tailed Hawk	7/22/09	7/27/09	WNV	RT-PCR
Los Angeles	Lancaster	93534	House Finch	7/19/09	7/27/09	WNV	RT-PCR
Los Angeles	Lancaster	93536	House Sparrow	7/16/09	7/27/09	WNV	RT-PCR
Los Angeles	Palmdale	93551	Brewer's Blackbird	7/16/09	7/27/09	WNV	RT-PCR
Merced	Merced	95340	House Sparrow	7/16/09	7/27/09	WNV	RT-PCR
Sacramento	Rancho Cordova	95670	White-crowned Sparrow	7/20/09	7/27/09	WNV	RT-PCR
Sacramento	Sacramento	95817	Northern Mockingbird	7/19/09	7/27/09	WNV	RT-PCR
San Joaquin	Stockton	95209	Western Scrub-Jay	7/20/09	7/27/09	WNV	RT-PCR
San Joaquin	Stockton	95215	Western Scrub-Jay	7/16/09	7/27/09	WNV	RT-PCR
Shasta	Anderson	96007	American Crow	7/28/09	7/28/09	WNV	VecTest
Stanislaus	Waterford	95386	House Finch	7/20/09	7/27/09	WNV	RT-PCR
Stanislaus	Waterford	95386	Sparrow	7/15/09	7/27/09	WNV	RT-PCR
Tulare	Visalia	93277	American Crow	7/16/09	7/27/09	WNV	RT-PCR

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## Mosquitoes

County	Site Code	Pool #	Species	# in Pool	Collected	Tested	City	Virus	Method
Contra Costa	CNTR8142	493	Cx tarsalis	34	7/27/2009	7/30/2009	Knightsen	WNV	RTPCR
Fresno	CNSL1448	326	Cx quinquefasciatus	21	7/24/2009	7/29/2009	Clovis	WNV	RTPCR
Fresno	CNSL2031	329	Cx quinquefasciatus	28	7/28/2009	7/29/2009	Sanger	WNV	RTPCR
Fresno	CNSL2083	322	Cx quinquefasciatus	50	7/22/2009	7/29/2009	Sanger	WNV	RTPCR
Fresno	CNSL2140	596	Cx quinquefasciatus	23	7/22/2009	7/29/2009	Sanger	WNV	RTPCR
Fresno	CNSL2266	323	Cx quinquefasciatus	29	7/22/2009	7/29/2009	Sanger	WNV	RTPCR
Fresno	CNSL3026	605	Cx quinquefasciatus	15	7/28/2009	7/29/2009	Reedley	WNV	RTPCR
Fresno	CNSL3263	604	Cx stigmatosoma	50	7/28/2009	7/29/2009	Sanger	WNV	RTPCR
Fresno	CNSL5081	600	Cx quinquefasciatus	50	7/24/2009	7/30/2009	Laton	WNV	RTPCR
Fresno	FRNO0046	26	Cx quinquefasciatus	40	7/29/2009	7/30/2009	Fresno	WNV	RTPCR
Imperial	COAV5002	1400	Cx tarsalis	44	7/14/2009	7/30/2009	Niland	WNV	RTPCR
Kern	AFSB0121	5114	Cx quinquefasciatus	9	7/22/2009	7/29/2009	Bakersfield	WNV	RTPCR
Kern	KERN2007	348	Cx quinquefasciatus	9	7/22/2009	7/29/2009	Bakersfield	WNV	RTPCR
Kern	KERN2010	360	Cx quinquefasciatus	17	7/24/2009	7/29/2009	Bakersfield	WNV	RTPCR
Kern	KERN2025	347	Cx quinquefasciatus	13	7/22/2009	7/29/2009	Bakersfield	WNV	RTPCR
Kern	KERN2027	357	Cx quinquefasciatus	8	7/24/2009	7/29/2009	Bakersfield	WNV	RTPCR
Kern	KERN2030	344	Cx quinquefasciatus	45	7/22/2009	7/30/2009	Bakersfield	WNV	RTPCR
Kern	KERN2041	356	Cx quinquefasciatus	16	7/23/2009	7/29/2009	Arvin	WNV	RTPCR
Kings	KNGS3018	184	Cx tarsalis	50	7/28/2009	7/30/2009	Lemoore	WNV	RTPCR
Kings	KNGS3022	153	Cx tarsalis	50	7/23/2009	7/29/2009	Hanford	WNV	RTPCR
Kings	KNGS3022	154	Cx tarsalis	50	7/23/2009	7/30/2009	Hanford	WNV	RTPCR
Kings	KNGS3022	155	Cx tarsalis	50	7/23/2009	7/29/2009	Hanford	WNV	RTPCR
Kings	KNGS3022	156	Cx tarsalis	50	7/23/2009	7/29/2009	Hanford	WNV	RTPCR
Kings	KNGS3022	162	Cx tarsalis	50	7/23/2009	7/29/2009	Hanford	WNV	RTPCR
Kings	KNGS3022	164	Cx tarsalis	50	7/23/2009	7/29/2009	Hanford	WNV	RTPCR
Kings	KNGS3022	174	Cx tarsalis	50	7/28/2009	7/30/2009	Hanford	WNV	RTPCR
Kings	KNGS3022	175	Cx tarsalis	50	7/28/2009	7/30/2009	Hanford	WNV	RTPCR
Kings	KNGS3022	195	Cx tarsalis	50	7/29/2009	7/31/2009	Hanford	WNV	RTPCR
Kings	KNGS3035	182	Cx quinquefasciatus	8	7/28/2009	7/30/2009	Hanford	WNV	RTPCR
Kings	KNGS3045	170	Cx quinquefasciatus	50	7/28/2009	7/30/2009	Hanford	WNV	RTPCR
Kings	KNGS3056	207	Cx quinquefasciatus	40	7/29/2009	7/30/2009	Hardwick	WNV	RTPCR
Kings	KNGS3057	178	Cx tarsalis	50	7/28/2009	7/30/2009	Hanford	WNV	RTPCR
Los Angeles	GRLA2478	5790	Cx quinquefasciatus	41	7/22/2009	7/30/2009	Sunland	WNV	RTPCR
Placer	PLCR0496	312	Cx tarsalis	8	7/28/2009	7/29/2009	Lincoln	WNV	RTPCR
Sacramento	SAYO2305	2648	Cx tarsalis	15	7/28/2009	7/29/2009	Elk Grove	WNV	RTPCR
Sacramento	SAYO2315	2545	Cx tarsalis	50	7/23/2009	7/27/2009	Isleton	WNV	RTPCR
San Bernardino	WVAL2004	646	Cx quinquefasciatus	50	7/22/2009	7/29/2009	Chino	WNV	RTPCR
San Joaquin	SJCM8005	559	Cx pipiens	50	7/23/2009	7/28/2009	Stockton	WNV	RTPCR
San Joaquin	SJCM8005	560	Cx pipiens	50	7/23/2009	7/28/2009	Stockton	WNV	RTPCR
San Joaquin	SJCM8018	519	Cx tarsalis	50	7/21/2009	7/28/2009	Stockton	WNV	RTPCR
San Joaquin	SJCM8018	520	Cx pipiens	15	7/21/2009	7/28/2009	Stockton	WNV	RTPCR
San Joaquin	SJCM8021	521	Cx tarsalis	47	7/21/2009	7/28/2009	Lodi	WNV	RTPCR
San Joaquin	SJCM8021	543	Cx tarsalis	50	7/23/2009	7/28/2009	Lodi	WNV	RTPCR
San Joaquin	SJCM8021	544	Cx tarsalis	13	7/23/2009	7/28/2009	Lodi	WNV	RTPCR
San Joaquin	SJCM8056	545	Cx tarsalis	16	7/23/2009	7/28/2009	Manteca	WNV	RTPCR
San Joaquin	SJCM8159	542	Cx pipiens	41	7/23/2009	7/30/2009	Stockton	WNV	RTPCR
San Joaquin	SJCM8161	525	Cx pipiens	50	7/21/2009	7/30/2009	Ripon	WNV	RTPCR

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Stanislaus	TRLK0305	476	Cx pipiens	50	7/28/2009	7/29/2009	Grayson	WNV	RTPCR
Stanislaus	TRLK0305	478	Cx pipiens	40	7/28/2009	7/29/2009	Grayson	WNV	RTPCR
Stanislaus	TRLK0322	498	Cx pipiens	17	7/28/2009	7/29/2009	Modesto	WNV	RTPCR
Sutter	SUYA0044	192	Cx tarsalis	50	7/27/2009	7/29/2009	Pleasant Grove	WNV	RTPCR
Sutter	SUYA0044	193	Cx tarsalis	50	7/27/2009	7/29/2009	Pleasant Grove	WNV	RTPCR
Sutter	SUYA0063	198	Cx tarsalis	50	7/27/2009	7/29/2009	Pennington	WNV	RTPCR
Tulare	DLTA8427	451	Cx tarsalis	28	7/23/2009	7/27/2009	Visalia	WNV	RTPCR
Tulare	DLTA8427	454	Cx tarsalis	23	7/23/2009	7/27/2009	Visalia	WNV	RTPCR
Tulare	DLTA8428	450	Cx tarsalis	50	7/23/2009	7/27/2009	Goshen	WNV	RTPCR
Tulare	DLTA8434	448	Cx quinquefasciatus	31	7/23/2009	7/27/2009	Visalia	WNV	RTPCR
Tulare	DLTA8533	483	Cx quinquefasciatus	43	7/29/2009	7/30/2009	Visalia	WNV	RTPCR
Tulare	DLTA9512	468	Cx tarsalis	10	7/24/2009	7/30/2009	Farmersville	WNV	RTPCR

### Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01	Band 02	Band 03	Band 04
Contra Costa	CNTR8152	Knightsen	7/20/2009	WNV	3006			
Imperial	COAV5001	Niland	7/13/2009	WNV	3168	3169	3170	3171
Kern	KERN0104	Old River	7/20/2009	WNV	2697			
Kern	KERN0107	Arvin	7/20/2009	WNV	2642			
Kern	KERN0111	Arvin	7/20/2009	WNV	2660			
Kern	KERN0113	Bakersfield	7/20/2009	WNV	2608			
Kern	KERN0114	Bakersfield	7/20/2009	WNV	2623			
Sacramento	SAYO7009	Wilton	7/21/2009	WNV	1885			

### NATIONAL COMMENTS

As of July 28, 2009, 26 human cases had been reported nationwide in the following 13 states: Arizona (4), Arkansas (1), California (1), Colorado (2), Idaho (1), Minnesota (1), Mississippi (4), Nebraska (1), Nevada (4), New York (1), South Dakota (3), Tennessee (1), and Texas (2). There have been no fatalities. At this time last year, 62 cases had been reported nationwide.

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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 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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*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](mailto:tina.feiszli@cdph.ca.gov)*

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