

## California Arbovirus Surveillance Bulletin #21

Week 28 Friday, July 13, 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 July 10, 2012, 15 human cases of WNV illness had been reported in the following eight states: Arizona (2), California (1), Minnesota (1), Mississippi (3), Oklahoma (2), and Texas (6). Of the 15 cases, 7 (47%) had neuroinvasive disease. No deaths have been reported to date in 2012.

#### **Horses**

No equine cases have been reported in 2012.

#### **Dead Birds & Squirrels**

A total of 38 WNV positive dead birds were reported this week from 9 counties: Fresno (1), Los Angeles (1), Merced (1), Sacramento (19), San Joaquin (2), Santa Clara (1), Solano (7), Tulare (2), and Yolo (4). In addition, two dead birds and one tree squirrel tested positive for chronic WNV infection this week. In 2012, 353 dead birds have tested positive for recent WNV infection from 16 counties.

At this time last year, 44 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 78 WNV positive mosquito pools were reported this week from 13 counties: Contra Costa (2), Fresno (4), Kern (21), Los Angeles (4), Orange (1), Placer (2), Riverside (12), Sacramento (10), San Bernardino (1), San Joaquin (4), Stanislaus (7), Sutter (5), and Tulare (5). These were the first WNV positive mosquitoes detected in Contra Costa and Stanislaus counties this year. In 2012, 448 mosquito pools from 16 counties have tested positive for WNV.

At this time last year, 89 mosquito pools had tested positive for WNV from 11 counties.

#### **Sentinel Chickens**

No new seroconversions were reported this week. In 2012, five WNV antibody-positive chickens have been detected among four flocks in two counties.

At this time last year, three seroconversions had been reported from Kern County.

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

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2011 & 2012 YTD West Nile Virus Comparisons		
	2011	2012
Total # Dead Bird Reports	4,443	7,260
# Positive Counties	14	20
# Human Cases	0	1
# Horse Cases	0	0
# Positive Dead Birds / # Tested	44 / 983	353 / 1,616
# Positive Mosquito Pools / # Tested	89 / 11,547	448 / 11,793
# Seroconversions / # Tested	3 / 8,977	5 / 8,102
# Positive Squirrels / # Tested	0 / 46	0 / 59

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

County	Humans	Horses	Dead Birds*	Mosquito Pools	Sentinel Chickens	Squirrels
Contra Costa			4	2		
Fresno			8	31		
Imperial				1		
Kern	1		4	123		
Los Angeles			9	14		
Merced			8			
Orange			1	2		
Placer				5		
Riverside			1	35	4	
Sacramento			236	181		
San Bernardino				3		
San Joaquin			17	15		
San Mateo			1			
Santa Clara			7			
Solano			9	1		
Stanislaus			12	7		
Sutter				8		
Tulare			16	13	1	
Ventura			4			
Yolo			16	7		
<b>Totals</b>	<b>1</b>	<b>0</b>	<b>353</b>	<b>448</b>	<b>5</b>	<b>0</b>

\*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	131	38
	YTD	1,616	353
Tree Squirrels	Week	4	0
	YTD	59	0

### Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	768	0	0	0
	YTD	8,102	5	0	0
Mosquito Pools	Week	1341	78	0	0
	YTD	11,793	448	0	0

## POSITIVES: WEEK 28

### Dead Birds

County	Submitting Agency	City	Zip	Species	Reported	Virus	Type of Infection	Method
Fresno	Consolidated MAD	Clovis	93619	American Robin	6/24/2012	WNV	Chronic	RT-PCR
Fresno	Consolidated MAD	Fresno	93703	American Crow	7/6/2012	WNV	Recent	RAMP
Los Angeles	San Gabriel Valley MVCD	San Gabriel	91775	American Crow	7/8/2012	WNV	Recent	RAMP
Merced	Merced Co MAD	Atwater	95301	Western Scrub-Jay	6/28/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95816	American Crow	7/3/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95624	Western Scrub-Jay	7/3/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Folsom	95630	American Robin	7/3/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95825	Yellow-billed Magpie	7/2/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95815	Yellow-billed Magpie	7/3/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95819	Western Scrub-Jay	7/4/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Rio Linda	95673	House Sparrow	7/4/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95864	American Crow	7/5/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95819	American Crow	7/5/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95818	American Crow	7/6/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95818	American Crow	7/5/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95816	American Crow	7/5/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95815	Western Scrub-Jay	7/6/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95864	American Crow	7/6/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95825	American Crow	7/8/2012	WNV	Recent	RT-PCR

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Sacramento	Sacramento-Yolo MVCD	Sacramento	95816	American Crow	7/8/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95758	American Crow	7/9/2012	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95825	Fox Squirrel	6/27/2012	WNV	Chronic	RT-PCR
San Joaquin	San Joaquin Co MVCD	Escalon	95320	Barn Owl	6/15/2012	WNV	Chronic	RT-PCR
San Joaquin	San Joaquin Co MVCD	Lodi	95240	Yellow-billed Magpie	7/10/2012	WNV	Recent	RT-PCR
San Joaquin	San Joaquin Co MVCD	Manteca	95206	American Crow	7/10/2012	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	San Jose	95130	American Crow	7/2/2012	WNV	Recent	VecTest
Solano	Solano Co MAD	Suisun City	94585	American Crow	6/26/2012	WNV	Recent	RAMP
Solano	Solano Co MAD	Dixon	95620	American Crow	6/26/2012	WNV	Recent	RAMP
Solano	Solano Co MAD	Vacaville	95688	American Crow	6/27/2012	WNV	Recent	RAMP
Solano	Solano Co MAD	Dixon	95620	American Crow	7/2/2012	WNV	Recent	RAMP
Solano	Solano Co MAD	Dixon	95620	American Crow	7/2/2012	WNV	Recent	RAMP
Solano	Solano Co MAD	Dixon	95620	American Crow	6/15/2012	WNV	Recent	RAMP
Solano	Solano Co MAD	Dixon	95620	American Crow	6/15/2012	WNV	Recent	RAMP
Tulare	Delta VCD	Visalia	93292	American Crow	6/28/2012	WNV	Recent	RT-PCR
Tulare	Delta VCD	Visalia	93291	Brown-headed Cowbird	6/28/2012	WNV	Recent	RT-PCR
Yolo	Sacramento-Yolo MVCD	Davis	95618	American Crow	6/28/2012	WNV	Recent	RT-PCR
Yolo	Sacramento-Yolo MVCD	Davis	95616	American Crow	7/2/2012	WNV	Recent	RT-PCR
Yolo	Sacramento-Yolo MVCD	Davis	95616	American Crow	7/2/2012	WNV	Recent	RT-PCR
Yolo	Sacramento-Yolo MVCD	West Sacramento	95691	American Crow	7/3/2012	WNV	Recent	RT-PCR
Yolo	Sacramento-Yolo MVCD	Woodland	95695	Western Scrub-Jay	7/9/2012	WNV	Recent	RT-PCR
Yolo	Sacramento-Yolo MVCD	Davis	95616	American Crow	7/9/2012	WNV	Recent	RT-PCR

### Mosquito Pools

County	Site Code	Pool #	City	Species	# in Pool	Trap Type	Collected	Virus	Method
Contra Costa	CNTR1688	179	Brentwood	Cx. tarsalis	16	CO2	7/10/12	WNV	RAMP
Contra Costa	CNTR3966	180	Brentwood	Cx. pipiens	50	CO2	7/10/12	WNV	RAMP
Fresno	CNSL1628	189	Fresno	Cx. quinquefasciatus	33	GRVD	7/10/12	WNV	RTPCR
Fresno	CNSL1696	190	Fresno	Cx. quinquefasciatus	44	GRVD	7/10/12	WNV	RTPCR
Fresno	CNSL1727	186	Clovis	Cx. quinquefasciatus	50	GRVD	7/6/12	WNV	RTPCR
Fresno	CNSL3124	377	Dinuba	Cx. quinquefasciatus	50	CO2	7/10/12	WNV	RTPCR
Kern	KERN1002	829	Bakersfield	Cx. quinquefasciatus	50	GRVD	7/2/12	WNV	RTPCR
Kern	KERN1005	827	Bakersfield	Cx. quinquefasciatus	50	GRVD	7/2/12	WNV	RTPCR
Kern	KERN121	859	Bakersfield	Cx. quinquefasciatus	50	GRVD	7/5/12	WNV	RTPCR
Kern	KERN121	860	Bakersfield	Cx. quinquefasciatus	50	GRVD	7/5/12	WNV	RTPCR
Kern	KERN121	862	Bakersfield	Cx. quinquefasciatus	50	GRVD	7/5/12	WNV	RTPCR
Kern	KERN2005	826	Bakersfield	Cx. quinquefasciatus	50	GRVD	7/2/12	WNV	RTPCR
Kern	KERN2007	857	Bakersfield	Cx. quinquefasciatus	50	GRVD	7/5/12	WNV	RTPCR
Kern	KERN2007	858	Bakersfield	Cx. quinquefasciatus	50	GRVD	7/5/12	WNV	RTPCR
Kern	KERN2010	866	Bakersfield	Cx. quinquefasciatus	45	GRVD	7/5/12	WNV	RTPCR
Kern	KERN2011	832	Bakersfield	Cx. quinquefasciatus	50	GRVD	7/2/12	WNV	RTPCR
Kern	KERN2011	833	Bakersfield	Cx. quinquefasciatus	50	GRVD	7/2/12	WNV	RTPCR
Kern	KERN2011	834	Bakersfield	Cx. quinquefasciatus	50	GRVD	7/2/12	WNV	RTPCR
Kern	KERN2012	836	Bakersfield	Cx. quinquefasciatus	24	CO2	7/2/12	WNV	RTPCR
Kern	KERN2016	830	Bakersfield	Cx. quinquefasciatus	50	GRVD	7/2/12	WNV	RTPCR
Kern	KERN2018	831	Bakersfield	Cx. quinquefasciatus	50	GRVD	7/2/12	WNV	RTPCR
Kern	KERN2020	863	Bakersfield	Cx. quinquefasciatus	50	GRVD	7/5/12	WNV	RTPCR
Kern	KERN2024	822	Bakersfield	Cx. quinquefasciatus	50	GRVD	7/2/12	WNV	RTPCR
Kern	KERN2024	823	Bakersfield	Cx. quinquefasciatus	50	GRVD	7/2/12	WNV	RTPCR
Kern	KERN2027	868	Bakersfield	Cx. quinquefasciatus	50	GRVD	7/5/12	WNV	RTPCR
Kern	KERN2034	825	Bakersfield	Cx. quinquefasciatus	50	GRVD	7/2/12	WNV	RTPCR
Kern	KERN28	879	Bakersfield	Cx. quinquefasciatus	14	CO2	7/5/12	WNV	RTPCR

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Los Angeles	GRLA2557	5689	Reseda	Cx. quinquefasciatus	28	GRVD	7/6/12	WNV	RTPCR
Los Angeles	GRLA2724	5690	Canoga Park	Cx. quinquefasciatus	50	GRVD	7/6/12	WNV	RTPCR
Los Angeles	GRLA2724	5692	Canoga Park	Cx. quinquefasciatus	36	GRVD	7/6/12	WNV	RTPCR
Los Angeles	GRLA2771	595	Whittier	Cx. quinquefasciatus	39	USDS	7/3/12	WNV	RTPCR
Orange	ORCO198	650	La Habra	Cx. quinquefasciatus	38	GRVD	7/3/12	WNV	RTPCR
Placer	PLCR1113	648	Pleasant Grove	Cx. tarsalis	50	CO2	7/9/12	WNV	RTPCR
Placer	PLCR139	631	Roseville	Cx. tarsalis	47	CO2	7/9/12	WNV	RTPCR
Riverside	COAV13	1744	Mecca	Cx. tarsalis	22	CO2	7/3/12	WNV	RTPCR
Riverside	COAV35	1758	Mecca	Cx. tarsalis	50	CO2	7/3/12	WNV	RTPCR
Riverside	COAV35	1759	Mecca	Cx. tarsalis	50	CO2	7/3/12	WNV	RTPCR
Riverside	COAV45	1769	Mecca	Cx. tarsalis	50	CO2	7/3/12	WNV	RTPCR
Riverside	COAV46	1750	Mecca	Cx. tarsalis	50	CO2	7/3/12	WNV	RTPCR
Riverside	COAV48	1766	Mecca	Cx. tarsalis	50	CO2	7/3/12	WNV	RTPCR
Riverside	COAV54	1748	Mecca	Cx. tarsalis	39	CO2	7/3/12	WNV	RTPCR
Riverside	COAV540	1747	Mecca	Cx. tarsalis	35	CO2	7/3/12	WNV	RTPCR
Riverside	COAV55	1770	Mecca	Cx. tarsalis	50	CO2	7/3/12	WNV	RTPCR
Riverside	COAV56	1754	Mecca	Cx. tarsalis	50	CO2	7/3/12	WNV	RTPCR
Riverside	COAV57	1753	Mecca	Cx. tarsalis	31	CO2	7/3/12	WNV	RTPCR
Riverside	COAV58	1764	Mecca	Cx. tarsalis	21	CO2	7/3/12	WNV	RTPCR
Sacramento	SAYO203001	2594	Elverta	Cx. tarsalis	27	CO2	7/10/12	WNV	RTPCR
Sacramento	SAYO203001	2595	Elverta	Cx. pipiens	4	GRVD	7/10/12	WNV	RTPCR
Sacramento	SAYO203017	2561	Rio Linda	Cx. pipiens	15	GRVD	7/10/12	WNV	RTPCR
Sacramento	SAYO203018	2597	Rio Linda	Cx. tarsalis	40	CO2	7/10/12	WNV	RTPCR
Sacramento	SAYO213002	2601	Sacramento	Cx. pipiens	4	CO2	7/10/12	WNV	RTPCR
Sacramento	SAYO213013	2548	Sacramento	Cx. pipiens	6	GRVD	7/10/12	WNV	RTPCR
Sacramento	SAYO213022	2592	Sacramento	Cx. pipiens	20	CO2	7/10/12	WNV	RTPCR
Sacramento	SAYO213034	2534	Sacramento	Cx. tarsalis	50	CO2	7/10/12	WNV	RTPCR
Sacramento	SAYO214011	2580	Fair Oaks	Cx. pipiens	34	CO2	7/10/12	WNV	RTPCR
Sacramento	SAYO222005	2533	Sacramento	Cx. pipiens	12	GRVD	7/10/12	WNV	RTPCR
San Bernardino	WVAL5004	232	Rancho Cucamonga	Cx. quinquefasciatus	19	GRVD	7/10/12	WNV	RTPCR
San Joaquin	SJCM8018	379	Stockton	Cx. tarsalis	35	CO2	7/10/12	WNV	RTPCR
San Joaquin	SJCM8026	382	Stockton	Cx. tarsalis	50	CO2	7/10/12	WNV	RTPCR
San Joaquin	SJCM8084	372	Stockton	Cx. pipiens	20	CO2	7/10/12	WNV	RTPCR
San Joaquin	SJCM8191	395	Lodi	Cx. tarsalis	18	CO2	7/11/12	WNV	RTPCR
Stanislaus	TRLK1203	293	Hughson	Cx. pipiens	24	CO2	7/10/12	WNV	RTPCR
Stanislaus	TRLK1206	299	Ceres	Cx. pipiens	12	CO2	7/10/12	WNV	RTPCR
Stanislaus	TRLK304	249	Grayson	Cx. pipiens	30	CO2	7/3/12	WNV	RTPCR
Stanislaus	TRLK306	263	Grayson	Cx. tarsalis	50	CO2	7/3/12	WNV	RTPCR
Stanislaus	TRLK432	311	Turlock	Cx. pipiens	50	CO2	7/10/12	WNV	RTPCR
Stanislaus	TRLK530	302	Turlock	Cx. pipiens	50	CO2	7/10/12	WNV	RTPCR
Stanislaus	TRLK530	303	Turlock	Cx. pipiens	45	CO2	7/10/12	WNV	RTPCR
Sutter	SUYA22	129	Tudor	Cx. tarsalis	50	REST	7/9/12	WNV	RTPCR
Sutter	SUYA22	130	Tudor	Cx. tarsalis	50	REST	7/9/12	WNV	RTPCR
Sutter	SUYA22	157	Tudor	Cx. tarsalis	50	REST	7/10/12	WNV	RTPCR
Sutter	SUYA44	114	Pleasant Grove	Cx. pipiens	31	REST	7/9/12	WNV	RTPCR
Sutter	SUYA44	134	Pleasant Grove	Cx. tarsalis	33	REST	7/10/12	WNV	RTPCR
Tulare	DLTA8436	63	Visalia	Cx. quinquefasciatus	32	GRVD	7/3/12	WNV	RTPCR
Tulare	DLTA8534	55	Visalia	Cx. quinquefasciatus	20	GRVD	7/3/12	WNV	RTPCR
Tulare	DLTA8534	56	Visalia	Cx. quinquefasciatus	43	GRVD	7/3/12	WNV	RTPCR
Tulare	DLTA9505	57	Visalia	Cx. quinquefasciatus	36	GRVD	7/3/12	WNV	RTPCR
Tulare	DLTA9506	59	Visalia	Cx. quinquefasciatus	50	GRVD	7/3/12	WNV	RTPCR

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### Test Protocols

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#### **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.

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#### **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.

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#### **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.

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#### **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.

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

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