

California Arbovirus Surveillance Bulletin # 24

Week 29 Monday, July 27, 2009

Weekly Summary

WEEKLY COMMENTS



As of July 24, 2009, 32 counties have reported West Nile virus (WNV) activity. At this time last year, 28 counties had reported WNV activity.

Humans

The first 2009 human case of West Nile virus has been reported from San Diego County. The individual was hospitalized in mid-July after developing symptoms consistent with West Nile neuroinvasive disease. Travel history suggests that the individual likely acquired the virus while vacationing out of state. At this time last year, 6 human cases had been reported in California.

Horses

No equine cases have been reported in 2009. At this time last year, two equine WNV cases had been reported from two counties.

Dead Birds & Tree Squirrels

Last week, 49 new WNV positive dead birds were reported from 16 counties: Alameda (1), Butte (1), Contra Costa (8), Fresno (8), Kern (6), Kings (2), Los Angeles (7), Madera (1), Placer (2), Sacramento (1), San Bernardino (1), San Francisco (1), San Joaquin (4), Santa Clara (1), Stanislaus (2), and Tulare (3). This is the first indication of WNV activity in San Francisco County this year. In 2009, 218 birds from 31 counties have tested positive for WNV. At this time last year, 435 WNV positive dead birds had been reported from 25 counties.

No positive tree squirrels were reported last week. In 2009, one tree squirrel from Fresno County has tested positive for WNV. At this time last year, three WNV positive tree squirrel had been reported from two counties.

Mosquito Pools

Sixty-five WNV positive mosquito pools were reported last week from 11 counties: Fresno (11), Kern (18), Kings (8), Los Angeles (1), Sacramento (2), San Bernardino (4), San Joaquin (1), Stanislaus (5), Sutter (1), Tulare (12), and Yolo (2). These are the first WNV positive mosquitoes detected in San Bernardino and Stanislaus counties this year. In 2009, 233 mosquito pools have tested positive for WNV from 16 counties. At this time last year, 292 WNV positive mosquito pools had been reported from 19 counties.

Sentinel Chickens

Three new WNV seroconversions were reported last week from Los Angeles County. In 2009, 13 chickens from three counties have tested positive for WNV antibodies. At this time last year, eight WNV seroconversions had been reported from five counties.

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.

2009 & 2008 YTD West Nile Virus Comparisons		
	2008	2009
Total # Dead Bird Reports	16,699	9,962
# Positive Counties	28	32
# Human Cases/ # Tested	6 / 426	1 / 480
# Horse Cases/ # Tested	2 / 109	0 / 116
# Positive Dead Birds/ # Tested	435 / 2,542	218 / 1,655
# Positive Mosquito Pools/ # Tested	292 / 11,428	233 / 13,043
# Positive Chicken Sera/ # Tested	8 / 14,684	13 / 12,813
# Positive Squirrels/ # Tested	3 / 87	1 / 57

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YTD WNV Activity by Element and County, 2009

County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens	Squirrels
Alameda			7			
Butte			4			
Colusa			2			
Contra Costa			12	13		
El Dorado			1			
Fresno			44	70		1
Kern			21	39		
Kings			8	15		
Lake			1			
Los Angeles			35	5	10	
Madera			7	1		
Merced			1			
Modoc			1			
Orange			5	1		
Placer			3			
Riverside			1	6		
Sacramento			6	7		
San Bernardino			4	4		
San Diego	1		14		2	
San Francisco			1			
San Joaquin			8	23		
San Mateo			1			
Santa Barbara			1			
Santa Clara			8	14		
Santa Cruz			1			
Shasta			5			
Stanislaus			6	5		
Sutter				3		
Tulare			7	23		
Tuolumne			1			
Ventura			1			
Yolo			1	4	1	
Total	1	0	218	233	13	1

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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	15	1	0	0	0	0	0	0	0
	YTD	480	1	0	0	0	0	0	0	0
Horses Tested	Week	10	0	0	0	0	0	0	0	0
	YTD	116	0	0	0	0	0	0	0	0

Dead Birds & Tree Squirrels

		Number Tested	WNV Positive
Dead Birds	Week	94	49
	YTD	1,655	218
Tree Squirrels	Week	3	0
	YTD	57	1

Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	SLE Positive	WEE Positive
Chicken Sera	Week	1,058	3	0	0
	YTD	12,813	13	0	0
Mosquito Pools: RT-PCR	Week	1,040	65	0	0
	YTD	12,595	207	0	0
Mosquito Pools: RAMP	Week	34	0	N/A	N/A
	YTD	448	26	N/A	N/A

POSITIVES

Dead Birds & Tree Squirrels

County	City	Zip	Species	Reported	Tested	Virus	Method
Alameda	Livermore	94551	Finch	07/09/09	07/20/09	WNV	RT-PCR
Butte	Oroville	95965	Swainson's Thrush	07/08/09	07/20/09	WNV	RT-PCR
Contra Costa	Antioch	94531	House Finch	07/10/09	07/20/09	WNV	RT-PCR
Contra Costa	Antioch	94531	Cooper's Hawk	07/14/09	07/20/09	WNV	RT-PCR
Contra Costa	Bay Point	94565	European Starling	07/09/09	07/20/09	WNV	RT-PCR
Contra Costa	Brentwood	94513	American Crow	07/21/09	07/21/09	WNV	RAMP
Contra Costa	Danville	94526	American Robin	07/13/09	07/20/09	WNV	RT-PCR
Contra Costa	Orinda	94563	Flycatcher	07/13/09	07/20/09	WNV	RT-PCR
Contra Costa	Orinda	94563	Lesser Goldfinch	07/13/09	07/20/09	WNV	RT-PCR
Contra Costa	Richmond	94804	Western Scrub-Jay	07/13/09	07/20/09	WNV	RT-PCR
Fresno	Clovis	93612	Western Scrub-Jay	07/08/09	07/20/09	WNV	RT-PCR
Fresno	Fowler	93625	Western Scrub-Jay	07/13/09	07/20/09	WNV	RT-PCR
Fresno	Fresno	93703	Starling	07/12/09	07/20/09	WNV	RT-PCR
Fresno	Fresno	93711	American Crow	07/15/09	07/16/09	WNV	RAMP
Fresno	Fresno	93711	Western Scrub-Jay	07/19/09	07/20/09	WNV	RAMP
Fresno	Fresno	93728	Flamingo	07/20/09	07/20/09	WNV	RT-PCR
Fresno	Fresno	93728	Rock Dove	07/20/09	07/20/09	WNV	RT-PCR
Fresno	Kerman	93630	Starling	07/06/09	07/20/09	WNV	RT-PCR
Kern	Bakersfield	93301	House Sparrow	07/09/09	07/20/09	WNV	RT-PCR
Kern	Bakersfield	93305	Northern Mockingbird	07/09/09	07/20/09	WNV	RT-PCR

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Kern	Bakersfield	93308	House Sparrow	07/13/09	07/20/09	WNV	RT-PCR
Kern	Bakersfield	93314	Western Scrub-Jay	07/07/09	07/20/09	WNV	RT-PCR
Kern	Bakersfield	93314	Sparrow	07/08/09	07/20/09	WNV	RT-PCR
Kern	Bakersfield	93314	Western Scrub-Jay	07/09/09	07/20/09	WNV	RT-PCR
Kings	Hanford	93230	Brewer's Blackbird	06/30/09	07/20/09	WNV	RT-PCR
Kings	Hanford	93230	European Starling	07/07/09	07/20/09	WNV	RT-PCR
Los Angeles	Calabasas	91302	Cooper's Hawk	07/15/09	07/20/09	WNV	RT-PCR
Los Angeles	La Puente	91744	Finch	07/14/09	07/20/09	WNV	RT-PCR
Los Angeles	La Verne	91750	Unknown	07/09/09	07/20/09	WNV	RT-PCR
Los Angeles	Lancaster	93534	Lesser Goldfinch	07/09/09	07/20/09	WNV	RT-PCR
Los Angeles	Lancaster	93534	Sparrow	07/13/09	07/20/09	WNV	RT-PCR
Los Angeles	Lancaster	93535	Acorn Woodpecker	07/08/09	07/20/09	WNV	RT-PCR
Los Angeles	Van Nuys	91406	Finch	07/12/09	07/20/09	WNV	RT-PCR
Madera	Madera	93637	Western Scrub-Jay	07/09/09	07/20/09	WNV	RT-PCR
Placer	Penryn	95663	Flycatcher	07/13/09	07/20/09	WNV	RT-PCR
Placer	Roseville	95747	American Crow	07/13/09	07/20/09	WNV	RT-PCR
Sacramento	North Highlands	95660	Starling	07/12/09	07/20/09	WNV	RT-PCR
San Bernardino	Chino	91710	House Sparrow	07/08/09	07/20/09	WNV	RT-PCR
San Francisco	San Francisco	94132	Pine Siskin	07/13/09	07/20/09	WNV	RT-PCR
San Joaquin	Lathrop	95330	Yellow Warbler	07/12/09	07/20/09	WNV	RT-PCR
San Joaquin	Lathrop	95330	American Crow	07/14/09	07/15/09	WNV	RAMP
San Joaquin	Lodi	95240	House Finch	07/07/09	07/20/09	WNV	RT-PCR
San Joaquin	Tracy	95304	House Sparrow	07/06/09	07/20/09	WNV	RT-PCR
Santa Clara	Los Altos	94024	American Crow	07/13/09	07/08/09	WNV	VecTest
Stanislaus	Keyes	95328	Starling	07/09/09	07/20/09	WNV	RT-PCR
Stanislaus	Modesto	95354	Western Scrub-Jay	07/13/09	07/20/09	WNV	RT-PCR
Tulare	Tulare	93274	American Crow	07/13/09	07/20/09	WNV	RT-PCR
Tulare	Visalia	93277	Mourning Dove	07/13/09	07/20/09	WNV	RT-PCR
Tulare	Visalia	93277	Hummingbird	07/13/09	07/20/09	WNV	RT-PCR

Mosquitoes

County	Site Code	Pool #	Species	# in Pool	Collected	Tested	City	Virus	Method
Fresno	CNSL1115	200	Cx quinquefasciatus	19	7/21/2009	7/23/2009	Fresno	WNV	RTPCR
Fresno	CNSL1209	195	Cx quinquefasciatus	50	7/17/2009	7/22/2009	Clovis	WNV	RTPCR
Fresno	CNSL1373	192	Cx quinquefasciatus	33	7/16/2009	7/22/2009	Clovis	WNV	RTPCR
Fresno	CNSL1451	198	Cx tarsalis	21	7/17/2009	7/22/2009	Clovis	WNV	RTPCR
Fresno	CNSL1572	194	Cx quinquefasciatus	27	7/17/2009	7/22/2009	Clovis	WNV	RTPCR
Fresno	CNSL1670	196	Cx quinquefasciatus	47	7/17/2009	7/22/2009	Clovis	WNV	RTPCR
Fresno	CNSL2055	190	Cx tarsalis	17	7/16/2009	7/22/2009	Clovis	WNV	RTPCR
Fresno	CNSL2211	187	Cx tarsalis	44	7/16/2009	7/22/2009	Clovis	WNV	RTPCR
Fresno	CNSL3113	586	Cx quinquefasciatus	45	7/21/2009	7/22/2009	Parlier	WNV	RTPCR
Fresno	CNSL3125	579	Cx quinquefasciatus	50	7/17/2009	7/22/2009	Dinuba	WNV	RTPCR
Fresno	CNSL3126	583	Cx quinquefasciatus	25	7/17/2009	7/22/2009	Dinuba	WNV	RTPCR
Kern	KERN0008	320	Cx tarsalis	36	7/16/2009	7/22/2009	Bakersfield	WNV	RTPCR
Kern	KERN0012	317	Cx quinquefasciatus	22	7/16/2009	7/21/2009	Bakersfield	WNV	RTPCR
Kern	KERN0013	289	Cx tarsalis	23	7/14/2009	7/21/2009	Bakersfield	WNV	RTPCR
Kern	KERN0015	291	Cx tarsalis	50	7/14/2009	7/21/2009	Pumpkin Center	WNV	RTPCR
Kern	KERN0031	309	Cx tarsalis	50	7/15/2009	7/21/2009	Arvin	WNV	RTPCR

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Kern	KERN0032	313	Cx tarsalis	50	7/15/2009	7/21/2009	Arvin	WNV	RTPCR
Kern	KERN2001	323	Cx quinquefasciatus	28	7/16/2009	7/22/2009	Bakersfield	WNV	RTPCR
Kern	KERN2007	305	Cx quinquefasciatus	21	7/15/2009	7/21/2009	Bakersfield	WNV	RTPCR
Kern	KERN2016	306	Cx quinquefasciatus	12	7/15/2009	7/21/2009	Bakersfield	WNV	RTPCR
Kern	KERN2019	332	Cx quinquefasciatus	11	7/17/2009	7/22/2009	Bakersfield	WNV	RTPCR
Kern	KERN2020	329	Cx quinquefasciatus	23	7/16/2009	7/22/2009	Bakersfield	WNV	RTPCR
Kern	KERN2025	304	Cx quinquefasciatus	13	7/15/2009	7/21/2009	Bakersfield	WNV	RTPCR
Kern	KERN2031	322	Cx quinquefasciatus	15	7/16/2009	7/22/2009	Bakersfield	WNV	RTPCR
Kern	KERN2038	295	Cx quinquefasciatus	44	7/14/2009	7/21/2009	Bakersfield	WNV	RTPCR
Kern	KERN2044	328	Cx tarsalis	27	7/16/2009	7/22/2009	Bakersfield	WNV	RTPCR
Kern	KERN3010	318	Cx quinquefasciatus	29	7/16/2009	7/21/2009	Bakersfield	WNV	RTPCR
Kern	KERN3010	319	Cx tarsalis	12	7/16/2009	7/22/2009	Bakersfield	WNV	RTPCR
Kern	KERN3017	293	Cx quinquefasciatus	21	7/14/2009	7/21/2009	Bakersfield	WNV	RTPCR
Kings	KNGS3016	135	Cx tarsalis	9	7/21/2009	7/22/2009	Hanford	WNV	RTPCR
Kings	KNGS3022	115	Cx tarsalis	50	7/17/2009	7/22/2009	Hanford	WNV	RTPCR
Kings	KNGS3022	117	Cx tarsalis	50	7/17/2009	7/22/2009	Hanford	WNV	RTPCR
Kings	KNGS3022	120	Cx tarsalis	50	7/17/2009	7/22/2009	Hanford	WNV	RTPCR
Kings	KNGS3022	122	Cx tarsalis	25	7/17/2009	7/22/2009	Hanford	WNV	RTPCR
Kings	KNGS3022	123	Cx erythrothorax	20	7/17/2009	7/22/2009	Hanford	WNV	RTPCR
Kings	KNGS3057	137	Cx tarsalis	41	7/21/2009	7/22/2009	Hanford	WNV	RTPCR
Kings	KNGS4003	101	Cx tarsalis	50	7/16/2009	7/23/2009	Hanford	WNV	RTPCR
Los Angeles	GRLA2955	1202	Cx quinquefasciatus	50	7/7/2009	7/20/2009	Cerritos	WNV	RTPCR
Sacramento	SAYO2315	2422	Cx tarsalis	24	7/17/2009	7/20/2009	Isleton	WNV	RTPCR
Sacramento	SAYO4395	2433	Cx pipiens	50	7/18/2009	7/20/2009	Isleton	WNV	RTPCR
San Bernardino	WVAL2008	616	Cx quinquefasciatus	50	7/15/2009	7/23/2009	Chino	WNV	RTPCR
San Bernardino	WVAL2018	619	Cx quinquefasciatus	50	7/15/2009	7/23/2009	Chino	WNV	RTPCR
San Bernardino	WVAL6002	580	Cx quinquefasciatus	37	7/14/2009	7/23/2009	Ontario	WNV	RTPCR
San Bernardino	WVAL6002	581	Cx stigmatosoma	14	7/14/2009	7/23/2009	Ontario	WNV	RTPCR
San Joaquin	SJCM8026	485	Cx tarsalis	20	7/14/2009	7/20/2009	Stockton	WNV	RTPCR
Stanislaus	TRLK0432	413	Cx pipiens	49	7/21/2009	7/22/2009	Turlock	WNV	RTPCR
Stanislaus	TRLK0516	421	Cx pipiens	50	7/21/2009	7/23/2009	Denair	WNV	RTPCR
Stanislaus	TRLK0609	428	Cx pipiens	50	7/21/2009	7/23/2009	Turlock	WNV	RTPCR
Stanislaus	TRLK0609	431	Cx pipiens	50	7/21/2009	7/22/2009	Turlock	WNV	RTPCR
Stanislaus	TRLK0625	414	Cx pipiens	16	7/21/2009	7/23/2009	Turlock	WNV	RTPCR
Sutter	SUYA0016	151	Cx tarsalis	50	7/20/2009	7/22/2009	Trowbridge	WNV	RTPCR
Tulare	DLTA6408	406	Cx quinquefasciatus	30	7/16/2009	7/23/2009	Dinuba	WNV	RTPCR
Tulare	DLTA6408	421	Cx quinquefasciatus	41	7/16/2009	7/23/2009	Dinuba	WNV	RTPCR
Tulare	DLTA8428	430	Cx quinquefasciatus	24	7/17/2009	7/21/2009	Goshen	WNV	RTPCR
Tulare	DLTA8434	431	Cx quinquefasciatus	35	7/17/2009	7/21/2009	Visalia	WNV	RTPCR
Tulare	DLTA8434	432	Cx quinquefasciatus	22	7/17/2009	7/21/2009	Visalia	WNV	RTPCR
Tulare	DLTA8434	433	Cx quinquefasciatus	44	7/17/2009	7/21/2009	Visalia	WNV	RTPCR
Tulare	DLTA8435	438	Cx quinquefasciatus	33	7/21/2009	7/23/2009	Visalia	WNV	RTPCR
Tulare	DLTA8435	439	Cx quinquefasciatus	21	7/21/2009	7/22/2009	Visalia	WNV	RTPCR
Tulare	DLTA9402	435	Cx quinquefasciatus	50	7/21/2009	7/22/2009	Visalia	WNV	RTPCR
Tulare	DLTA9402	436	Cx tarsalis	46	7/21/2009	7/22/2009	Visalia	WNV	RTPCR
Tulare	DLTA9403	440	Cx quinquefasciatus	35	7/21/2009	7/22/2009	Visalia	WNV	RTPCR
Tulare	DLTA9403	441	Cx quinquefasciatus	41	7/21/2009	7/22/2009	Visalia	WNV	RTPCR
Yolo	SAYO3233	2460	Cx tarsalis	50	7/20/2009	7/20/2009	Woodland	WNV	RTPCR
Yolo	SAYO3234	2452	Cx pipiens	25	7/19/2009	7/20/2009	Woodland	WNV	RTPCR

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Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01	Band 02	Band 03
Los Angeles	ANTV8656	Lancaster	7/15/2009	WNV	3403	3404	3405

NATIONAL COMMENTS

As of July 21, 2009, 14 human cases had been reported nationwide in the following states: Arizona (2), Arkansas (1), Idaho (1), Minnesota (1), Mississippi (2), Nevada (2), South Dakota (2), Tennessee (1), and Texas (2). There have been no fatalities. At this time last year, 43 cases had been reported nationwide.

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 by plaque reduction neutralization test (PRNT).

*Human denominator data only includes specimens tested at VRDL and does not include additional negative specimens that are tested by local agencies only.

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. The WNV Dead Bird Surveillance Coordinator, Erin Parker, can be reached directly at (510) 412-6254.

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 (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 submitted to CVEC and 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), California Department of Public Health, 850 Marina Bay Parkway, Richmond, CA 94804. Questions concerning this bulletin should be addressed to Tina Feiszli by phone (510) 412-6298 or email: tina.feiszli@cdph.ca.gov
