

# California Arbovirus Surveillance Bulletin #14

Week 21 Friday, May 25, 2012



## WEEKLY UPDATE

### Human Cases

No human cases have been reported in 2012.

### Horses

No equine cases have been reported in 2012.

### Dead Birds & Squirrels

Four West Nile virus (WNV) positive dead birds were reported this week from Sacramento (2) and San Joaquin (2) counties. To date this year, 16 dead birds have tested positive for WNV from five counties. In addition, 12 dead birds have tested positive for chronic\* WNV infection from three counties.

At this time last year, seven dead birds from four counties had tested positive for WNV.

*\*In 2010, The University of California, Center for Vectorborne Diseases (CVEC) and the California Department of Public Health, Vector-Borne Disease Section began differentiating between chronic and acute infections in WNV positive dead birds. Birds considered to have chronic infection with WNV are unlikely to have been infected recently with WNV and have limited surveillance utility.*

### Mosquito Pools

A total of 7 WNV positive mosquito pools were reported this week from Fresno (1), Sacramento (4), San Bernardino (1), and Yolo (1) counties; this is the first detection of WNV activity in Fresno, San Bernardino and Yolo counties this year. In 2012, 8 mosquito pools from five counties have tested positive for WNV.

At this time last year, four mosquito pools had tested positive for WNV from three counties.

### Sentinel Chickens

No seroconversions have been reported in 2012.

**YTD WNV Activity by Element and County, 2012**

County	Humans	Horses	Dead Birds*	Mosquito Pools	Sentinel Chickens	Squirrels
Contra Costa			1			
Fresno				1		
Los Angeles			2			
Riverside				1		
Sacramento			7	4		
San Bernardino				1		
San Joaquin			4			
Santa Clara			2			
Yolo				1		
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>8</b>	<b>0</b>	<b>0</b>

*\*Total does not include chronic infections*

Website Information: For updated information on WNV in California, please visit the California WNV website, [www.westmile.ca.gov](http://www.westmile.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.westmilemaps.usgs.gov](http://www.westmilemaps.usgs.gov)

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2011 & 2012 YTD West Nile Virus Comparisons		
	2011	2012
Total # Dead Bird Reports	2,413	2,935
# Positive Counties	6	9
# Human Cases	0	0
# Horse Cases	0	0
# Positive Dead Birds / # Tested	7 / 501	16 / 579
# Positive Mosquito Pools / # Tested	4 / 4,248	8 / 4,049
# Seroconversions / # Tested	0 / 3,948	0 / 3,537
# Positive Squirrels / # Tested	0 / 24	0 / 31

### TESTING SUMMARIES

#### Humans and Horses

		WNV		WEEV		SLEV	
		Local	Imported	Local	Imported	Local	Imported
<b>Human Cases</b>	Week	0	0	0	0	0	0
	YTD	0	0	0	0	0	0
<b>Horse Cases</b>	Week	0	0	0	0	0	0
	YTD	0	0	0	0	0	0

#### Dead Birds & Squirrels

		Number Tested	WNV Positive (recent only)
<b>Dead Birds</b>	Week	83	4
	YTD	579	16
<b>Tree Squirrels</b>	Week	4	0
	YTD	31	0

#### Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
<b>Chicken Sera</b>	Week	819	0	0	0
	YTD	3,537	0	0	0
<b>Mosquito Pools</b>	Week	660	7	0	0
	YTD	4,049	8	0	0

### POSITIVES

#### Dead Birds

County	Agency	City	Zip	Species	Reported	Virus	Type of Infection	Method
Sacramento	Sacramento-Yolo MVCD	Sacramento	95829	Western Scrub-Jay	5/21/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95624	American Crow	5/22/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Folsom	95205	Western Scrub-Jay	5/14/2012	WNV	Chronic	RT-PCR
San Joaquin	San Joaquin Co MVCD	Stockton	95337	American Crow	5/18/2012	WNV	Recent	RT-PCR
San Joaquin	San Joaquin Co MVCD	Manteca	95630	Red-Winged Blackbird	5/21/2012	WNV	Recent	RT-PCR

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### Mosquito Pools

County	Site Code	Pool #	City	Species	# in Pool	Collected	Virus	Method
Fresno	FRNO000028	15	Fresno	Cx. quinquefasciatus	50	5/23/2012	WNV	RTPCR
Sacramento	SAYO233070	629	Sacramento	Cx. tarsalis	35	5/22/2012	WNV	RTPCR
Sacramento	SAYO233070	630	Sacramento	Cx. pipiens	29	5/22/2012	WNV	RTPCR
Sacramento	SAYO234006	620	Sacramento	Cx. tarsalis	9	5/22/2012	WNV	RTPCR
Sacramento	SAYO234006	621	Sacramento	Cx. pipiens	6	5/22/2012	WNV	RTPCR
San Bernardino	SANB000017	33	Fontana	Cx. tarsalis	11	4/25/2012	WNV	RTPCR
Yolo	SAYO145016	650	Davis	Cx. pipiens	4	5/22/2012	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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