

California Arbovirus Surveillance Bulletin # 23

Week 29 Friday, July 22, 2011

Weekly Summary

WEEKLY COMMENTS



Humans

The first confirmed human case of West Nile virus (WNV) in California this year has been reported from Santa Barbara County. The individual developed symptoms compatible with West Nile neuroinvasive disease in early July and is recovering. At this time last year, 4 WNV cases had been reported from 2 counties (Kern and Stanislaus).

National Comments: As of July 19, 2011, 9 human cases of WNV had been reported nationwide in 5 jurisdictions: Arizona (4), Mississippi (1), South Dakota (1), Texas (2), and Wyoming (1). Four (44%) of the nine cases had neuroinvasive disease. There has been one WNV-related fatality reported in Texas.

Horses

No equine cases have been reported in 2011.

Dead Birds & Squirrels

Twenty-five WNV positive dead birds were reported this week from Fresno (1), Los Angeles (12), San Joaquin (1), Stanislaus (1) and Tulare (10) counties. These are the first WNV positive dead birds reported in Fresno, San Joaquin, and Stanislaus counties this year. In addition, 18 dead birds tested positive for chronic infection with WNV. In 2011, 69 dead birds from 12 counties have tested positive for WNV. In addition, 41 birds have tested positive for chronic* WNV infection from 16 counties. No positive squirrels have been reported this year.

At this time last year, 96 birds from 17 counties, and 3 tree squirrels from 3 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

Fifty-eight WNV positive mosquito pools were reported this week from the following 10 counties: Fresno (14), Inyo (1), Kern (12), Los Angeles (11), Orange (1), Sacramento (7), San Bernardino (1), San Joaquin (2), Sutter (1), and Tulare (8). This is the first detection of WNV activity in Inyo and Sutter counties this year. In 2011, 147 mosquito pools from 13 counties have tested positive for WNV.

At this time last year, 322 mosquito pools from 18 counties had tested positive for WNV.

Sentinel Chickens

Three WNV seroconversions were reported this week from 2 new flocks in Kern (1) and San Bernardino (2) counties. These are the first WNV positive chickens detected in San Bernardino County this year. In 2011, 6 WNV positive chickens have been detected among 3 flocks in 2 counties.

At this time last year, 24 chickens (6 flocks) had tested positive for WNV from 3 counties (Kern, Imperial and Riverside).

2010 & 2011 YTD West Nile Virus Comparisons		
	2010	2011
Total # Dead Bird Reports	6,241	4,760
# Positive Counties	21	17
# Human Cases	4	1
# Horse Cases	0	0
# Positive Dead Birds / # Tested	96 / 1,132	69 / 1,047
# Positive Mosquito Pools / # Tested	322 / 13,863	147 / 12,797
# Seroconversions / # Tested	24 / 13,103	6 / 10,100
# Positive Squirrels / # Tested	3 / 48	0 / 47

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YTD WNV Activity by Element and County, 2011

County	Humans	Horses	Dead Birds [^]	Mosquito Pools	Sentinel Chickens	Squirrels
Contra Costa			1			
Fresno			1	23		
Inyo				1		
Kern				29	4	
Kings			1			
Los Angeles			26	36		
Orange			4	9		
Riverside			1	1		
Sacramento			3	10		
San Bernardino				2	2	
San Joaquin			1	3		
Santa Barbara	1					
Santa Clara			10	1		
Stanislaus			1	3		
Sutter				1		
Tulare			19	28		
Ventura			1			
Totals	1	0	69	147	6	0

[^]Chronic infections are not included in total

TEST SUMMARIES

Human & Horse Cases

		WNV		WEEV		SLEV	
		Local	Imported	Local	Imported	Local	Imported
Human Cases	Week	1	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 & Tree Squirrels

		Number Tested	WNV Positive (recent only)
Dead Birds	Week	64	25
	YTD	1,047	69
Tree Squirrels	Week	1	0
	YTD	47	0

Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	1,123	3	0	0
	YTD	10,100	6	0	0
Mosquito Pools: RT-PCR	Week	1,237	58	0	0
	YTD	12,749	147	0	0
Mosquito Pools: RAMP	Week	13	0	N/A	N/A
	YTD	48	0	N/A	N/A

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POSITIVES

Dead Birds

County	Agency	City	Zip	Species	Collected	Virus	Infection	Method
Butte	Butte Co MVCD	Paradise	95969	Western Scrub-Jay	7/7/2011	WNV	Chronic	RT-PCR
Contra Costa	Contra Costa MVCD	Pittsburg	94565	Western Scrub-Jay	7/5/2011	WNV	Chronic	RT-PCR
Fresno	Consolidated MAD	Riverdale	93656	Northern Mockingbird	6/30/2011	WNV	Chronic	RT-PCR
Fresno	Consolidated MAD	Fresno	93726	American Crow	7/6/2011	WNV	Recent	RT-PCR
Fresno	Consolidated MAD	Fresno	93727	Mourning Dove	7/6/2011	WNV	Chronic	RT-PCR
Glenn	Glenn Co MVCD	Willows	95988	American Crow	7/12/2011	WNV	Chronic	RT-PCR
Los Angeles	San Gabriel Valley MVCD	Covina	91723	American Crow	6/17/2011	WNV	Recent	RT-PCR
Los Angeles	Los Angeles Co Veterinarian	Cerritos	90703	American Crow	6/30/2011	WNV	Recent	RT-PCR
Los Angeles	Los Angeles Co Veterinarian	West Covina	91791	American Crow	7/1/2011	WNV	Recent	RT-PCR
Los Angeles	Los Angeles Co Veterinarian	Los Angeles	91423	American Crow	7/2/2011	WNV	Recent	RT-PCR
Los Angeles	Los Angeles Co Veterinarian	Los Angeles	91423	American Crow	7/2/2011	WNV	Recent	RT-PCR
Los Angeles	Los Angeles Co Veterinarian	La Mirada	90638	House Finch	7/5/2011	WNV	Recent	RT-PCR
Los Angeles	Los Angeles Co Veterinarian	Altadena	91001	House Sparrow	7/6/2011	WNV	Chronic	RT-PCR
Los Angeles	Greater LA Co VCD - Sylmar	Northridge	91325	American Crow	7/7/2011	WNV	Recent	RT-PCR
Los Angeles	Greater LA Co VCD - SFS	Cerritos	90703	American Crow	7/8/2011	WNV	Recent	RT-PCR
Los Angeles	Greater LA Co VCD - SFS	Cerritos	90703	American Crow	7/10/2011	WNV	Recent	RT-PCR
Los Angeles	Greater LA Co VCD - SFS	Cerritos	90703	American Crow	7/11/2011	WNV	Recent	RT-PCR
Los Angeles	San Gabriel Valley MVCD	West Covina	91792	American Crow	7/17/2011	WNV	Recent	RAMP
Los Angeles	San Gabriel Valley MVCD	Covina	91724	American Crow	7/17/2011	WNV	Recent	RAMP
Madera	Madera Co MVCD	Chowchilla	93610	House Finch	7/11/2011	WNV	Chronic	RT-PCR
Nevada	Nevada Co Env Health	Grass Valley	95949	Lesser Goldfinch	7/10/2011	WNV	Chronic	RT-PCR
Placer	Placer MVCD	Roseville	95747	Cliff Swallow	7/11/2011	WNV	Chronic	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95833	N. Mockingbird	7/6/2011	WNV	Chronic	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Fair Oaks	95628	Western Scrub-Jay	7/7/2011	WNV	Chronic	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Fair Oaks	95628	Western Scrub-Jay	7/7/2011	WNV	Chronic	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Carmichael	95608	House Sparrow	7/7/2011	WNV	Chronic	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95821	Western Scrub-Jay	7/8/2011	WNV	Chronic	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95827	House Finch	7/8/2011	WNV	Chronic	RT-PCR
San Joaquin	San Joaquin Co MVCD	Lodi	95242	Western Scrub-Jay	7/6/2011	WNV	Chronic	RT-PCR
San Joaquin	San Joaquin Co MVCD	Stockton	95204	Western Scrub-Jay	7/11/2011	WNV	Recent	RT-PCR
Santa Cruz	Santa Cruz MVCD	Scotts Valley	95066	Western Scrub-Jay	7/10/2011	WNV	Chronic	RT-PCR
Stanislaus	Turlock MAD	Turlock	95380	Western Scrub-Jay	7/8/2011	WNV	Recent	RT-PCR
Tulare	Delta VCD	Visalia	93291	Western Scrub-Jay	7/6/2011	WNV	Recent	RT-PCR
Tulare	Tulare MAD	Tulare	93274	American Crow	7/6/2011	WNV	Recent	RT-PCR
Tulare	Delta VCD	Visalia	93277	American Crow	7/7/2011	WNV	Recent	RT-PCR
Tulare	Delta VCD	Visalia	93291	Western Scrub-Jay	7/11/2011	WNV	Recent	RT-PCR
Tulare	Delta VCD	Visalia	93277	Western Scrub-Jay	7/11/2011	WNV	Recent	RT-PCR
Tulare	Tulare MAD	Tulare	93274	American Crow	7/11/2011	WNV	Recent	RT-PCR
Tulare	Delta VCD	Visalia	93291	American Crow	7/11/2011	WNV	Recent	RT-PCR

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Tulare	Delta VCD	Visalia	93292	Western Scrub-Jay	7/12/2011	WNV	Recent	RT-PCR
Tulare	Delta VCD	Visalia	93292	Western Scrub-Jay	7/12/2011	WNV	Chronic	RT-PCR
Tulare	Delta VCD	Visalia	93277	American Crow	7/13/2011	WNV	Recent	RT-PCR
Tulare	Delta VCD	Kingsburg	93277	American Crow	7/13/2011	WNV	Recent	RT-PCR

Mosquitoes

County	Site Code	Pool #	Species	# in pool	Collected	City	Virus	Method
Fresno	CNSL0000	620	Cx. quinquefasciatus	22	7/15/2011	Selma	WNV	RTPCR
Fresno	CNSL1068	603	Cx. tarsalis	50	7/14/2011	Fresno	WNV	RTPCR
Fresno	CNSL1386	621	Cx. quinquefasciatus	21	7/15/2011	Fresno	WNV	RTPCR
Fresno	CNSL1422	200	Cx. quinquefasciatus	33	7/14/2011	Fresno	WNV	RTPCR
Fresno	CNSL1496	195	Cx. quinquefasciatus	46	7/13/2011	Fresno	WNV	RTPCR
Fresno	CNSL1695	197	Cx. quinquefasciatus	24	7/13/2011	Fresno	WNV	RTPCR
Fresno	CNSL1719	191	Cx. quinquefasciatus	42	7/13/2011	Fresno	WNV	RTPCR
Fresno	CNSL1766	601	Cx. quinquefasciatus	50	7/14/2011	Fresno	WNV	RTPCR
Fresno	CNSL1770	196	Cx. quinquefasciatus	49	7/13/2011	Fresno	WNV	RTPCR
Fresno	CNSL2019	614	Cx. quinquefasciatus	18	7/19/2011	Clovis	WNV	RTPCR
Fresno	CNSL2266	604	Cx. quinquefasciatus	50	7/19/2011	Sanger	WNV	RTPCR
Fresno	CNSL2397	608	Cx. quinquefasciatus	50	7/19/2011	Del Rey	WNV	RTPCR
Fresno	CNSL3124	516	Cx. quinquefasciatus	47	7/19/2011	Dinuba	WNV	RTPCR
Fresno	CNSL4013	513	Cx. quinquefasciatus	14	7/19/2011	Fowler	WNV	RTPCR
Inyo	INYO1003	2	Cx. tarsalis	50	7/18/2011	Bishop	WNV	RTPCR
Kern	KERN2007	1198	Cx. quinquefasciatus	50	7/15/2011	Bakersfield	WNV	RTPCR
Kern	KERN2007	1199	Cx. quinquefasciatus	21	7/15/2011	Bakersfield	WNV	RTPCR
Kern	KERN2027	1194	Cx. quinquefasciatus	18	7/15/2011	Bakersfield	WNV	RTPCR
Kern	KERN2028	1196	Cx. quinquefasciatus	50	7/15/2011	Bakersfield	WNV	RTPCR
Kern	KERN0035	1135	Cx. tarsalis	50	7/13/2011	Bakersfield	WNV	RTPCR
Kern	KERN0035	1136	Cx. tarsalis	42	7/13/2011	Bakersfield	WNV	RTPCR
Kern	KERN0039	1145	Cx. tarsalis	13	7/13/2011	Shafter	WNV	RTPCR
Kern	KERN0050	1137	Cx. tarsalis	50	7/13/2011	Bakersfield	WNV	RTPCR
Kern	KERN0050	1138	Cx. tarsalis	23	7/13/2011	Bakersfield	WNV	RTPCR
Kern	KERN0083	1172	Cx. tarsalis	50	7/14/2011	Arvin	WNV	RTPCR
Kern	KERN0092	1139	Cx. tarsalis	50	7/13/2011	Bakersfield	WNV	RTPCR
Kern	KERN0092	1140	Cx. tarsalis	31	7/13/2011	Bakersfield	WNV	RTPCR
Los Angeles	GRLA2100	914	Cx. quinquefasciatus	50	7/14/2011	Norwalk	WNV	RTPCR
Los Angeles	GRLA2247	925	Cx. quinquefasciatus	50	7/14/2011	Pico Rivera	WNV	RTPCR
Los Angeles	GRLA2247	926	Cx. quinquefasciatus	50	7/14/2011	Pico Rivera	WNV	RTPCR
Los Angeles	GRLA2383	921	Cx. quinquefasciatus	30	7/14/2011	Whittier	WNV	RTPCR
Los Angeles	GRLA2583	5896	Cx. quinquefasciatus	50	7/14/2011	Studio City	WNV	RTPCR
Los Angeles	GRLA2583	5897	Cx. quinquefasciatus	50	7/14/2011	Studio City	WNV	RTPCR
Los Angeles	GRLA2583	5915	Cx. quinquefasciatus	39	7/14/2011	Studio City	WNV	RTPCR
Los Angeles	GRLA2583	5916	Cx. stigmatosoma	6	7/14/2011	Studio City	WNV	RTPCR
Los Angeles	GRLA2655	5899	Cx. quinquefasciatus	50	7/14/2011	Encino	WNV	RTPCR
Los Angeles	GRLA2955	917	Cx. quinquefasciatus	50	7/14/2011	Cerritos	WNV	RTPCR
Los Angeles	GRLA2955	918	Cx. quinquefasciatus	50	7/14/2011	Cerritos	WNV	RTPCR
Orange	ORCO0082	552	Cx. quinquefasciatus	15	7/15/2011	Cypress	WNV	RTPCR
Sacramento	SAYO204025	2158	Cx. pipiens	22	7/15/2011	Citrus Heights	WNV	RTPCR
Sacramento	SAYO233009	2243	Cx. tarsalis	50	7/19/2011	Elk Grove	WNV	RTPCR
Sacramento	SAYO233009	2245	Cx. pipiens	51	7/19/2011	Elk Grove	WNV	RTPCR
Sacramento	SAYO244006	2097	Cx. tarsalis	1	7/15/2011	Wilton	WNV	RTPCR
Sacramento	SAYO244006	2101	Cx. stigmatosoma	2	7/15/2011	Wilton	WNV	RTPCR
Sacramento	SAYO244007	2121	Cx. tarsalis	50	7/15/2011	Wilton	WNV	RTPCR
Sacramento	SAYO244008	2137	Cx. pipiens	7	7/15/2011	Wilton	WNV	RTPCR
San Bernardino	WVAL6013	326	Cx. quinquefasciatus	19	7/11/2011	Ontario	WNV	RTPCR
San Joaquin	SJCM8028	290	Cx. tarsalis	10	7/20/2011	Woodbridge	WNV	RTPCR
San Joaquin	SJCM8084	258	Cx. pipiens	44	7/19/2011	Stockton	WNV	RTPCR
Sutter	SUYA0031	101	Cx. tarsalis	50	7/19/2011	Rio Oso	WNV	RTPCR
Tulare	DLTA6532	206	Cx. quinquefasciatus	50	7/19/2011	Culter	WNV	RTPCR
Tulare	DLTA6533	209	Cx. quinquefasciatus	40	7/19/2011	Yetttem	WNV	RTPCR
Tulare	DLTA8422	176	Cx. quinquefasciatus	19	7/14/2011	Goshen	WNV	RTPCR

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Tulare	DLTA8422	178	Cx. quinquefasciatus	19	7/14/2011	Goshen	WNV	RTPCR
Tulare	DLTA8521	185	Cx. quinquefasciatus	28	7/15/2011	Visalia	WNV	RTPCR
Tulare	DLTA9503	186	Cx. quinquefasciatus	10	7/15/2011	Visalia	WNV	RTPCR
Tulare	DLTA9504	179	Cx. quinquefasciatus	28	7/15/2011	Visalia	WNV	RTPCR
Tulare	TLRE0000	32	Unknown	50	7/21/2011	Tulare	WNV	RTPCR

Chickens

County	Site Code	City	Date Bled	Virus	Band 01	Band 02
Kern	KERN0113	Bakersfield	7/5/2011	WNV	1647	
San Bernardino	SANB0011	Rialto	7/11/11	WNV	2597	2598

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).

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.

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) 412-6253 or email: tina.feiszli@cdph.ca.gov

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