

California Arbovirus Surveillance Bulletin # 18

Week 23 Friday, June 12, 2009

Weekly Summary

WEEKLY COMMENTS



As of June 12, 2009, 13 counties have reported West Nile virus (WNV) activity. At this time last year, 18 counties had reported WNV activity.

Humans

No human cases have been reported in 2009.

Horses

No equine cases have been reported in 2009.

Dead Birds & Tree Squirrels

Fifteen new WNV positive dead birds were reported this week from eight counties: Fresno (7), Kern (1), Kings (1), Los Angeles (1), Madera (2), San Diego (1), San Joaquin (1), and Stanislaus (1). This is the first detection of WNV activity reported from Kern, Kings, Madera, and Stanislaus counties. In 2009, 38 birds from 10 counties have tested positive for WNV. At this time last year, 100 WNV positive dead birds had been reported from 18 counties.

One WNV positive tree squirrel was reported this week from Fresno County. This is the first WNV positive tree squirrel reported this year.

Mosquito Pools

Seven WNV positive mosquito pools were reported this week from five counties: Fresno (2), Kern (1), Riverside (2), Santa Clara (1), and Tulare (1). This is the first detection of WNV activity in Tulare County this year, and the first WNV positive mosquito pool reported from Kern County in 2009. In 2009, 56 mosquito pools have tested positive for WNV from eight counties. At this time last year, 23 WNV positive mosquito pools had been reported from four counties.

Sentinel Chickens

No seroconversions were reported this week. In 2009, three chickens from Los Angeles County have tested positive for WNV antibodies. At this time last year, two WNV seroconversions had been reported from one county.

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.

2009 & 2008 YTD West Nile Virus Comparisons		
	2008	2009
Total # Dead Bird Reports	8,407	6,029
# Positive Counties	18	13
# Human Cases/ # Tested	0 / 293	0 / 384
# Horse Cases/ # Tested	0 / 0	0 / 84
# Positive Dead Birds/ # Tested	100 / 1,179	38 / 950
# Positive Mosquito Pools/ # Tested	23 / 4,765	56 / 6,137
# Positive Chicken Sera/ # Tested	2 / 8,569	3 / 7,527
# Positive Squirrels/ # Tested	0 / 44	1 / 32

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YTD WNV Activity by Element and County, 2009

County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens	Squirrels
Contra Costa				11		
Fresno			12	22		1
Kings			1			
Kern			1	1		
Los Angeles			4	1	3	
Madera			2			
Orange			4	1		
Riverside				5		
San Diego			9			
San Joaquin			2			
Santa Clara			2	14		
Stanislaus			1			
Tulare				1		
Total	0	0	38	56	3	1

2009 TEST SUMMARIES

Human & Horse Cases

		Number Tested	WNV		WEE		SLE		Other	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
Humans Tested*	Week	18	0	0	0	0	0	0	0	0
	YTD	384	0	0	0	0	0	0	0	0
Horses Tested	Week	10	0	0	0	0	0	0	0	0
	YTD	84	0	0	0	0	0	0	0	0

Dead Birds & Tree Squirrels

		Number Tested	WNV Positive
Dead Birds	Week	101	15
	YTD	950	38
Tree Squirrels	Week	8	1
	YTD	32	1

Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive
Chicken Sera	Week	834	0	0	0
	YTD	7,527	3	0	0
Mosquito Pools: RT-PCR	Week	900	7	0	0
	YTD	5,863	32	0	0
Mosquito Pools: RAMP	Week	44	0	N/A	N/A
	YTD	274	24	N/A	N/A

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POSITIVES

Dead Birds & Tree Squirrels

County	City	Zip Code	Species	Reported	Tested	Virus	Test Method
Fresno	Fresno	93726	American Crow	5/27/2009	6/9/2009	WNV	RT-PCR
Fresno	Fresno	93726	American Crow	5/27/2009	6/9/2009	WNV	RT-PCR
Fresno	Fresno	93726	American Crow	5/27/2009	6/9/2009	WNV	RT-PCR
Fresno	Fresno	93726	American Crow	5/29/2009	6/9/2009	WNV	RT-PCR
Fresno	Fresno	93710	American Crow	6/8/2009	6/8/2009	WNV	RAMP
Fresno	Fresno	93710	Western Scrub-Jay	6/7/2009	6/8/2009	WNV	RAMP
Fresno	Selma	93662	American Crow	5/28/2009	6/9/2009	WNV	RT-PCR
Fresno	Fresno	93727	Fox Squirrel	6/3/2009	6/8/2009	WNV	RT-PCR
Kern	Bakersfield	93312	American Crow	5/29/2009	6/9/2009	WNV	RT-PCR
Kings	Hanford	93230	American Crow	6/2/2009	6/9/2009	WNV	RT-PCR
Los Angeles	Long Beach	90814	House Finch	6/3/2009	6/9/2009	WNV	RT-PCR
Madera	Madera	93637	American Crow	5/28/2009	6/9/2009	WNV	RT-PCR
Madera	Madera	93637	House Sparrow	6/3/2009	6/9/2009	WNV	RT-PCR
San Diego	Del Mar	92014	American Crow	5/21/2009	6/9/2009	WNV	RT-PCR
San Joaquin	Tracy	95304	American Crow	6/2/2009	6/3/2009	WNV	RAMP
Stanislaus	Modesto	95358	American Crow	6/2/2009	6/9/2009	WNV	RT-PCR

Mosquitoes

County	Site Code	Pool #	Species	# in Pool	Collected	Tested	City	Virus	Test Method
Fresno	CNSL1136	86	Cx quinquefasciatus	36	6/2/2009	6/10/2009	Fresno	WNV	RTPCR
Fresno	CNSL1284	96	Cx tarsalis	13	6/5/2009	6/10/2009	Fresno	WNV	RTPCR
Kern	KERN0009	134	Cx tarsalis	20	6/3/2009	6/9/2009	Bakersfield	WNV	RTPCR
Riverside	RIVR0011	151	Cx tarsalis	50	6/4/2009	6/8/2009	Ripley	WNV	RTPCR
Riverside	RIVR0011	155	Cx tarsalis	37	6/4/2009	6/10/2009	Ripley	WNV	RTPCR
Santa Clara	STCL1420	1721	Cx tarsalis	4	6/4/2009	6/10/2009	Sunnyvale	WNV	RTPCR
Tulare	DLTA8428	52	Cx quinquefasciatus	19	6/5/2009	6/11/2009	Goshen	WNV	RTPCR

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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.

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.

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