

# California Arbovirus Surveillance Bulletin # 20

Week 27 Friday, July 6, 2007

## Weekly and Year-To-Date Summaries

### WEEKLY COMMENTS



#### Humans

As of July 6, 2007, 3 human cases of West Nile virus (WNV) fever have been identified in Kern County. Two of the individuals were first identified through testing done at a blood bank; the local health department later confirmed that the donors had developed symptoms compatible with West Nile fever. Two additional WNV-positive blood donation samples have been identified to date in Fresno and Kern counties; neither donor has developed symptoms.

#### Horses

No new horse cases were reported this week. 12 horses were tested this week.

#### Dead Birds & Tree Squirrels

Sixty new WNV positive dead birds were reported this week from the following 12 counties: Butte (2), Fresno (13), Glenn (2), Kern (18), Los Angeles (1), Sacramento (1), San Bernardino (2), San Diego (1), San Joaquin (1), Santa Clara (3), Shasta (4), Stanislaus (10), Solano (1), and Tuolumne (1). **This is the first detection of WNV activity in Glenn, San Joaquin, Solano, and Tuolumne counties this year.**

*Tree Squirrel Update:* This week, 1 tree squirrel tested positive for WNV from Santa Clara County. This is the first WNV positive tree squirrel result in California.

*Reminder:* Local agencies should check the Surveillance Gateway for their county DYCAST bird reporting updates.

#### Mosquito Pools

CVEC reported 69 new WNV positive pools this week from the following counties: Fresno (2), Kern (16), Los Angeles (1), Placer (1), Sacramento (1), San Joaquin (44), Stanislaus (2), and Sutter (2). **This is the first detection of WNV mosquito activity in Placer and San Joaquin Counties this year.**

#### Sentinel Chickens

Two WNV positive seroconversions were reported this week from Orange and Shasta Counties. **These are the first WNV seroconversions reported from Orange and Shasta this year.**

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2007 & 2006 YTD West Nile Virus Comparisons		
	2007	2006
Total # Dead Bird Reports	13,059	20,632
# Positive Counties	26	21
# Human Cases/ # Tested	3 / 466	1 / 606
# Horse Cases/ # Tested	2 / 146	0 / 201
# Positive Dead Birds/ # Tested	159 / 2,159	63 / 2,322
# Positive Mosquito Pools/ # Tested	141 / 8568	37 / 7,794
# Positive Chicken Sera/ # Tested	6 / 12,230	7 / 14,116
# Positive Squirrels/ # Tested	1 / 074	0 / 35

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## YTD WNV Activity by Element and County, 2007

County	Humans*	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens	Squirrels
Alameda			1			
Butte			3			
Contra Costa			1			
Fresno			19	4		
Glenn			2			
Imperial				2	1	
Kern	3		41	65	2	
Kings				2		
Los Angeles			3	4	1	
Merced			1			
Orange			9		1	
Placer				1		
Riverside				1		
Sacramento			3	1		
San Bernardino			3			
San Diego			6			
San Joaquin			1	44		
Santa Clara			20			1
Shasta			8	1	1	
Solano			1			
Sonoma		2				
Stanislaus			34	6		
Sutter				10		
Tehama			1			
Tuolumne			1			
Yuba			1			
<b>State Totals</b>	<b>3</b>	<b>2</b>	<b>159</b>	<b>141</b>	<b>6</b>	<b>1</b>

\* Total does not include asymptomatic infections

**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).

## TEST SUMMARIES

### Human & Horse Cases

		Number Tested	WNV		WEE		SLE		Other	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
<b>Humans Tested</b>	Week	8	0	2	0	0	0	0	0	0
	YTD	466	0	3	0	0	0	0	0	0
<b>Horses Tested</b>	Week	12	0	0	0	0	0	0	0	0
	YTD	146	0	2	0	0	0	0	0	0

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## Dead Birds & Tree Squirrels

		Number Tested	WNV Positive
Dead Birds	Week	176	60
	YTD	2159	159
Tree Squirrels	Week	6	1
	YTD	74	1

## Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive	Flavivirus* Positive
Chicken Sera	Week	788	2	0	0	0
	YTD	12,230	6	0	0	0
Mosquito Pools: RT-PCR	Week	817	26	0	0	0
	YTD	8065	98	0	0	0
Mosquito Pools: RAMP	Week	173	43	N/A	N/A	N/A
	YTD	503	43	N/A	N/A	N/A

\*Does not include those later confirmed as WNV or SLE

## POSITIVES: 7/2/07-7/6/07

### Dead Birds

County	City	Zip Code	Species	Collected	Tested	Test Type
Butte	Biggs	95917	Western Scrub-Jay	6/26/07	7/2/07	RT-PCR
Butte	Gridley	95948	Western Scrub-Jay	6/21/07	7/2/07	RT-PCR
Fresno	Fresno	93720	American Crow	6/26/07	7/2/07	RT-PCR
Fresno	Fresno	93727	American Crow	6/26/07	7/2/07	RT-PCR
Fresno	Fresno	93710	American Crow	6/26/07	7/2/07	RT-PCR
Fresno	Fresno	93710	American Crow	6/25/07	7/2/07	RT-PCR
Fresno	Clovis	93612	American Crow	6/26/07	7/2/07	RT-PCR
Fresno	Fresno	93703	Western Scrub-Jay	6/25/07	7/2/07	RT-PCR
Fresno	Fresno	93726	American Crow	6/25/07	7/2/07	RT-PCR
Fresno	Clovis	93611	American Crow	6/25/07	7/2/07	RT-PCR
Fresno	Fresno	93711	American Crow	6/24/07	7/2/07	VecTest
Fresno	Fresno	93710	American Crow	6/22/07	7/2/07	RT-PCR
Fresno	Fresno	93703	Western Scrub-Jay	6/21/07	7/2/07	RT-PCR
Fresno	Fresno	93703	American Crow	6/21/07	7/2/07	RT-PCR
Fresno	Fresno	93726	American Crow	6/20/07	7/2/07	RT-PCR
Glenn	Hamilton City	95951	American Crow	6/25/07	7/2/07	RT-PCR
Glenn	Orland	95963	American Crow	6/25/07	7/2/07	RT-PCR
Kern	Bakersfield	93312	American Crow	6/27/07	7/2/07	RT-PCR
Kern	Bakersfield	93305	House Finch	6/25/07	7/2/07	RT-PCR

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Kern	Bakersfield	93311	Western Scrub-Jay	6/25/07	7/2/07	RT-PCR
Kern	Bakersfield	93307	House Sparrow	6/25/07	7/2/07	RT-PCR
Kern	Bakersfield	93307	House Finch	6/25/07	7/2/07	RT-PCR
Kern	Bakersfield	93307	House Sparrow	6/25/07	7/2/07	RT-PCR
Kern	Bakersfield	93309	American Crow	6/25/07	7/2/07	RT-PCR
Kern	Bakersfield	93309	House Sparrow	6/25/07	7/2/07	RT-PCR
Kern	Bakersfield	93313	Western Scrub-Jay	6/25/07	7/2/07	RT-PCR
Kern	Bakersfield	93312	American Robin	6/24/07	7/2/07	RT-PCR
Kern	Bakersfield	93307	American Crow	6/22/07	7/2/07	RT-PCR
Kern	Bakersfield	93309	Western Scrub-Jay	6/22/07	7/2/07	RT-PCR
Kern	Bakersfield	93301	American Crow	6/22/07	7/2/07	RT-PCR
Kern	Bakersfield	93306	House Sparrow	6/21/07	7/2/07	RT-PCR
Kern	Bakersfield	93308	House Finch	6/20/07	7/2/07	RT-PCR
Kern	Bakersfield	93304	Mourning Dove	6/20/07	7/2/07	RT-PCR
Kern	Bakersfield	93312	Western Scrub-Jay	6/20/07	7/2/07	RT-PCR
Kern	Bakersfield	93312	Brewer's Blackbird	6/20/07	7/2/07	RT-PCR
Los Angeles	La Mirada	90638	European Starling	6/21/07	7/2/07	RT-PCR
Sacramento	Wilton	95693	Yellow-billed Magpie	6/23/07	7/2/07	RT-PCR
San Bernardino	San Bernardino	92404	Northern Mockingbird	6/21/07	7/2/07	RT-PCR
San Bernardino	Twin Peaks	92391	Steller's Jay	6/13/07	7/2/07	RT-PCR
San Diego	San Diego	92123	American Crow	6/4/07	7/2/07	RT-PCR
San Joaquin	Manteca	95336	Western Scrub-Jay	6/23/07	7/2/07	RT-PCR
Santa Clara	Saratoga	95070	American Crow	6/29/07	7/2/07	VecTest
Santa Clara	San Jose	95124	American Crow	6/29/07	7/2/07	VecTest
Santa Clara	San Jose	95120	American Crow	6/25/07	7/2/07	VecTest
Shasta	Redding	96001	Western Scrub-Jay	6/25/07	7/2/07	RT-PCR
Shasta	Redding	96002	Yellow-billed Magpie	6/25/07	7/2/07	VecTest
Shasta	Burney	96013	Unknown	6/21/07	7/2/07	RT-PCR
Shasta	Anderson	96007	Red-winged Blackbird	6/20/07	7/2/07	RT-PCR
Solano	Fairfield	94534	American Crow	6/26/07	7/2/07	RAMP
Stanislaus	Modesto	95354	American Crow	6/27/07	7/2/07	RT-PCR
Stanislaus	Modesto	95350	American Crow	6/26/07	7/2/07	RT-PCR
Stanislaus	Ceres	95307	Western Scrub-Jay	6/26/07	7/2/07	RT-PCR
Stanislaus	Modesto	95350	Western Scrub-Jay	6/25/07	7/2/07	RT-PCR
Stanislaus	Modesto	95357	European Starling	6/25/07	7/2/07	RT-PCR
Stanislaus	Modesto	95354	Western Scrub-Jay	6/25/07	7/2/07	RT-PCR
Stanislaus	Modesto	95354	Western Scrub-Jay	6/24/07	7/2/07	RT-PCR
Stanislaus	Modesto	95350	American Crow	6/24/07	7/2/07	RT-PCR
Stanislaus	Turlock	95380	Barn Owl	6/22/07	7/2/07	RT-PCR
Stanislaus	Modesto	95356	Yellow-billed Magpie	6/21/07	7/2/07	RT-PCR
Tuolumne	Sonora	95370	Black-headed Grosbeak	6/18/07	7/2/07	RT-PCR

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## Mosquito Pools

Site Code	Pool #	Species	# in Pool	Collected	Tested	City	County	Result
CNSL1316	63	Cx quinquefasciatus	41	6/29/2007	7/5/2007	Fresno	Fresno	WN
CNSL1321	65	Cx quinquefasciatus	20	6/29/2007	7/5/2007	Fresno	Fresno	WN
KERN2001	186	Cx quinquefasciatus	50	6/29/2007	7/3/2007	Bakersfield	Kern	WN
KERN2002	188	Cx quinquefasciatus	50	6/29/2007	7/3/2007	Bakersfield	Kern	WN
KERN2024	189	Cx quinquefasciatus	50	6/29/2007	7/3/2007	Bakersfield	Kern	WN
KERN2024	190	Cx quinquefasciatus	50	6/29/2007	7/3/2007	Bakersfield	Kern	WN
KERN2007	191	Cx quinquefasciatus	50	6/29/2007	7/3/2007	Bakersfield	Kern	WN
KERN2007	192	Cx quinquefasciatus	50	6/29/2007	7/3/2007	Bakersfield	Kern	WN
KERN2010	193	Cx quinquefasciatus	50	6/29/2007	7/3/2007	Bakersfield	Kern	WN
KERN2010	194	Cx quinquefasciatus	30	6/29/2007	7/3/2007	Bakersfield	Kern	WN
KERN2014	197	Cx quinquefasciatus	35	6/29/2007	7/6/2007	Bakersfield	Kern	WN
KERN2015	198	Cx quinquefasciatus	50	6/29/2007	7/3/2007	Bakersfield	Kern	WN
KERN2015	199	Cx quinquefasciatus	50	6/29/2007	7/3/2007	Bakersfield	Kern	WN
KERN2016	200	Cx quinquefasciatus	50	6/29/2007	7/3/2007	Bakersfield	Kern	WN
KERN2016	201	Cx quinquefasciatus	43	6/29/2007	7/3/2007	Bakersfield	Kern	WN
KERN2018	202	Cx quinquefasciatus	50	6/29/2007	7/3/2007	Bakersfield	Kern	WN
KERN2020	204	Cx quinquefasciatus	50	6/29/2007	7/3/2007	Bakersfield	Kern	WN
KERN2020	205	Cx quinquefasciatus	49	6/29/2007	7/3/2007	Bakersfield	Kern	WN
GRLA2549	5419	Cx quinquefasciatus	41	6/26/2007	7/2/2007	Granada Hills	Los Angeles	WN
PLCR0026	30	Ae melanimon	36	6/28/2007	7/6/2007	Sheridan	Placer	WN
SAYO2108	1952	Cx pipiens	40	7/4/2007	7/5/2007	Elverta	Sacramento	WN
SJCM8021	465	Cx tarsalis	38	6/26/2007	7/2/2007	Lodi	San Joaquin	WN
SJCM8020	523	Cx tarsalis	50	7/3/2007	7/5/2007	Acampo	San Joaquin	WN
SJCM8020	524	Cx tarsalis	50	7/3/2007	7/5/2007	Acampo	San Joaquin	WN
SJCM8020	525	Cx tarsalis	50	7/3/2007	7/5/2007	Acampo	San Joaquin	WN
SJCM8020	526	Cx tarsalis	50	7/3/2007	7/5/2007	Acampo	San Joaquin	WN
SJCM8020	528	Cx tarsalis	50	7/3/2007	7/5/2007	Acampo	San Joaquin	WN
SJCM8020	531	Cx tarsalis	50	7/3/2007	7/5/2007	Acampo	San Joaquin	WN
SJCM8020	533	Cx pipiens	50	7/3/2007	7/5/2007	Acampo	San Joaquin	WN
SJCM8020	535	Cx pipiens	50	7/3/2007	7/5/2007	Acampo	San Joaquin	WN
SJCM8020	537	Cx pipiens	50	7/3/2007	7/5/2007	Acampo	San Joaquin	WN
SJCM8020	538	Cx pipiens	50	7/3/2007	7/5/2007	Acampo	San Joaquin	WN
SJCM8020	539	Cx pipiens	50	7/3/2007	7/5/2007	Acampo	San Joaquin	WN
SJCM8005	540	Cx tarsalis	50	7/3/2007	7/5/2007	Stockton	San Joaquin	WN
SJCM8086	551	Cx pipiens	50	7/3/2007	7/5/2007	Stockton	San Joaquin	WN
SJCM8086	553	Cx pipiens	50	7/3/2007	7/5/2007	Stockton	San Joaquin	WN
SJCM8086	555	Cx pipiens	50	7/3/2007	7/5/2007	Stockton	San Joaquin	WN
SJCM8086	556	Cx pipiens	50	7/3/2007	7/5/2007	Stockton	San Joaquin	WN
SJCM8086	557	Cx pipiens	50	7/3/2007	7/5/2007	Stockton	San Joaquin	WN
SJCM8086	558	Cx pipiens	43	7/3/2007	7/5/2007	Stockton	San Joaquin	WN
SJCM8080	561	Cx tarsalis	42	7/3/2007	7/5/2007	Manteca	San Joaquin	WN
SJCM8086	566	Cx tarsalis	50	7/3/2007	7/5/2007	Stockton	San Joaquin	WN
SJCM8086	567	Cx tarsalis	50	7/3/2007	7/5/2007	Stockton	San Joaquin	WN
SJCM8086	568	Cx tarsalis	50	7/3/2007	7/5/2007	Stockton	San Joaquin	WN
SJCM8086	570	Cx tarsalis	50	7/3/2007	7/5/2007	Stockton	San Joaquin	WN
SJCM8086	574	Cx tarsalis	50	7/3/2007	7/5/2007	Stockton	San Joaquin	WN
SJCM8086	575	Cx tarsalis	50	7/3/2007	7/5/2007	Stockton	San Joaquin	WN
SJCM8022	605	Cx pipiens	44	7/3/2007	7/5/2007	Holt	San Joaquin	WN
SJCM8079	621	Cx pipiens	50	7/3/2007	7/5/2007	Manteca	San Joaquin	WN
SJCM8111	634	Cx pipiens	50	7/3/2007	7/5/2007	Stockton	San Joaquin	WN

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SJCM8111	635	Cx pipiens	50	7/3/2007	7/5/2007	Stockton	San Joaquin	WN
SJCM8111	637	Cx tarsalis	50	7/3/2007	7/5/2007	Stockton	San Joaquin	WN
SJCM8111	638	Cx tarsalis	50	7/3/2007	7/5/2007	Stockton	San Joaquin	WN
SJCM8111	640	Cx tarsalis	50	7/3/2007	7/5/2007	Stockton	San Joaquin	WN
SJCM8110	644	Cx tarsalis	50	7/3/2007	7/5/2007	Lodi	San Joaquin	WN
SJCM8110	645	Cx tarsalis	50	7/3/2007	7/5/2007	Lodi	San Joaquin	WN
SJCM8110	646	Cx tarsalis	50	7/3/2007	7/5/2007	Lodi	San Joaquin	WN
SJCM8056	651	Cx tarsalis	36	7/3/2007	7/5/2007	Manteca	San Joaquin	WN
SJCM8056	652	Cx pipiens	50	7/3/2007	7/5/2007	Manteca	San Joaquin	WN
SJCM8034	658	Cx pipiens	31	7/3/2007	7/5/2007	Lodi	San Joaquin	WN
SJCM8021	660	Cx tarsalis	50	7/3/2007	7/5/2007	Lodi	San Joaquin	WN
SJCM8021	663	Cx pipiens	50	7/3/2007	7/5/2007	Lodi	San Joaquin	WN
SJCM8077	666	Cx tarsalis	43	7/3/2007	7/5/2007	Stockton	San Joaquin	WN
SJCM8077	668	Cx pipiens	50	7/3/2007	7/5/2007	Stockton	San Joaquin	WN
SJCM8114	692	Cx tarsalis	16	7/3/2007	7/5/2007	Manteca	San Joaquin	WN
EAST1060	70096	Cx tarsalis	9	6/26/2007	7/2/2007	Salida	Stanislaus	WN
EAST1021	70099	Cx tarsalis	50	6/27/2007	7/2/2007	Valley Home	Stanislaus	WN
SUYA0022	106	Cx tarsalis	50	7/2/2007	7/5/2007	Tudor	Sutter	WN
SUYA0044	110	Cx tarsalis	30	7/2/2007	7/5/2007	Pleasant Grove	Sutter	WN

### Sentinel Chickens

Site Code	County	Nearest City	Date Bled	Virus	Band 01
ORCO0006	Orange	Irvine	6/26/07	WN	2484
SHAS0401	Shasta	Happy Vine	6/28/07	WN	3104

### Humans

Report Date	County	Age	Sex	Clin Pres	Onset Date	WNF Fatality?
7/3/2007	Kern	56	F	WNF	6/8/2007	NO
7/3/2007	Kern	60	F	WNF	6/27/2007	NO

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## NATIONAL COMMENTS

As of July 3, 2007, WNV activity was reported from the following 20 states: Arizona, Arkansas, California, Florida, Idaho, Illinois, Indiana, Iowa, Mississippi, Missouri, Nebraska, North Dakota, Ohio, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Utah, and Virginia. A total of 19 human cases had been reported in Arkansas (1), California (1), Illinois (1), Iowa (1), Mississippi (6), Nebraska (2), North Dakota (1), South Dakota (5), and Texas (1). Of the 19 cases reported, 6 (32%) had West Nile neuroinvasive disease (i.e. encephalitis or meningitis). The median age of the cases was 48 years (range: 15 months-72 years) and 47% were male. One of the cases reported from Mississippi was fatal.

## 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 VRDL for further testing or confirmation by plaque reduction neutralization test (PRNT).

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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:**

All bird and tree squirrel species from all zip codes are currently being accepted for testing unless otherwise requested by a local agency. Additionally, once WNV has been detected within a county, doves, pigeons, and chickens will no longer be accepted for testing from that county. Corvids that test positive via RAMP or VecTest are no longer confirmed. Dead birds and squirrels are necropsied at the California Animal Health and Food Safety (CAHFS) laboratory at UC 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 WNV testing using the singleplex RT-PCR Taqman assay and confirmed with a second primer set. The WNV Dead Bird Surveillance Coordinator, Ryan Carney, can be reached directly at (510) 412-6254.

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### **Sentinel Chickens:**

Dried blood spot specimens from sentinel chickens submitted each week to the DHS Viral and Rickettsial Disease Laboratory (VRDL) are tested for the presence of antibodies to West Nile virus (WNV), western equine encephalomyelitis (WEE), and St. Louis encephalitis (SLE) viruses by EIA and IFA. Positive samples are confirmed by western-blot or PRNT.

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### **Mosquito Pools:**

Mosquito pools are screened for WEE, SLE, 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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*Prepared by the Vector-Borne Disease Section (Infectious Diseases Branch) and the Viral and Rickettsial Disease Laboratory Branch, Division of Communicable Disease Control, California Department of Health Services, 850 Marina Bay Parkway, Richmond, CA 94804. Questions concerning this bulletin should be addressed to Tina Feiszli by phone (510) 412-6298, FAX (510) 412-6263, or email: [tfeiszli@dhs.ca.gov](mailto:tfeiszli@dhs.ca.gov).*