

California Arbovirus Surveillance Bulletin #19

Week 26 Friday, June 29, 2012



WEEKLY UPDATE

Human Cases

No new cases have been reported. To date this year, one West Nile virus (WNV) case has been reported from Kern County.

National Update: As of June 19, 2012, two human cases of WNV had been reported from California and Texas.

Horses

No equine cases have been reported in 2012.

Dead Birds & Squirrels

A total of 54 WNV positive dead birds were reported this week from 9 counties: Kern (2), Los Angeles (1), Merced (3), Riverside (1), Sacramento (38), San Joaquin (2), Stanislaus (1), Tulare (2), and Yolo (4). This is the first WNV positive dead bird reported from Riverside County this year. In addition, one dead bird tested positive for chronic WNV infection this week. In 2012, 223 dead birds have tested positive for recent WNV infection from 14 counties.

At this time last year, 29 dead birds from nine 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 60 WNV positive mosquito pools were reported this week from 11 counties: Fresno (14), Kern (23), Los Angeles (1), Orange (1), Riverside (1), Sacramento (11), San Bernardino (1), San Joaquin (1), Sutter (3), Tulare (3), and Yolo (1). This is the first detection of WNV activity in Orange and Sutter counties this year. In 2012, 282 mosquito pools from 12 counties have tested positive for WNV.

At this time last year, 31 mosquito pools had tested positive for WNV from seven counties.

Sentinel Chickens

No new seroconversions were reported this week. To date this year, two chickens from two flocks in Riverside County have tested positive for WNV antibodies.

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

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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2011 & 2012 YTD West Nile Virus Comparisons		
	2011	2012
Total # Dead Bird Reports	3,780	5,930
# Positive Counties	12	18
# Human Cases	0	1
# Horse Cases	0	0
# Positive Dead Birds / # Tested	29 / 853	223 / 1,254
# Positive Mosquito Pools / # Tested	31 / 8,733	282 / 9,517
# Seroconversions / # Tested	0 / 7,577	2 / 6,848
# Positive Squirrels / # Tested	0 / 41	0 / 51

YTD WNV Activity by Element and County, 2012

County	Humans	Horses	Dead Birds*	Mosquito Pools	Sentinel Chickens	Squirrels
Contra Costa			2			
Fresno				21		
Kern	1		3	82		
Los Angeles			6	4		
Merced			5			
Orange				1		
Riverside			1	23	2	
Sacramento			160	127		
San Bernardino				2		
San Joaquin			12	6		
San Mateo			1			
Santa Clara			6			
Solano			2	1		
Stanislaus			6			
Sutter				3		
Tulare			10	8		
Ventura			1			
Yolo			8	4		
Totals	1	0	223	282	2	0

**Total does not include chronic infections*

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TESTING SUMMARIES

Humans and Horses

		WNV		WEEV		SLEV	
		Local	Imported	Local	Imported	Local	Imported
Human Cases	Week	0	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	137	54
	YTD	1,254	223
Tree Squirrels	Week	1	0
	YTD	51	0

Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	593	0	0	0
	YTD	6,848	2	0	0
Mosquito Pools	Week	1,415	60	0	0
	YTD	9,517	282	0	0

POSITIVES: WEEK 26

Dead Birds

County	Submitting Agency	City	Zip	Species	Reported	Virus	Test Result	Method
Kern	Kern MVCD	Bakersfield	93304	American Kestrel	6/13/2012	WNV	Recent	RT-PCR
Kern	Kern MVCD	Bakersfield	93309	Western Scrub-Jay	6/18/2012	WNV	Recent	RT-PCR
Los Angeles	Los Angeles Co Vet	Los Angeles	90024	American Crow	6/19/2012	WNV	Recent	RT-PCR
Merced	Merced Co MAD	Atwater	95301	American Crow	6/13/2012	WNV	Recent	RT-PCR
Merced	Merced Co MAD	Atwater	95301	Western Scrub-Jay	6/17/2012	WNV	Recent	RT-PCR
Merced	Merced Co MAD	Atwater	95301	American Crow	6/19/2012	WNV	Recent	RT-PCR
Riverside	Northwest VCD	Riverside	92509	American Crow	6/14/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95624	Western Scrub-Jay	6/21/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95757	Western Scrub-Jay	6/21/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95823	American Crow	6/21/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95816	American Crow	6/22/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Foothill Farms	95842	House Sparrow	6/21/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95841	Lesser Goldfinch	6/22/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95841	Western Scrub-Jay	6/21/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95823	American Crow	6/22/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95819	Western Scrub-Jay	6/22/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Wilton	95693	American Crow	6/22/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95624	Brewer's Blackbird	6/22/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95824	American Crow	6/22/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95819	American Crow	6/22/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95864	American Crow	6/23/2012	WNV	Recent	RT-PCR

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Sacramento	Sacramento-Yolo MVCD	Sacramento	95864	American Crow	6/23/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95864	American Crow	6/23/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95822	American Crow	6/22/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Wilton	95693	American Crow	6/23/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Wilton	95693	American Crow	6/22/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Wilton	95693	American Crow	6/23/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95758	American Crow	6/23/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Carmichael	95608	Western Scrub-Jay	6/24/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95833	American Crow	6/24/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95758	American Robin	6/24/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95818	American Crow	6/25/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95831	American Crow	6/26/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95831	American Crow	6/26/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Wilton	95693	Western Bluebird	6/26/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95757	American Robin	6/25/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Wilton	95693	American Crow	6/24/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95841	Western Scrub-Jay	6/19/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95824	Western Scrub-Jay	6/19/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95819	Northern Mockingbird	6/20/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95819	American Crow	6/19/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95819	American Crow	6/20/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95624	Western Scrub-Jay	6/20/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95819	American Crow	6/20/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95624	Yellow-billed Magpie	6/21/2012	WNV	Recent	RT-PCR
San Joaquin	San Joaquin Co MVCD	Lathrop	95330	American Crow	6/24/2012	WNV	Recent	RT-PCR
San Joaquin	San Joaquin Co MVCD	Stockton	95209	Western Scrub-Jay	6/25/2012	WNV	Recent	RT-PCR
Stanislaus	East Side MAD	Modesto	95350	Western Scrub-Jay	6/12/2012	WNV	Recent	RT-PCR
Stanislaus	Turlock MAD	Turlock	95380	Western Scrub-Jay	6/13/2012	WNV	Chronic	RT-PCR
Tulare	Delta VCD	Visalia	93277	American Crow	6/25/2012	WNV	Recent	RAMP
Tulare	Tulare MAD	Tulare	93274	Western Scrub-Jay	6/12/2012	WNV	Recent	RT-PCR
Yolo	Sacramento-Yolo MVCD	Woodland	95695	American Crow	6/21/2012	WNV	Recent	RT-PCR
Yolo	Sacramento-Yolo MVCD	Davis	95618	American Crow	6/22/2012	WNV	Recent	RT-PCR
Yolo	Sacramento-Yolo MVCD	West Sacramento	95605	American Crow	6/23/2012	WNV	Recent	RT-PCR
Yolo	Sacramento-Yolo MVCD	West Sacramento	95691	American Robin	6/25/2012	WNV	Recent	RT-PCR

Mosquito Pools

County	Site Code	Pool #	City	Species	# in Pool	Trap Type	Collected	Virus	Method
Fresno	CNSL1136	149	Fresno	Cx. tarsalis	50	CO2	6/20/12	WNV	RTPCR
Fresno	CNSL1245	161	Clovis	Cx. quinquefasciatus	50	GRVD	6/26/12	WNV	RTPCR
Fresno	CNSL1267	167	Clovis	Cx. quinquefasciatus	45	GRVD	6/27/12	WNV	RTPCR
Fresno	CNSL1520	152	Fresno	Cx. quinquefasciatus	36	GRVD	6/22/12	WNV	RTPCR
Fresno	CNSL1637	146	Clovis	Cx. quinquefasciatus	15	GRVD	6/20/12	WNV	RTPCR
Fresno	CNSL1637	147	Clovis	Cx. tarsalis	50	CO2	6/20/12	WNV	RTPCR
Fresno	CNSL1726	156	Clovis	Cx. quinquefasciatus	34	GRVD	6/22/12	WNV	RTPCR
Fresno	CNSL1726	164	Clovis	Cx. quinquefasciatus	32	GRVD	6/27/12	WNV	RTPCR
Fresno	CNSL1790	165	Clovis	Cx. quinquefasciatus	17	GRVD	6/27/12	WNV	RTPCR
Fresno	CNSL1797	157	Clovis	Cx. quinquefasciatus	12	GRVD	6/22/12	WNV	RTPCR
Fresno	CNSL1800	155	Clovis	Cx. quinquefasciatus	28	GRVD	6/22/12	WNV	RTPCR
Fresno	CNSL2326	168	Sanger	Cx. quinquefasciatus	28	GRVD	6/27/12	WNV	RTPCR
Fresno	FRNO28	32	Fresno	Cx. quinquefasciatus	50	GRVD	6/27/12	WNV	RTPCR
Fresno	FRNO39	33	Fresno	Cx. quinquefasciatus	43	GRVD	6/27/12	WNV	RTPCR
Kern	KERN1002	540	Bakersfield	Cx. quinquefasciatus	50	GRVD	6/11/12	WNV	RTPCR

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Kern	KERN1002	660	Bakersfield	Cx. quinquefasciatus	50	GRVD	6/18/12	WNV	RTPCR
Kern	KERN1002	661	Bakersfield	Cx. quinquefasciatus	30	GRVD	6/18/12	WNV	RTPCR
Kern	KERN1005	663	Bakersfield	Cx. quinquefasciatus	40	GRVD	6/18/12	WNV	RTPCR
Kern	KERN1162	689	Bakersfield	Cx. quinquefasciatus	25	CO2	6/19/12	WNV	RTPCR
Kern	KERN2002	719	Bakersfield	Cx. quinquefasciatus	50	GRVD	6/21/12	WNV	RTPCR
Kern	KERN2002	720	Bakersfield	Cx. quinquefasciatus	50	GRVD	6/21/12	WNV	RTPCR
Kern	KERN2005	667	Bakersfield	Cx. quinquefasciatus	50	GRVD	6/18/12	WNV	RTPCR
Kern	KERN2005	668	Bakersfield	Cx. quinquefasciatus	30	GRVD	6/18/12	WNV	RTPCR
Kern	KERN2014	726	Bakersfield	Cx. quinquefasciatus	50	GRVD	6/21/12	WNV	RTPCR
Kern	KERN2014	727	Bakersfield	Cx. quinquefasciatus	39	GRVD	6/21/12	WNV	RTPCR
Kern	KERN2016	684	Bakersfield	Cx. quinquefasciatus	50	GRVD	6/19/12	WNV	RTPCR
Kern	KERN2016	685	Bakersfield	Cx. quinquefasciatus	50	GRVD	6/19/12	WNV	RTPCR
Kern	KERN2018	564	Bakersfield	Cx. quinquefasciatus	50	GRVD	6/12/12	WNV	RTPCR
Kern	KERN2018	681	Bakersfield	Cx. quinquefasciatus	50	GRVD	6/19/12	WNV	RTPCR
Kern	KERN2018	682	Bakersfield	Cx. quinquefasciatus	45	GRVD	6/19/12	WNV	RTPCR
Kern	KERN2028	729	Bakersfield	Cx. quinquefasciatus	34	GRVD	6/21/12	WNV	RTPCR
Kern	KERN2034	664	Bakersfield	Cx. quinquefasciatus	50	GRVD	6/18/12	WNV	RTPCR
Kern	KERN2034	665	Bakersfield	Cx. quinquefasciatus	50	GRVD	6/18/12	WNV	RTPCR
Kern	KERN2034	666	Bakersfield	Cx. quinquefasciatus	36	GRVD	6/18/12	WNV	RTPCR
Kern	KERN2039	693	Bakersfield	Cx. quinquefasciatus	24	GRVD	6/20/12	WNV	RTPCR
Kern	KERN2051	694	Bakersfield	Cx. quinquefasciatus	50	GRVD	6/20/12	WNV	RTPCR
Kern	KERN28	705	Bakersfield	Cx. quinquefasciatus	49	CO2	6/20/12	WNV	RTPCR
Los Angeles	GRLA2222	488	Rowland Heights	Cx. quinquefasciatus	42	GRVD	6/21/12	WNV	RTPCR
Orange	ORCO52	518	Anaheim	Cx. quinquefasciatus	7	GRVD	6/19/12	WNV	RTPCR
Riverside	COAV608	1671	Mecca	Cx. tarsalis	15	CO2	6/21/12	WNV	RTPCR
Sacramento	SAYO203009	2088	North Highlands	Cx. tarsalis	28	CO2	6/26/12	WNV	RTPCR
Sacramento	SAYO203009	2089	North Highlands	Cx. tarsalis	1	GRVD	6/26/12	WNV	RTPCR
Sacramento	SAYO203009	2090	North Highlands	Cx. pipiens	19	CO2	6/26/12	WNV	RTPCR
Sacramento	SAYO203009	2091	North Highlands	Cx. pipiens	10	GRVD	6/26/12	WNV	RTPCR
Sacramento	SAYO203035	2081	North Highlands	Cx. pipiens	3	GRVD	6/26/12	WNV	RTPCR
Sacramento	SAYO204008	2067	Sacramento	Cx. pipiens	20	CO2	6/26/12	WNV	RTPCR
Sacramento	SAYO213042	2070	North Highlands	Cx. pipiens	3	CO2	6/26/12	WNV	RTPCR
Sacramento	SAYO222037	2220	Sacramento	Cx. pipiens	50	GRVD	6/28/12	WNV	RTPCR
Sacramento	SAYO232026	2214	Sacramento	Cx. pipiens	3	CO2	6/28/12	WNV	RTPCR
Sacramento	SAYO243025	2187	Elk Grove	Cx. tarsalis	4	GRVD	6/27/12	WNV	RTPCR
Sacramento	SAYO253004	2131	Thornton	Cx. tarsalis	5	CO2	6/26/12	WNV	RTPCR
San Bernardino	SANB7	160	Fontana	Cx. quinquefasciatus	19	CO2	6/20/12	WNV	RTPCR
San Joaquin	SJCM8109	296	Escalon	Cx. tarsalis	50	CO2	6/28/12	WNV	RTPCR
Sutter	SUYA16	45	Trowbridge	Cx. tarsalis	50	REST	6/25/12	WNV	RTPCR
Sutter	SUYA31	43	Rio Oso	Cx. tarsalis	33	REST	6/25/12	WNV	RTPCR
Sutter	SUYA31	44	Rio Oso	Cx. pipiens	20	REST	6/25/12	WNV	RTPCR
Tulare	DLTA8531	32	Visalia	Cx. quinquefasciatus	8	GRVD	6/22/12	WNV	RTPCR
Tulare	DLTA8532	34	Visalia	Cx. quinquefasciatus	12	GRVD	6/26/12	WNV	RTPCR
Tulare	TLRE25	5	Tulare	Cx. tarsalis	27	CO2	6/27/12	WNV	RTPCR
Yolo	SAYO144002	2125	Davis	Cx. pipiens	7	GRVD	6/26/12	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.

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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