

California Arbovirus Surveillance Bulletin # 21

Week 28 Friday, July 13, 2007

Weekly and Year-To-Date Summaries

WEEKLY COMMENTS



Humans

Six new human cases of West Nile virus (WNV) were reported from Kern (5) and San Joaquin (1) counties, **including the first report this year of a WNV-associated fatality in a resident of Kern County. This is also the first human WNV case reported from San Joaquin County this year.**

To date in 2007, nine human cases of West Nile virus (WNV) have been identified in Kern (8) and San Joaquin (1) counties. Five of the nine cases were initially identified through blood bank screening and subsequently developed symptoms compatible with West Nile fever. Four additional asymptomatic WNV infections have been identified in blood donors from Fresno (1), Kern (2), and Stanislaus (1) counties.

Horses

No new horse cases were reported this week.

Dead Birds & Tree Squirrels

Seventy-one WNV positive dead birds were reported this week from the following 18 counties: Alameda (1), Calaveras (2), Contra Costa (4), Fresno (17), Glenn (8), Kern (7), Kings (1), Merced (4), Nevada (1), Riverside (1), Sacramento (2), San Joaquin (4), Santa Clara (5), Shasta (3), Stanislaus (8), Sutter (1), Tulare (1), and Yolo (1). **This is the first detection of WNV activity in Calaveras, Nevada, Tulare, and Yolo counties this year.**

Two fox squirrels (*Sciurus niger*) from Fresno County tested positive for WNV this week.

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

Mosquito Pools

Forty-one mosquito pools tested positive for WNV this week from the following 11 counties: Fresno (1), Kern (14), Kings (2), Los Angeles (3), Placer (1), Riverside (1), Sacramento (8), San Joaquin (8), Stanislaus (1), Sutter (1), and Yolo (1).

Two mosquito pools from Kern County tested positive for western equine encephalomyelitis (WEE) this week, for a YTD total of six WEE positive pools.

Sentinel Chickens

Seven WNV seroconversions were reported this week from the following counties: Fresno (1), Kings (1), Imperial (4), and San Bernardino (1). **These are the first seroconversions reported from Fresno, Kings and San Bernardino counties this year.**

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2007 & 2006 YTD West Nile Virus Comparisons		
	2007	2006
Total # Dead Bird Reports	14,555	25,788
# Positive Counties	30	23
# Human Cases/ # Tested	9 / 487	1 / 647
# Horse Cases/ # Tested	2 / 146	1 / 220
# Positive Dead Birds/ # Tested	230 / 2,346	96 / 2,471
# Positive Mosquito Pools/ # Tested	182 / 9,602	66 / 8,954
# Positive Chicken Sera/ # Tested	13 / 13,242	7 / 15,135
# Positive Squirrels/ # Tested	3 / 78	0 / 38

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YTD WNV Activity by Element and County, 2007

County	Humans*	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens	Squirrels
Alameda			2			
Butte			3			
Calaveras			2			
Contra Costa			5			
Fresno			36	5	1	2
Glenn			10			
Imperial				2	5	
Kern	8		48	79	2	
Kings			1	4	1	
Los Angeles			3	7	1	
Merced			5			
Nevada			1			
Orange			9		1	
Placer				2		
Riverside			1	2		
Sacramento			5	9		
San Bernardino			3		1	
San Diego			6			
San Joaquin	1		5	52		
Santa Clara			25			1
Shasta			11	1	1	
Solano			1			
Sonoma		2				
Stanislaus			42	7		
Sutter			1	11		
Tehama			1			
Tulare			1			
Tuolumne			1			
Yolo			1	1		
Yuba			1			
State Totals	9	2	230	182	13	3

* 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, 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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TEST SUMMARIES

Human & Horse Cases

		Number Tested	WNV		WEE		SLE		Other	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
Humans Tested	Week	21	0	6	0	0	0	0	0	0
	YTD	487	0	9	0	0	0	0	0	0
Horses Tested	Week	0	0	0	0	0	0	0	0	0
	YTD	146	0	2	0	0	0	0	0	0

Dead Birds & Tree Squirrels

		Number Tested	WNV Positive
Dead Birds	Week	191	71
	YTD	2346	230
Tree Squirrels	Week	4	2
	YTD	78	3

Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive	Flavivirus* Positive
Chicken Sera	Week	922	7	0	0	0
	YTD	13,242	13	0	0	0
Mosquito Pools: RT-PCR	Week	923	33	2	0	0
	YTD	8,988	131	6	0	0
Mosquito Pools: RAMP	Week	111	8	N/A	N/A	N/A
	YTD	614	51	N/A	N/A	N/A

*Does not include those later confirmed as WNV or SLE

POSITIVES: 7/9/07-7/13/07

Dead Birds

County	City	Zip Code	Species	Collected	Tested	Test Method
Alameda	Livermore	94551	House Finch	6/26/07	7/9/07	RT-PCR
Calaveras	Rail Road Flat	95248	Mourning Dove	7/2/07	7/9/07	RT-PCR
Calaveras	Copperopolis	95228	Belted Kingfisher	6/26/07	7/9/07	RT-PCR
Contra Costa	Brentwood	94513	American Crow	7/2/07	7/9/07	RAMP
Contra Costa	Oakley	94561	American Crow	7/1/07	7/9/07	RAMP
Contra Costa	Lafayette	94549	Steller's Jay	6/28/07	7/9/07	RT-PCR
Contra Costa	San Ramon	94583	Western Scrub-Jay	6/27/07	7/9/07	RT-PCR
Fresno	Fresno	93702	American Crow	7/4/07	7/9/07	VecTest
Fresno	Fresno	93704	American Crow	7/2/07	7/9/07	VecTest
Fresno	Fresno	93702	Western Scrub-Jay	7/2/07	7/9/07	RT-PCR
Fresno	Fresno	93722	American Crow	7/1/07	7/9/07	VecTest
Fresno	Fresno	93704	American Crow	7/2/07	7/9/07	VecTest
Fresno	Fresno	93703	American Crow	6/29/07	7/9/07	RT-PCR
Fresno	Fresno	93726	American Crow	6/29/07	7/9/07	RT-PCR
Fresno	Fresno	93710	American Crow	6/29/07	7/9/07	RT-PCR
Fresno	Fresno	93710	American Crow	6/28/07	7/9/07	RT-PCR
Fresno	Clovis	93612	Western Scrub-Jay	6/28/07	7/9/07	RT-PCR
Fresno	Fresno	93727	American Crow	6/28/07	7/9/07	RT-PCR
Fresno	Clovis	93612	House Sparrow	6/28/07	7/9/07	RT-PCR

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Fresno	Fresno	93710	American Crow	6/27/07	7/9/07	RT-PCR
Fresno	Selma	93662	American Robin	6/27/07	7/9/07	RT-PCR
Fresno	Clovis	93612	American Crow	6/27/07	7/9/07	RT-PCR
Fresno	Fresno	93703	European Starling	6/26/07	7/9/07	RT-PCR
Fresno	Fresno	93710	Western Scrub-Jay	6/24/07	7/9/07	RT-PCR
Glenn	Orland	95963	American Crow	7/2/07	7/9/07	RT-PCR
Glenn	Orland	95963	Western Scrub-Jay	6/29/07	7/9/07	RT-PCR
Glenn	Orland	95963	Yellow-billed Magpie	6/28/07	7/9/07	RT-PCR
Glenn	Willows	95988	American Crow	6/28/07	7/9/07	RT-PCR
Glenn	Orland	95963	American Crow	6/27/07	7/9/07	RT-PCR
Glenn	Willows	95988	European Starling	6/27/07	7/9/07	RT-PCR
Glenn	Orland	95963	American Kestrel	6/27/07	7/9/07	RT-PCR
Glenn	Orland	95963	American Crow	6/27/07	7/9/07	RT-PCR
Kern	Bakersfield	93312	American Crow	7/2/07	7/9/07	RT-PCR
Kern	Bakersfield	93312	American Crow	6/29/07	7/9/07	RT-PCR
Kern	Bakersfield	93304	American Crow	6/29/07	7/9/07	RT-PCR
Kern	Delano	93215	House Finch	6/29/07	7/9/07	RT-PCR
Kern	Bakersfield	93314	Western Scrub-Jay	6/29/07	7/9/07	RT-PCR
Kern	Bakersfield	93314	Western Scrub-Jay	6/29/07	7/9/07	RT-PCR
Kern	Bakersfield	93304	House Finch	6/27/07	7/9/07	RT-PCR
Kings	Hanford	93230	American Crow	6/28/07	7/9/07	RT-PCR
Merced	Atwater	95301	Yellow-billed Magpie	6/29/07	7/9/07	RT-PCR
Merced	Atwater	95301	Yellow-billed Magpie	6/28/07	7/9/07	RT-PCR
Merced	Atwater	95301	Yellow-billed Magpie	6/27/07	7/9/07	RT-PCR
Merced	Atwater	95301	Yellow-billed Magpie	6/27/07	7/9/07	RT-PCR
Nevada	Nevada City	95959	Black-headed Grosbeak	6/25/07	7/9/07	RT-PCR
Riverside	Palm Springs	92264	House Finch	6/28/07	7/9/07	RT-PCR
Sacramento	Sacramento	95831	American Crow	6/28/07	7/9/07	RT-PCR
Sacramento	Antelope	95843	American Crow	6/27/07	7/9/07	RT-PCR
San Joaquin	Tracy	95376	American Crow	7/6/07	7/9/07	RAMP
San Joaquin	Manteca	95336	American Crow	7/5/07	7/9/07	VecTest
San Joaquin	Manteca	95336	American Crow	7/4/07	7/9/07	VecTest
San Joaquin	Manteca	95336	American Crow	6/29/07	7/9/07	RT-PCR
Santa Clara	San Jose	95118	American Crow	7/5/07	7/9/07	VecTest
Santa Clara	San Jose	95130	Common Raven	7/4/07	7/9/07	VecTest
Santa Clara	Campbell	95008	American Crow	7/5/07	7/9/07	VecTest
Santa Clara	Saratoga	95070	American Crow	7/3/07	7/9/07	VecTest
Santa Clara	San Jose	95124	American Crow	7/2/07	7/9/07	VecTest
Shasta	Palo Cedro	96073	Yellow-billed Magpie	7/3/07	7/9/07	VecTest
Shasta	Redding	96002	American Crow	7/2/07	7/9/07	VecTest
Shasta	Burney	96013	House Sparrow	6/28/07	7/9/07	RT-PCR
Stanislaus	Ceres	95307	American Crow	7/5/07	7/9/07	VecTest
Stanislaus	Modesto	95354	American Crow	7/2/07	7/9/07	RT-PCR
Stanislaus	Modesto	95358	Western Scrub-Jay	7/2/07	7/9/07	RT-PCR
Stanislaus	Modesto	95354	American Crow	7/2/07	7/9/07	RT-PCR
Stanislaus	Turlock	95380	Yellow-billed Magpie	6/29/07	7/9/07	RT-PCR
Stanislaus	Modesto	95358	American Crow	6/28/07	7/9/07	RT-PCR
Stanislaus	Turlock	95380	Yellow-billed Magpie	6/28/07	7/9/07	RT-PCR
Stanislaus	Modesto	95355	American Crow	6/20/07	7/9/07	RT-PCR
Sutter	Live Oak	95953	American Crow	7/2/07	7/9/07	RT-PCR
Tulare	Visalia	93277	American Crow	6/29/07	7/9/07	RT-PCR
Yolo	Woodland	95776	Cattle Egret	7/3/07	7/9/07	RT-PCR

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Mosquito Pools

County	Agency Code	Pool #	Species	# in Pool	Collected	Tested	City	Virus
Fresno	CNSL1218	74	Cx tarsalis	21	7/10/07	7/11/07	Clovis	WN
Kern	AFSB0106	5204	Cx quinquefasciatus	16	7/3/07	7/12/07	Bakersfield	WN
Kern	AFSB0108	5207	Cx quinquefasciatus	50	7/3/07	7/12/07	Bakersfield	WN
Kern	AFSB0110	5201	Cx quinquefasciatus	10	7/3/07	7/12/07	Bakersfield	WN
Kern	AFSB1002	5196	Cx quinquefasciatus	30	7/3/07	7/12/07	Bakersfield	WN
Kern	AFSB1009	5199	Cx quinquefasciatus	31	7/3/07	7/12/07	Bakersfield	WN
Kern	AFSB2011	5200	Cx quinquefasciatus	21	7/3/07	7/12/07	Bakersfield	WN
Kern	KERN0011	207	Cx quinquefasciatus	15	7/3/07	7/12/07	Bakersfield	WN
Kern	KERN0013	208	Cx tarsalis	50	7/3/07	7/13/07	Bakersfield	WEE
Kern	KERN0013	209	Cx tarsalis	41	7/3/07	7/13/07	Bakersfield	WEE
Kern	KERN0015	212	Cx tarsalis	50	7/3/07	7/13/07	Pumpkin Center	WN
Kern	KERN0029	227	Cx quinquefasciatus	50	7/6/07	7/12/07	Lamont	WN
Kern	KERN0029	228	Cx tarsalis	50	7/6/07	7/12/07	Lamont	WN
Kern	KERN0031	230	Cx tarsalis	50	7/6/07	7/12/07	Arvin	WN
Kern	KERN0033	234	Cx tarsalis	50	7/6/07	7/12/07	Arvin	WN
Kern	KERN2023	236	Cx quinquefasciatus	50	7/6/07	7/13/07	Arvin	WN
Kern	KERN3004	223	Cx tarsalis	50	7/6/07	7/12/07	Bakersfield	WN
Kings	KNGS3010	66	Cx tarsalis	34	7/11/07	7/12/07	Hanford	WN
Kings	KNGS4003	47	Cx tarsalis	36	7/10/07	7/12/07	Hanford	WN
Los Angeles	GRLA2414	5510	Cx quinquefasciatus	31	7/6/07	7/11/07	Granada Hills	WN
Los Angeles	GRLA2414	5512	Cx quinquefasciatus	28	7/6/07	7/11/07	Granada Hills	WN
Los Angeles	GRLA2417	5507	Cx quinquefasciatus	44	7/6/07	7/11/07	Panorama City	WN
Placer	PLCR1114	40	Cx tarsalis	50	7/3/07	7/11/07	Lincoln	WN
Riverside	COAV0200	1251	Cx tarsalis	50	7/6/07	7/11/07	Mecca	WN
Sacramento	SAYO2103	2110	Cx pipiens	26	7/6/07	7/11/07	Carmichael	WN
Sacramento	SAYO4175	2115	Cx pipiens	50	7/6/07	7/11/07	Fair Oaks	WN
Sacramento	SAYO4204	2181	Cx tarsalis	32	7/6/07	7/11/07	Sacramento	WN
Sacramento	SAYO4284	2160	Cx tarsalis	50	7/6/07	7/11/07	Wilton	WN
Sacramento	SAYO4284	2162	Cx tarsalis	11	7/6/07	7/11/07	Wilton	WN
Sacramento	SAYO4284	2168	Cx tarsalis	50	7/6/07	7/11/07	Wilton	WN
Sacramento	SAYO4309	2197	Cx tarsalis	50	7/10/07	7/11/07	Hood	WN
Sacramento	SAYO7005	2205	Cx tarsalis	7	7/10/07	7/11/07	Rancho Cordova	WN
San Joaquin	SJCM8018	751	Cx tarsalis	50	7/6/07	7/9/07	El Rancho	WN
San Joaquin	SJCM8020	772	Cx pipiens	50	7/6/07	7/9/07	Acampo	WN
San Joaquin	SJCM8045	777	Cx tarsalis	50	7/6/07	7/9/07	Lodi	WN
San Joaquin	SJCM8086	830	Cx pipiens	50	7/11/07	7/11/07	Stockton	WN
San Joaquin	SJCM8086	836	Cx tarsalis	50	7/11/07	7/11/07	Stockton	WN
San Joaquin	SJCM8086	839	Cx tarsalis	50	7/11/07	7/11/07	Stockton	WN
San Joaquin	SJCM8111	823	Cx tarsalis	50	7/11/07	7/11/07	Stockton	WN
San Joaquin	SJCM8115	852	Cx tarsalis	22	7/12/07	7/12/07	Stockton	WN
Stanislaus	TRLK0535	675	Cx pipiens	37	7/11/07	7/12/07	Keyes	WN
Sutter	SUYA0031	144	Cx tarsalis	32	7/9/07	7/11/07	Rio Oso	WN
Yolo	SAYO6005	2274	Cx tarsalis	16	7/10/07	7/11/07	Davis	WN

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Sentinel Chickens

County	Site Code	Nearest City	Date Bled	Virus	Band 01	Band 02	Band 03
Fresno	CNSL5005	Fresno-Yosemite Airp	7/2/2007	WNV	1451		
Imperial	IMPR0002	Seeley	7/2/2007	WNV	1754		
Imperial	IMPR0003	El Centro	7/2/2007	WNV	1756	1758	1759
Kings	KNGS2001	Hanford	7/2/2007	WNV	1932		
San Bernardino	SANB0016	Havasus Landing	7/2/2007	WNV	2838		

NATIONAL COMMENTS

As of July 10, 2007, WNV activity was reported from the following 27 states: Arizona, Arkansas, California, Colorado, Connecticut, Florida, Idaho, Illinois, Indiana, Iowa, Louisiana, Mississippi, Missouri, Nebraska, New Jersey, New Mexico, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Utah, Virginia, and Wyoming. A total of 26 human cases had been reported in Arkansas (1), California (3), Colorado (2), Illinois (1), Iowa (1), Mississippi (6), Nebraska (2), North Dakota (1), South Dakota (7), Texas (1), and Wyoming (1). Of the 26 cases reported, 5 (19%) 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 42% 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).

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:

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.

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.

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.