

California Arbovirus Surveillance Bulletin #13

Week 22 Friday, May 31, 2013



WEEKLY UPDATE

Human Cases

A fatal case of West Nile virus (WNV) has been reported from Sacramento County. The individual tested positive for WNV earlier this year and had symptoms compatible with neuroinvasive disease. Timing of the infection is unknown, and no other surveillance indicators have detected West Nile virus activity in the county this year.

Horses

No equine cases have been reported in 2013.

Dead Birds & Squirrels

Two WNV positive birds were reported this week from Fresno and Orange counties. These are the first WNV positive dead birds reported from these counties. An additional seven dead birds tested positive for chronic WNV infection from five counties. To date this year, 4 dead birds have tested positive for WNV from 4 counties and an additional 23 dead birds have tested positive for chronic WNV infection from 15 counties. At this time last year, 33 dead birds had tested positive for WNV from 7 counties.

Mosquito Pools

Six WNV positive mosquito pools were reported this week from Fresno (1), Los Angeles (4), and Orange (1) counties. **This is the first detection of WNV activity in Orange County in 2013.** To date this year, 15 mosquito pools from 5 counties have tested positive for WNV. At this time last year, 30 mosquito pools from 6 counties had tested positive for WNV.

Sentinel Chickens

No seroconversions have been reported in 2013.

YTD WNV Activity by Element and County, 2013

County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens	Squirrels
Fresno			1	3		
Los Angeles			1	7		
Orange			1	1		
Sacramento	1					
San Joaquin				2		
Tulare				2		
Yuba			1			
Totals	1	0	4	15	0	0

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.westmilemaps.usgs.gov

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2012 & 2013 YTD West Nile Virus Comparisons		
	2012	2013
Total # Dead Bird Reports	3,361	3,432
# Positive Counties	11	7
# Human Cases	0	1
# Horse Cases	0	0
# Positive Dead Birds / # Tested	33 / 682	4 / 632
# Positive Mosquito Pools / # Tested	30 / 4,882	15 / 7,731
# Seroconversions / # Tested	0 / 3,735	0 / 3,554
# Positive Squirrels / # Tested	0 / 38	0 / 34

TESTING SUMMARIES

Humans and Horses

		WNV		WEEV		SLEV	
		Local	Imported	Local	Imported	Local	Imported
Human Cases	Week	1	0	0	0	0	0
	YTD	1	0	0	0	0	0
Horse Cases	Week	0	0	0	0	0	0
	YTD	0	0	0	0	0	0

Dead Birds & Squirrels

		Number Tested	WNV Positive (recent only)
Dead Birds	Week	104	2
	YTD	632	4
Tree Squirrels	Week	2	0
	YTD	34	0

Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	594	0	0	0
	YTD	3,554	0	0	0
Mosquito Pools	Week	1,051	6	0	0
	YTD	7,731	15	0	0

POSITIVES

Dead Birds

County	Agency	City	Zip	Species	Reported	Virus	Type of Infection	Method
Fresno	Consolidated MAD	Clovis	93611	Western Scrub-Jay	5/17/2013	WNV	Recent	RT-PCR
Los Angeles	LA West VCD	Los Angeles	90057	Mallard	5/13/2013	WNV	Chronic	RT-PCR
Los Angeles	LA West VCD	Los Angeles	90057	Goose	5/13/2013	WNV	Chronic	RT-PCR
Los Angeles	San Gabriel Valley MVCD	Alhambra	91801	House Sparrow	4/19/2013	WNV	Chronic	RT-PCR
Nevada	Nevada EH	Grass Valley	95945	European Starling	5/21/2013	WNV	Chronic	RT-PCR
Orange	Orange VCD	Santa Ana	92706	American Crow	5/29/2013	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95823	European Starling	5/14/2013	WNV	Chronic	RT-PCR
San Joaquin	San Joaquin MVCD	Stockton	95206	Western Scrub-Jay	5/10/2013	WNV	Chronic	RT-PCR
Ventura	Ventura EHD	Ventura	93004	American Crow	5/22/2013	WNV	Chronic	RT-PCR

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Mosquito Pools

County	Site Code	Pool #	City	Species	# in Pool	Trap Type	Collected	Virus	Method
Fresno	FRNO0038	14	Fresno	<i>Cx. tarsalis</i>	50	CO2	5/29/2013	WNV	RTPCR
Los Angeles	GRLA2131	237	Wilmington	<i>Cx. tarsalis</i>	50	CO2	5/24/2013	WNV	RTPCR
Los Angeles	GRLA2131	238	Wilmington	<i>Cx. tarsalis</i>	48	CO2	5/24/2013	WNV	RTPCR
Los Angeles	GRLA2247	195	Pico Rivera	<i>Cx. quinquefasciatus</i>	50	GRVD	5/20/2013	WNV	RTPCR
Los Angeles	GRLA3076	5261	Valley Glen	<i>Cx. quinquefasciatus</i>	46	GRVD	5/22/2013	WNV	RTPCR
Orange	ORCO0082	352	Cypress	<i>Cx. quinquefasciatus</i>	52	GRVD	5/22/2013	WNV	RTPCR

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.

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.

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 (WEEV), and St. Louis encephalitis (SLEV) 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 WEEV, SLEV, 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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