

California Arbovirus Surveillance Bulletin # 20

Week 25 Friday, June 26, 2009

Weekly Summary

WEEKLY COMMENTS



As of June 26, 2009, 15 counties have reported West Nile virus (WNV) activity. At this time last year, 19 counties had reported WNV activity.

Humans

No human cases have been reported in 2009, but an asymptomatic WNV infection has been identified in a blood donor from Los Angeles County. The individual donated blood in early June and has not developed any symptoms compatible with WNV illness. At this time last year, one human WNV case had been reported from Tulare County.

Horses

No equine cases have been reported in 2009.

Dead Birds & Tree Squirrels

Fourteen new WNV positive dead birds were reported this week from five counties: Fresno (7), Kern (3), San Diego (1), Santa Clara (2), and Stanislaus (1). In 2009, 60 birds from 11 counties have tested positive for WNV. At this time last year, 160 WNV positive dead birds had been reported from 18 counties.

No positive tree squirrels were reported this week. In 2009, one tree squirrel from Fresno County has tested positive for WNV.

Mosquito Pools

Thirteen WNV positive mosquito pools were reported this week from five counties: Fresno (8), Kern (2), Madera (1), Sacramento (1), and San Joaquin (1). This is the first detection of WNV activity in Sacramento County this year, and the first WNV positive pools detected in Madera and San Joaquin counties this year. In 2009, 81 mosquito pools have tested positive for WNV from 11 counties. At this time last year, 40 WNV positive mosquito pools had been reported from 11 counties.

Sentinel Chickens

A chicken from Antelope Valley in Los Angeles County has tested positive for flavivirus antibodies. Additional testing will be performed next week to differentiate between West Nile and St. Louis encephalitis viruses. Additionally, the Sacramento-Yolo MVCD reported a flavivirus positive chicken from Yolo County; confirmatory testing by CDPH will be conducted next 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	11,179	7,284
# Positive Counties	19	15
# Human Cases/ # Tested	1 / 345	0 / 422
# Horse Cases/ # Tested	0 / 18	0 / 91
# Positive Dead Birds/ # Tested	160 / 1,660	60 / 1,234
# Positive Mosquito Pools/ # Tested	40 / 6,694	81 / 8,269
# Positive Chicken Sera/ # Tested	2 / 10,481	3 / 9,249
# Positive Squirrels/ # Tested	0 / 55	1 / 48

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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			22	40		1
Kern			5	4		
Kings			1			
Los Angeles			5	2	3	
Madera			3	1		
Orange			4	1		
Riverside				5		
Sacramento				1		
San Diego			11			
San Joaquin			2	1		
Santa Clara			4	14		
Shasta			1			
Stanislaus			2			
Tulare				1		
Total	0	0	60	81	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	422	0	0	0	0	0	0	0	0
Horses Tested	Week	4	0	0	0	0	0	0	0	0
	YTD	91	0	0	0	0	0	0	0	0

Dead Birds & Tree Squirrels

		Number Tested	WNV Positive
Dead Birds	Week	159	14
	YTD	1,234	60
Tree Squirrels	Week	10	0
	YTD	48	1

Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	SLE Positive	WEE Positive	Flavivirus Positive
Chicken Sera	Week	861	0	0	0	2
	YTD	9,249	3	0	0	2
Mosquito Pools: RT-PCR	Week	1,061	13	0	0	n/a
	YTD	7,961	57	0	0	n/a
Mosquito Pools: RAMP	Week	21	0	N/A	N/A	n/a
	YTD	308	24	N/A	N/A	n/a

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POSITIVES

Dead Birds & Tree Squirrels

County	City	Zip Code	Species	Date Reported	Date Tested	Virus	Method
Fresno	Clovis	93611	American Crow	6/16/09	6/22/09	WNV	RT-PCR
Fresno	Clovis	93611	Western Scrub-Jay	6/16/09	6/22/09	WNV	RT-PCR
Fresno	Fresno	93705	American Crow	6/12/09	6/22/09	WNV	RT-PCR
Fresno	Fresno	93705	American Crow	6/12/09	6/22/09	WNV	RT-PCR
Fresno	Fresno	93711	American Crow	6/23/09	6/23/09	WNV	RAMP
Fresno	Fresno	93726	American Crow	6/19/09	6/19/09	WNV	RAMP
Fresno	Fresno	93727	Western Scrub-Jay	6/19/09	6/19/09	WNV	RAMP
Kern	Bakersfield	93304	Western Scrub-Jay	6/15/09	6/22/09	WNV	RT-PCR
Kern	Bakersfield	93308	Sparrow	6/16/09	6/22/09	WNV	RT-PCR
Kern	Bakersfield	93313	House Finch	6/14/09	6/22/09	WNV	RT-PCR
San Diego	San Diego	92129	American Crow	6/1/09	6/22/09	WNV	RT-PCR
Santa Clara	San Jose	95129	American Crow	6/5/09	6/5/09	WNV	VecTest
Santa Clara	San Jose	95130	American Crow	6/12/09	6/11/09	WNV	VecTest
Stanislaus	Modesto	95351	American Crow	6/23/09	6/23/09	WNV	RAMP

Mosquitoes

County	Site Code	Pool #	Species	# in Pool	Collected	Tested	City	Virus	Method
Fresno	CNSL1062	115	Cx quinquefasciatus	50	6/17/2009	6/24/2009	Fresno	WNV	RTPCR
Fresno	CNSL1087	123	Cx quinquefasciatus	50	6/17/2009	6/24/2009	Fresno	WNV	RTPCR
Fresno	CNSL1275	135	Cx quinquefasciatus	50	6/19/2009	6/24/2009	Clovis	WNV	RTPCR
Fresno	CNSL1650	132	Cx tarsalis	12	6/17/2009	6/24/2009	Clovis	WNV	RTPCR
Fresno	CNSL1651	137	Cx quinquefasciatus	20	6/19/2009	6/24/2009	Clovis	WNV	RTPCR
Fresno	CNSL1654	141	Cx quinquefasciatus	32	6/23/2009	6/24/2009	Clovis	WNV	RTPCR
Fresno	CNSL4139	313	Cx quinquefasciatus	32	6/19/2009	6/24/2009	Selma	WNV	RTPCR
Fresno	CNSL1443	138	Cx quinquefasciatus	50	6/19/2009	6.26/2009	Fresno	WNV	RTPCR
Kern	KERN2007	179	Cx quinquefasciatus	8	6/17/2009	6/24/2009	Bakersfield	WNV	RTPCR
Kern	KERN3018	176	Cx quinquefasciatus	37	6/17/2009	6/24/2009	Bakersfield	WNV	RTPCR
Madera	MADR6345	12	Cx tarsalis	50	6/23/2009	6/26/2009	Madera	WNV	RTPCR
Sacramento	SAYO2211	1397	Cx tarsalis	13	6/16/2009	6/19/2009	Sacramento	WNV	RTPCR
San Joaquin	SJCM8026	216	Cx tarsalis	50	6/23/2009	6/26/2009	Stockton	WNV	RTPCR

NATIONAL COMMENTS

As of June 24, 2009, one human case of West Nile fever has been reported in the United States, in the state of South Dakota. At this time last year, 13 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.

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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