

California Arbovirus Surveillance Bulletin #16

Week 23 Friday, June 8, 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 14 West Nile virus (WNV) positive dead birds were reported this week from four counties: Merced (1), Sacramento (10), San Joaquin (2), and Stanislaus (1). This is the first indication of WNV activity in Merced County this year. An additional 15 birds tested positive for chronic WNV infection from seven counties. In 2012, 47 dead birds have tested positive for recent WNV infection from eight counties, and 30 dead birds have tested positive for chronic* WNV infection from 10 counties.

At this time last year, 11 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 61 WNV positive mosquito pools were reported this week from four counties: Fresno (2), Kern (8), Riverside (11), and Sacramento (40). In 2012, 91 mosquito pools from six counties have tested positive for WNV.

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

Sentinel Chickens

No seroconversions have been reported in 2012.

2011 & 2012 YTD West Nile Virus Comparisons		
	2011	2012
Total # Dead Bird Reports	2,837	3,876
# Positive Counties	8	12
# Human Cases	0	0
# Horse Cases	0	0
# Positive Dead Birds / # Tested	11 / 626	47 / 796
# Positive Mosquito Pools / # Tested	5 / 5,628	91 / 5,907
# Seroconversions / # Tested	0 / 5,550	0 / 4,805
# Positive Squirrels / # Tested	0 / 30	0 / 38

Website Information: For updated information on WNV in California, please visit the California WNV website, www.westmile.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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YTD WNV Activity by Element and County, 2012

County	Humans	Horses	Dead Birds*	Mosquito Pools	Sentinel Chickens	Squirrels
Contra Costa			1			
Fresno				3		
Kern				16		
Los Angeles			2			
Merced			1			
Riverside				19		
Sacramento			29	50		
San Bernardino				1		
San Joaquin			6			
Santa Clara			4			
Stanislaus			2			
Yolo			2	2		
Totals	0	0	47	91	0	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	114	14
	YTD	796	47
Tree Squirrels	Week	1	0
	YTD	39	0

Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	1,070	0	0	0
	YTD	4,805	0	0	0
Mosquito Pools	Week	1,025	61	0	0
	YTD	5,907	91	0	0

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POSITIVES

Dead Birds

County	Agency	City	Zip	Species	Reported	Virus	Type of infection	Test Method
Merced	Merced Co MAD	Atwater	95301	American Crow	5/22/12	WNV	Recent	RT-PCR
Nevada	Nevada Co Env Health - Nevada City	Nevada City	95959	Western Screech Owl	5/28/12	WNV	Chronic	RT-PCR
Sacramento	Sac-Yolo MVCD	Carmichael	95608	Western Scrub-Jay	5/28/12	WNV	Chronic	RT-PCR
Sacramento	Sac-Yolo MVCD	Carmichael	95608	Western Scrub-Jay	5/28/12	WNV	Chronic	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95817	American Crow	5/26/12	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95817	American Crow	5/30/12	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95817	American Crow	6/2/12	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95817	American Crow	6/4/12	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95818	American Crow	6/4/12	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95819	American Crow	6/1/12	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95822	American Crow	5/31/12	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95827	Yellow-billed Magpie	6/4/12	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95829	American Crow	6/2/12	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95829	Northern Mockingbird	5/22/12	WNV	Chronic	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95831	American Crow	5/31/12	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95831	American Crow	5/27/12	WNV	Chronic	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95864	House Finch	5/25/12	WNV	Chronic	RT-PCR
San Joaquin	San Joaquin MVCD	Lathrop	95330	American Crow	6/4/12	WNV	Recent	RT-PCR
San Joaquin	San Joaquin MVCD	Manteca	95336	Western Scrub-Jay	6/3/12	WNV	Recent	RT-PCR
San Joaquin	San Joaquin MVCD	Ripon	95366	House Finch	5/22/12	WNV	Chronic	RT-PCR
Santa Barbara	Santa Barbara MMVD	Santa Ynez	93460	American Crow	5/30/12	WNV	Chronic	RT-PCR
Stanislaus	East Side MAD	Modesto	95350	Western Scrub-Jay	5/22/12	WNV	Recent	RT-PCR
Stanislaus	East Side MAD	Oakdale	95361	House Finch	5/29/12	WNV	Chronic	RT-PCR
Stanislaus	Turlock MAD	Ceres	95307	House Sparrow	5/29/12	WNV	Chronic	RT-PCR
Stanislaus	Turlock MAD	Turlock	95380	Northern Mockingbird	5/24/12	WNV	Chronic	RT-PCR
Tulare	Delta VCD	Visalia	93277	Brewer's Blackbird	5/25/12	WNV	Chronic	RT-PCR
Tulare	Delta VCD	Visalia	93292	Brewer's Blackbird	5/27/12	WNV	Chronic	RT-PCR
Ventura	Ventura Co EHD	Thousand Oaks	91360	American Crow	5/24/12	WNV	Chronic	RT-PCR
Yolo	Sac-Yolo MVCD	Davis	95618	Western Scrub-Jay	5/29/12	WNV	Chronic	RT-PCR

Mosquito Pools

County	Site Code	Pool #	City	Species	# in Pool	Trap Type	Collected	Virus	Method
Fresno	CNSL1068	85	Fresno	Cx. tarsalis	50	CO2	6/1/2012	WNV	RTPCR
Fresno	FRNO28	24	Fresno	Cx. quinquefasciatus	50	GRVD	6/6/2012	WNV	RTPCR
Kern	KERN2002	441	Bakersfield	Cx. quinquefasciatus	50	GRVD	5/31/2012	WNV	RTPCR
Kern	KERN2014	453	Bakersfield	Cx. quinquefasciatus	50	GRVD	5/31/2012	WNV	RTPCR
Kern	KERN2015	405	Bakersfield	Cx. quinquefasciatus	50	GRVD	5/30/2012	WNV	RTPCR
Kern	KERN2016	363	Bakersfield	Cx. quinquefasciatus	50	GRVD	5/29/2012	WNV	RTPCR
Kern	KERN2016	365	Bakersfield	Cx. quinquefasciatus	50	GRVD	5/29/2012	WNV	RTPCR
Kern	KERN2016	367	Bakersfield	Cx. quinquefasciatus	50	GRVD	5/29/2012	WNV	RTPCR
Kern	KERN2016	368	Bakersfield	Cx. quinquefasciatus	50	GRVD	5/29/2012	WNV	RTPCR
Kern	KERN2016	369	Bakersfield	Cx. quinquefasciatus	48	GRVD	5/29/2012	WNV	RTPCR

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Riverside	COAV114	1482	Mecca	Cx. tarsalis	18	CO2	6/5/2012	WNV	RTPCR
Riverside	COAV17	1513	Mecca	Cx. tarsalis	50	CO2	6/5/2012	WNV	RTPCR
Riverside	COAV33	1532	Mecca	Cx. tarsalis	50	CO2	6/5/2012	WNV	RTPCR
Riverside	COAV33	1533	Mecca	Cx. tarsalis	50	CO2	6/5/2012	WNV	RTPCR
Riverside	COAV35	1504	Mecca	Cx. tarsalis	50	CO2	6/5/2012	WNV	RTPCR
Riverside	COAV40	1480	Mecca	Cx. tarsalis	50	CO2	6/5/2012	WNV	RTPCR
Riverside	COAV54	1448	Mecca	Cx. tarsalis	50	CO2	5/31/2012	WNV	RTPCR
Riverside	COAV54	1479	Mecca	Cx. tarsalis	44	CO2	6/5/2012	WNV	RTPCR
Riverside	COAV58	1494	Mecca	Cx. tarsalis	50	CO2	6/5/2012	WNV	RTPCR
Riverside	COAV58	1495	Mecca	Cx. tarsalis	41	CO2	6/5/2012	WNV	RTPCR
Riverside	COAV610	1502		Cx. tarsalis	34	CO2	6/5/2012	WNV	RTPCR
Sacramento	SAYO213005	1140	Sacramento	Cx. tarsalis	2	GRVD	6/1/2012	WNV	RTPCR
Sacramento	SAYO223002	1070	Sacramento	Cx. pipiens	40	GRVD	6/1/2012	WNV	RTPCR
Sacramento	SAYO223007	1009	Sacramento	Cx. tarsalis	50	CO2	6/1/2012	WNV	RTPCR
Sacramento	SAYO223007	1010	Sacramento	Cx. tarsalis	13	CO2	6/1/2012	WNV	RTPCR
Sacramento	SAYO223007	1012	Sacramento	Cx. pipiens	5	GRVD	6/1/2012	WNV	RTPCR
Sacramento	SAYO223012	1132	Sacramento	Cx. tarsalis	22	CO2	6/1/2012	WNV	RTPCR
Sacramento	SAYO223012	1133	Sacramento	Cx. pipiens	50	CO2	6/1/2012	WNV	RTPCR
Sacramento	SAYO223016	1301	Sacramento	Cx. pipiens	50	CO2	6/7/2012	WNV	RTPCR
Sacramento	SAYO223016	1302	Sacramento	Cx. pipiens	50	CO2	6/7/2012	WNV	RTPCR
Sacramento	SAYO223016	1303	Sacramento	Cx. pipiens	35	CO2	6/7/2012	WNV	RTPCR
Sacramento	SAYO223020	1357	Sacramento	Cx. pipiens	5	GRVD	6/7/2012	WNV	RTPCR
Sacramento	SAYO223021	1284	Sacramento	Cx. tarsalis	2	GRVD	6/7/2012	WNV	RTPCR
Sacramento	SAYO223021	1286	Sacramento	Cx. pipiens	13	GRVD	6/7/2012	WNV	RTPCR
Sacramento	SAYO224007	977	Sacramento	Cx. tarsalis	32	CO2	6/1/2012	WNV	RTPCR
Sacramento	SAYO224007	978	Sacramento	Cx. pipiens	10	CO2	6/1/2012	WNV	RTPCR
Sacramento	SAYO232017	1266	Elk Grove	Cx. pipiens	31	CO2	6/7/2012	WNV	RTPCR
Sacramento	SAYO233004	1039	Elk Grove	Cx. pipiens	24	GRVD	6/1/2012	WNV	RTPCR
Sacramento	SAYO233005	1144	Elk Grove	Cx. pipiens	50	CO2	6/1/2012	WNV	RTPCR
Sacramento	SAYO233005	1145	Elk Grove	Cx. pipiens	28	CO2	6/1/2012	WNV	RTPCR
Sacramento	SAYO233005	1146	Elk Grove	Cx. pipiens	1	GRVD	6/1/2012	WNV	RTPCR
Sacramento	SAYO233006	959	Elk Grove	Cx. pipiens	48	GRVD	6/1/2012	WNV	RTPCR
Sacramento	SAYO233028	966	Sacramento	Cx. tarsalis	41	CO2	6/1/2012	WNV	RTPCR
Sacramento	SAYO233052	968	Sacramento	Cx. tarsalis	35	CO2	6/1/2012	WNV	RTPCR
Sacramento	SAYO233060	980	Elk Grove	Cx. tarsalis	50	CO2	6/1/2012	WNV	RTPCR
Sacramento	SAYO233070	972	Sacramento	Cx. tarsalis	50	CO2	6/1/2012	WNV	RTPCR
Sacramento	SAYO233070	973	Sacramento	Cx. tarsalis	16	CO2	6/1/2012	WNV	RTPCR
Sacramento	SAYO233070	974	Sacramento	Cx. pipiens	50	CO2	6/1/2012	WNV	RTPCR
Sacramento	SAYO233070	975	Sacramento	Cx. pipiens	30	CO2	6/1/2012	WNV	RTPCR
Sacramento	SAYO233070	976	Sacramento	Cx. pipiens	14	GRVD	6/1/2012	WNV	RTPCR
Sacramento	SAYO234001	1289	Sacramento	Cx. pipiens	13	CO2	6/7/2012	WNV	RTPCR
Sacramento	SAYO234002	946	Elk Grove	Cx. tarsalis	49	CO2	6/1/2012	WNV	RTPCR
Sacramento	SAYO234002	947	Elk Grove	Culex pipiens	18	CO2	6/1/2012	WNV	RTPCR
Sacramento	SAYO234006	993	Sacramento	Cx. tarsalis	30	CO2	6/1/2012	WNV	RTPCR
Sacramento	SAYO234006	994	Sacramento	Cx. tarsalis	1	GRVD	6/1/2012	WNV	RTPCR
Sacramento	SAYO234006	995	Sacramento	Cx. pipiens	7	CO2	6/1/2012	WNV	RTPCR
Sacramento	SAYO234011	952	Sacramento	Cx. pipiens	22	CO2	6/1/2012	WNV	RTPCR
Sacramento	SAYO234013	956	Elk Grove	Cx. pipiens	16	GRVD	6/1/2012	WNV	RTPCR
Sacramento	SAYO234017	948	Sacramento	Cx. tarsalis	10	CO2	6/1/2012	WNV	RTPCR
Sacramento	SAYO234017	949	Sacramento	Cx. pipiens	2	CO2	6/1/2012	WNV	RTPCR
Sacramento	SAYO234017	950	Sacramento	Cx. pipiens	27	GRVD	6/1/2012	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.

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.
