

# California Arbovirus Surveillance Bulletin # 36

Week 41 Monday, October 19, 2009

## Weekly Summary

### WEEKLY COMMENTS



As of October 16, 2009, 42 counties in California have reported West Nile virus (WNV) activity. At this time last year, 46 counties had reported WNV activity.

#### **Humans**

Four new human cases of West Nile virus were reported in California last week from the following 4 counties: Kern (1), Los Angeles (1), San Diego (1), and Tulare (1). In 2009, 81 human cases of West Nile virus have been identified in 16 counties: Butte (1), Contra Costa (1), El Dorado (1), Fresno (13), Kern (13), Kings (3), Los Angeles (15), Merced (1), Orange (3), Riverside (1), San Bernardino (1), San Diego (4), San Joaquin (5), Stanislaus (12), Tulare (5), and Yolo (2). Of the 81 individuals, 43 (53%) developed neuroinvasive symptoms. The median age of the 81 individuals is 53 years (range: 7-88 years), and 49 (60%) are male. Three fatalities have been reported in Fresno (1), Los Angeles (1), and Merced (1). In addition, 22 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, 329 cases from 24 counties had been reported.

#### **Horses**

No new cases were reported last week. In 2009, 15 equine cases of WNV have been identified in 11 counties: Contra Costa (1), Fresno (1), Los Angeles (1), Merced (2), Sacramento (1), San Joaquin (3), Shasta (1), Solano (1), Stanislaus (2), Tehama (1), and Tulare (1). Of the 15 cases, 7 have died or were euthanized as a result of their illness. At this time last year, 26 cases had been reported from 13 counties.

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

Twenty-seven WNV positive dead birds were reported in California last week from the following 16 counties: Butte (1), Contra Costa (3), Kern (1), Los Angeles (7), Merced (1), Monterey (1), Orange (2), Riverside (1), Sacramento (1), San Bernardino (2), San Diego (2), San Joaquin (1), San Luis Obispo (1), Santa Clara (1), Stanislaus (1), and Yolo (1). This is the first indication of WNV activity in San Luis Obispo County this year. In 2009, 498 birds from 36 counties have tested positive for WNV. At this time last year, 2,319 WNV positive dead birds had been reported from 43 counties.

One WNV positive tree squirrel was reported in California last week from Contra Costa County. In 2009, 10 tree squirrels from 7 counties have tested positive for WNV. At this time last year, 27 WNV positive tree squirrels had been reported from 7 counties.

#### **Mosquito Pools**

Three WNV positive mosquito pools were reported in California last week from Fresno (2) and Orange (1) counties. In 2009, 1,047 mosquito pools have tested positive for WNV from 27 counties. At this time last year, 1,839 WNV positive mosquito pools had been reported from 26 counties.

#### **Sentinel Chickens**

Sixteen WNV seroconversions were reported in California last week from the following 7 counties: Fresno (4), Imperial (2), Los Angeles (3), Merced (2), Riverside (2), San Bernardino (2), and Tulare (1). In 2009, 406 chickens from 22 counties have tested positive for WNV antibodies. At this time last year, 452 WNV seroconversions had been reported from 20 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		13	5	34	
Colusa			2			
Contra Costa	1	1	43	17	10	2
El Dorado	1		9			
Fresno	13	1	62	136	17	1
Glenn			6		3	
Imperial				3	41	
Kern	13		28	137	96	1
Kings	3		9	105		
Lake			2	2		
Los Angeles	15	1	78	85	35	
Madera			11	3	7	
Merced	1	2	9	11	14	
Modoc			1			
Mono				1		
Monterey			4			
Napa					3	
Orange	3		9	14		
Placer			4	40	11	
Riverside	1		2	26	29	
Sacramento		1	25	36	2	1
San Bernardino	1		18	51	13	2
San Diego	4		35	5	4	
San Francisco			1			
San Joaquin	5	3	23	84	10	
San Luis Obispo			1			
San Mateo			1			
Santa Barbara			1			
Santa Clara			13	14		2
Santa Cruz			1			
Shasta		1	8	2		
Solano		1	3	2	10	
Stanislaus	12	2	28	94	25	
Sutter				25	10	
Tehama		1			2	1
Tulare	5	1	25	131	28	
Tuolumne			2			
Ventura			3			
Yolo	2		7	16	2	
Yuba				1		
<b>Total</b>	<b>81</b>	<b>15</b>	<b>498</b>	<b>1047</b>	<b>406</b>	<b>10</b>

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2009 & 2008 YTD West Nile Virus Comparisons		
	2008	2009
Total # Dead Bird Reports	30,266	14,486
# Positive Counties	46	42
# Human Cases / # Tested	329 / 949	81 / 832
# Horse Cases / # Tested	26 / 285	15 / 178
# Positive Dead Birds / # Tested	2,319 / 5,365	498 / 2,594
# Positive Mosquito Pools / # Tested	1,839 / 28,321	1,047 / 24,371
# Positive Chicken Sera / # Tested	452 / 25,730	406 / 21,958
# Positive Squirrels / # Tested	27 / 259	10 / 97

## TEST SUMMARIES

### Human & Horse Cases

		Number Tested	WNV		WEE		SLE		Other	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
Humans Tested*	Week	19	0	4	0	0	0	0	0	0
	YTD	832	1	80	0	0	0	0	0	0
Horses Tested	Week	0	0	0	0	0	0	0	0	0
	YTD	178	0	15	0	0	0	0	0	0

### Dead Birds & Tree Squirrels

		Number Tested	WNV Positive
Dead Birds	Week	90	27
	YTD	2,594	498
Tree Squirrels	Week	6	1
	YTD	97	10

### Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	SLE Positive	WEE Positive
Chicken Sera	Week	633	16	0	0
	YTD	21,958	406	0	0
Mosquito Pools: RT-PCR	Week	128	3	0	0
	YTD	23,197	974	0	0
Mosquito Pools: RAMP	Week	45	0	N/A	N/A
	YTD	1,174	73	N/A	N/A

## POSITIVES

### Dead Birds & Tree Squirrels

County	Submitting Agency	City	Zip	Species	Reported	Tested	Virus	Method
Butte	Butte Co MVCD	Chico	95928	Western Scrub-Jay	9/30/09	10/12/09	WNV	RT-PCR
Contra Costa	Contra Costa MVCD	Brentwood	94513	American Crow	10/9/09	10/9/09	WNV	RAMP
Contra Costa	Contra Costa MVCD	Concord	94521	Fox Squirrel	10/1/2009	10/12/209	WNV	RT-PCR
Contra Costa	Contra Costa MVCD	Oakley	94561	American Crow	10/8/09	10/8/09	WNV	RAMP
Contra Costa	Contra Costa MVCD	Oakley	94561	American Crow	10/8/09	10/8/09	WNV	VecTest
Kern	Kern MVCD	Bakersfield	93308	House Finch	10/5/09	10/12/09	WNV	RT-PCR
Los Angeles	Greater LA VCD	La Mirada	90638	American Crow	9/21/09	10/12/09	WNV	RT-PCR
Los Angeles	Greater LA VCD	North Hollywood	91601	American Crow	10/4/09	10/12/09	WNV	RT-PCR
Los Angeles	Los Angeles Co Vet	Culver City	90232	American Crow	10/6/09	10/12/09	WNV	RT-PCR
Los Angeles	Los Angeles Co Vet	Mission Hills	91345	House Finch	10/6/09	10/12/09	WNV	RT-PCR
Los Angeles	Los Angeles Co Vet	North Hollywood	91606	American Crow	10/2/09	10/12/09	WNV	RT-PCR
Los Angeles	Los Angeles Co Vet	Santa Clarita	91355	American Crow	10/6/09	10/12/09	WNV	RT-PCR
Los Angeles	Los Angeles Co Vet	Valley Village	91607	American Crow	10/7/09	10/12/09	WNV	RT-PCR
Merced	Merced Co MAD	Atwater	95301	Yellow-billed Magpie	10/5/09	10/12/09	WNV	RT-PCR

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Monterey	N. Salinas Valley MAD	Salinas	93901	Western Scrub-Jay	9/24/09	10/12/09	WNV	RT-PCR
Orange	Orange Co VCD	Cypress	90720	American Crow	9/29/09	10/5/09	WNV	RT-PCR
Orange	Orange Co VCD	Santa Ana	92704	American Crow	10/1/09	10/5/09	WNV	RT-PCR
Riverside	Riverside Co VCP	Murrieta	92562	American Crow	9/29/09	10/12/09	WNV	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95624	Western Scrub-Jay	10/2/09	10/12/09	WNV	RT-PCR
San Bernardino	San Bernardino VCP	Upland	91786	American Crow	9/3/09	9/9/09	WNV	RAMP
San Bernardino	San Bernardino VCP	Upland	91786	American Crow	9/3/09	9/9/09	WNV	VecTest
San Diego	San Diego Co DEHS	Encinitas	92024	American Crow	10/9/09	10/9/09	WNV	RT-PCR
San Diego	San Diego Co DEHS	Valley Center	92082	American Crow	10/7/09	10/9/09	WNV	RT-PCR
San Joaquin	San Joaquin Co MVCD	Stockton	95209	American Crow	10/7/09	10/7/09	WNV	RAMP
San Luis Obispo	San Luis Obispo Animal Services	Morro Bay	93442	Western Scrub-Jay	8/24/09	10/12/09	WNV	RT-PCR
Santa Clara	Santa Clara Co VCD	Saratoga	95070	American Crow	10/5/09	10/6/09	WNV	VecTest
Stanislaus	East Side MAD	Modesto	95356	Western Scrub-Jay	10/5/09	10/12/09	WNV	RT-PCR
Yolo	Sacramento-Yolo MVCD	Woodland	95695	Western Scrub-Jay	10/2/09	10/12/09	WNV	RT-PCR

## Mosquitoes

County	Site Code	Pool #	Species	# in Pool	Collected	Tested	City	Virus	Method
Fresno	FRNO0053	68	Cx tarsalis	50	9/24/2009	10/15/2009	Fresno	WNV	RTPCR
Fresno	FRNO0053	69	Cx quinquefasciatus	50	9/24/2009	10/15/2009	Fresno	WNV	RTPCR
Orange	ORCO0082	1305	Cx quinquefasciatus	11	10/8/2009	10/10/2009	Cypress	WNV	RTPCR

## Sentinel Chickens

County	Site Code	Nearest City	Date Bled	Virus	Band 01	Band 02	Band 03	Band 04
Fresno	FRNO0004	Kerman	10/5/2009	WNV	3741	3746	3747	3750
Imperial	COAV5001	Niland	10/5/2009	WNV	3193	3196		
Los Angeles	ANTV2667	Palmdale	10/7/2009	WNV	3379			
Los Angeles	GRLA2056	Long Beach	10/6/2009	WNV	2788			
Los Angeles	LACW1007	Baldwin Hills	9/17/2009	WNV	2422			
Merced	MERC0006	Merced	10/2/2009	WNV	2257	2259		
Riverside	COAV0035	Mecca	10/5/2009	WNV	3126			
Riverside	COAV0122	Mecca	10/5/2009	WNV	3136			
San Bernardino	SANB0004	San Bernardino	10/5/2009	WNV	1721			
San Bernardino	SANB0007	Fontana	10/5/2009	WNV	1743			
Tulare	DLTA6309	Reedley	10/5/2009	WNV	2928			

## NATIONAL COMMENTS

As of October 13, 2009, 474 human cases had been reported nationwide in the following 34 states: Arizona (16), Arkansas (3), California (77), Colorado (51), Florida (2), Georgia (4), Idaho (8), Illinois (4), Indiana (3), Iowa (5), Kansas (9), Kentucky (3), Louisiana (13), Maryland (1), Minnesota (3), Mississippi (46), Missouri (2), Montana (4), Nebraska (33), Nevada (12), New Jersey (2), New Mexico (7), New York (2), North Dakota (1), Ohio (2), Oklahoma (6), Oregon (7), Pennsylvania (2), South Carolina (3), South Dakota (17), Tennessee (6), Texas (82), Washington (28), and Wyoming (10). Of the 474 individuals, 259 (55%) have neuroinvasive illness. The median age of the 474 individuals is 55 years (range: 10 months-91 years); 57% are male. A total of 21 fatalities had been reported as of October 13 in Arizona (1), California (3), Georgia (1), Idaho (1), Indiana (1), Mississippi (4), New Mexico (1), Oklahoma (1), Tennessee (1), Texas (6), and Wyoming (1).

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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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