

California Arbovirus Surveillance Bulletin #17

Week 24 Friday, June 15, 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

A total of 49 West Nile virus (WNV) positive dead birds were reported this week from seven counties: Contra Costa (1), Sacramento (39), San Joaquin (2), Solano (2), Stanislaus (1), Tulare (3), and Ventura (1). This is the first indication of WNV activity in Solano, Tulare, and Ventura counties this year. An additional 8 birds and 2 tree squirrels tested positive for chronic WNV infection this week. In 2012, 98 dead birds have tested positive for recent WNV infection from 11 counties.

At this time last year, 12 dead birds from five 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 33 WNV positive mosquito pools were reported this week from eight counties: Fresno (2), Kern (9), Los Angeles (1), Sacramento (13) San Joaquin (3) Solano (1), Tulare (3), and Yolo (1). These are the first WNV positive mosquito pools detected in Los Angeles, San Joaquin, Solano, and Tulare counties this year. In 2012, 124 mosquito pools from 10 counties have tested positive for WNV.

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

Sentinel Chickens

One WNV seroconversion was detected this week in a sentinel chicken flock located in Riverside County; this is the first WNV positive chicken reported in 2012.

At this time last year, no seroconversions had been reported.

2011 & 2012 YTD West Nile Virus Comparisons		
	2011	2012
Total # Dead Bird Reports	3,112	4,434
# Positive Counties	8	15
# Human Cases	0	0
# Horse Cases	0	0
# Positive Dead Birds / # Tested	12 / 722	98/ 955
# Positive Mosquito Pools / # Tested	6 / 6,457	124 / 6,917
# Seroconversions / # Tested	0 / 6,177	1 / 5,297
# Positive Squirrels / # Tested	0 / 35	0 / 47

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YTD WNV Activity by Element and County, 2012

County	Humans	Horses	Dead Birds*	Mosquito Pools	Sentinel Chickens	Squirrels
Contra Costa			2			
Fresno				5		
Kern				25		
Los Angeles			2	1		
Merced			1			
Riverside				19	1	
Sacramento			70	63		
San Bernardino				1		
San Joaquin			8	3		
Santa Clara			4			
Solano			2	1		
Stanislaus			3			
Tulare			3	3		
Ventura			1			
Yolo			2	3		
Totals	0	0	98	124	1	0

*Total does not include chronic infections

TESTING SUMMARIES

Humans and Horses

		WNV		WEEV		SLEV	
		Local	Imported	Local	Imported	Local	Imported
Human Cases	Week	0	0	0	0	0	0
	YTD	0	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	158	49
	YTD	955	98
Tree Squirrels	Week	8	0
	YTD	47	0

Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	492	1	0	0
	YTD	5,297	1	0	0
Mosquito Pools	Week	1,010	33	0	0
	YTD	6,917	124	0	0

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POSITIVES

Dead Birds

County	Submitting Agency	City	Zip	Species	Reported	Virus	Test Result	Method
Contra Costa	Contra Costa MVCD	Walnut Creek	94597	American Crow	6/8/2012	WNV	Recent	RAMP
El Dorado	El Dorado VCD	South Lake Tahoe	96150	American Robin	6/6/2012	WNV	Chronic	RT-PCR
El Dorado	El Dorado VCD	South Lake Tahoe	96150	American Robin	6/6/2012	WNV	Chronic	RT-PCR
Los Angeles	Los Angeles Co Vet	Whittier	90605	Common Raven	6/5/2012	WNV	Chronic	RT-PCR
Los Angeles	Los Angeles Co Vet	Woodland Hills	91367	House Sparrow	6/6/2012	WNV	Chronic	RT-PCR
Sacramento	Sacramento-Yolo	Sacramento	95819	Western Gray Squirrel	5/30/2012	WNV	Chronic	RT-PCR
Sacramento	Sac-Yolo MVCD	Elk Grove	95624	Mallard	5/31/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Elk Grove	95624	American Crow	6/3/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Elk Grove	95624	Yellow-billed Magpie	6/5/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Elk Grove	95624	House Finch	6/6/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Elk Grove	95624	Yellow-billed Magpie	6/9/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Elk Grove	95624	American Crow	6/10/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Elk Grove	95624	Western Scrub-Jay	6/12/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	North Highlands	95660	House Sparrow	6/9/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Rancho Cordova	95742	Western Scrub-Jay	6/9/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Elk Grove	95758	Western Scrub-Jay	6/7/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Elk Grove	95758	House Finch	6/11/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Elk Grove	95758	American Crow	6/12/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95817	American Crow	6/6/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95817	Northern Mockingbird	6/10/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95818	American Crow	6/10/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95819	American Crow	6/10/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95819	American Crow	6/11/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95820	American Crow	6/9/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95821	Yellow-billed Magpie	6/11/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95822	American Crow	6/11/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95822	American Crow	6/1/2012	WNV	Chronic	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95823	American Crow	6/7/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95825	American Crow	6/9/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95828	American Crow	6/6/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95829	Western Scrub-Jay	6/5/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95829	American Crow	6/6/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95829	Northern Mockingbird	6/7/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95829	Yellow-billed Magpie	6/7/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95829	Western Scrub-Jay	6/7/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95829	Yellow-billed Magpie	6/7/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95829	Western Scrub-Jay	6/8/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95829	House Finch	6/9/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95829	Western Scrub-Jay	6/10/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95829	House Sparrow	6/12/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95831	Nuttall's Woodpecker	6/5/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95831	Western Scrub-Jay	6/9/2012	WNV	Recent	RT-PCR

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Sacramento	Sac-Yolo MVCD	Sacramento	95831	Western Scrub-Jay	6/10/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95831	American Crow	6/12/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95833	Yellow-billed Magpie	6/8/2012	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95841	Western Scrub-Jay	6/12/2012	WNV	Recent	RT-PCR
San Bernardino	San Bernardino VCD	Rimforest	92378	Western Gray Squirrel	5/29/2012	WNV	Chronic	RT-PCR
San Joaquin	San Joaquin MVCD	Stockton	95205	Western Scrub-Jay	6/7/2012	WNV	Recent	RT-PCR
San Joaquin	San Joaquin MVCD	Manteca	95337	American Crow	5/25/2012	WNV	Recent	RT-PCR
Solano	Solano MAD	Dixon	95620	American Crow	6/7/2012	WNV	Recent	RAMP
Solano	Solano MAD	Dixon	95620	Western Scrub-Jay	6/14/2012	WNV	Recent	RAMP
Stanislaus	East Side MAD	Oakdale	95361	Western Scrub-Jay	6/6/2012	WNV	Chronic	RT-PCR
Stanislaus	Turlock MAD	Ceres	95307	American Crow	6/3/2012	WNV	Recent	RT-PCR
Tulare	Delta VCD	Visalia	93277	American Crow	6/11/2012	WNV	Recent	RAMP
Tulare	Delta VCD	Visalia	93292	Western Scrub-Jay	6/14/2012	WNV	Recent	RAMP
Tulare	Tulare MAD	Tulare	93274	Western Scrub-Jay	6/6/2012	WNV	Recent	RT-PCR
Tulare	Tulare MAD	Tulare	93274	European Starling	6/6/2012	WNV	Chronic	RT-PCR
Ventura	City Of Moorpark VCD	Moorpark	93021	American Crow	6/5/2012	WNV	Chronic	RT-PCR
Ventura	Ventura Env Health	Simi Valley	93063	American Crow	6/4/2012	WNV	Recent	RT-PCR

Mosquito Pools

County	Site Code	Pool #	City	Species	# in Pool	Trap Type	Collected	Virus	Method
Fresno	CNSL1068	106	Fresno	Cx. quinquefasciatus	50	CO2	6/12/12	WNV	RTPCR
Fresno	CNSL1118	111	Fresno	Cx. quinquefasciatus	22	GRVD	6/12/12	WNV	RTPCR
Kern	KERN1162	485	Bakersfield	Cx. quinquefasciatus	13	CO2	6/5/12	WNV	RTPCR
Kern	KERN2002	514	Bakersfield	Cx. quinquefasciatus	49	GRVD	6/7/12	WNV	RTPCR
Kern	KERN2002	515	Bakersfield	Cx. quinquefasciatus	50	GRVD	6/7/12	WNV	RTPCR
Kern	KERN2002	516	Bakersfield	Cx. quinquefasciatus	50	GRVD	6/7/12	WNV	RTPCR
Kern	KERN2002	517	Bakersfield	Cx. quinquefasciatus	50	GRVD	6/7/12	WNV	RTPCR
Kern	KERN2007	519	Bakersfield	Cx. quinquefasciatus	50	GRVD	6/7/12	WNV	RTPCR
Kern	KERN2014	501	Bakersfield	Cx. quinquefasciatus	50	GRVD	6/7/12	WNV	RTPCR
Kern	KERN2014	502	Bakersfield	Cx. quinquefasciatus	30	GRVD	6/7/12	WNV	RTPCR
Kern	KERN2016	478	Bakersfield	Cx. quinquefasciatus	26	GRVD	6/5/12	WNV	RTPCR
Los Angeles	GRLA2555	5357	Encino	Cx. quinquefasciatus	50	GRVD	6/6/12	WNV	RTPCR
Sacramento	SAYO223044	1439		Cx. tarsalis	5	CO2	6/12/12	WNV	RTPCR
Sacramento	SAYO232001	1475	Sacramento	Cx. tarsalis	10	CO2	6/12/12	WNV	RTPCR
Sacramento	SAYO233001	1396	Elk Grove	Cx. pipiens	50	GRVD	6/8/12	WNV	RTPCR
Sacramento	SAYO233011	1617	Elk Grove	Cx. tarsalis	4	CO2	6/14/12	WNV	RTPCR
Sacramento	SAYO233015	1614	Sacramento	Cx. pipiens	3	CO2	6/14/12	WNV	RTPCR
Sacramento	SAYO233021	1609	Elk Grove	Cx. tarsalis	13	CO2	6/14/12	WNV	RTPCR
Sacramento	SAYO233025	1579	Elk Grove	Cx. tarsalis	50	CO2	6/14/12	WNV	RTPCR
Sacramento	SAYO233025	1580	Elk Grove	Cx. tarsalis	20	CO2	6/14/12	WNV	RTPCR
Sacramento	SAYO233070	1582	Sacramento	Cx. tarsalis	50	CO2	6/14/12	WNV	RTPCR
Sacramento	SAYO233070	1583	Sacramento	Cx. tarsalis	15	CO2	6/14/12	WNV	RTPCR
Sacramento	SAYO234002	1569	Elk Grove	Cx. tarsalis	15	CO2	6/14/12	WNV	RTPCR
Sacramento	SAYO234002	1570	Elk Grove	Culex pipiens	6	CO2	6/14/12	WNV	RTPCR
Sacramento	SAYO234010	1568	Sacramento	Cx. tarsalis	24	CO2	6/14/12	WNV	RTPCR

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San Joaquin	SJCM8020	175	Acampo	Cx. tarsalis	29	CO2	6/12/12	WNV	RTPCR
San Joaquin	SJCM8048	196	Stockton	Cx. tarsalis	14	CO2	6/12/12	WNV	RTPCR
San Joaquin	SJCM8185	168	Manteca	Cx. tarsalis	32	CO2	6/12/12	WNV	RTPCR
Solano	SOLA1	2	Dixon	Cx. pipiens	5	CO2	6/11/12	WNV	RTPCR
Tulare	DLTA8531	12	Visalia	Cx. quinquefasciatus	23	GRVD	6/13/12	WNV	RTPCR
Tulare	DLTA8532	13	Visalia	Cx. quinquefasciatus	37	GRVD	6/13/12	WNV	RTPCR
Tulare	TLRE20	3	Tulare	Cx. tarsalis	50	CO2	6/7/12	WNV	RTPCR
Yolo	SAYO135006	1529	Woodland	Cx. pipiens	1	CO2	6/12/12	WNV	RTPCR

Sentinel Chickens

County	Site Code	City	Date Bled**	Virus	Band 01
Riverside	COAV0060	North Shore	5/29/2012	WNV	3888

**The filter paper bleed date is reported as the date bled when whole blood is requested for confirmation.

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.

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

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