

California Arbovirus Surveillance Bulletin # 37

Week 42 Friday, October 23, 2009

Weekly Summary

WEEKLY COMMENTS



As of October 23, 2009, 42 counties in California have reported West Nile virus (WNV) activity. At this time last year, 48 counties had reported WNV activity.

Humans

Nine cases of WNV were reported in California this week from Contra Costa (4), Kern (1), and Los Angeles (4) counties. In 2009, 90 human cases of West Nile virus have been identified in 16 counties: Butte (2), Contra Costa (5), El Dorado (1), Fresno (13), Kern (16), Kings (3), Los Angeles (18), Merced (1), Orange (3), Riverside (1), San Bernardino (1), San Diego (3), San Joaquin (5), Stanislaus (12), Tulare (4), and Yolo (2). Of the 90 individuals, 50 (56%) developed neuroinvasive symptoms. The median age of the 90 individuals is 54 years (range: 7-88 years), and 55 (61%) are male. Three fatalities have been reported in Fresno (1), Los Angeles (1), and Merced (1) counties. In addition, 22 WNV-positive blood donation samples have been reported this year; 5 of the individuals developed symptoms and were reclassified as cases. At this time last year, 331 cases from 24 counties had been reported.

Horses

Two new equine cases were reported in California this week from Merced and Sacramento counties. In 2009, 17 equine cases of WNV have been identified in 11 counties: Contra Costa (1), Fresno (1), Los Angeles (1), Merced (3), Sacramento (2), San Joaquin (3), Shasta (1), Solano (1), Stanislaus (2), Tehama (1), and Tulare (1). Of the 17 cases, 7 have died or were euthanized as a result of their illness. At this time last year, 28 cases had been reported from 13 counties.

Dead Birds & Tree Squirrels

One WNV positive dead bird was reported in California this week from Contra Costa County. In 2009, 497 birds from 36 counties have tested positive for WNV. At this time last year, 2,387 WNV positive dead birds had been reported from 45 counties.

No positive tree squirrels were reported this week. In 2009, 10 tree squirrels from 7 counties have tested positive for WNV. At this time last year, 29 WNV positive tree squirrels had been reported from 7 counties.

Mosquito Pools

Seven WNV positive mosquito pools were reported in California this week from Kern (1), Los Angeles (5), and Riverside (1) counties. In 2009, 1,054 mosquito pools have tested positive for WNV from 27 counties. At this time last year, 1,849 WNV positive mosquito pools had been reported from 26 counties.

Sentinel Chickens

Sixteen WNV seroconversions were reported in California this week from the following 6 counties: Butte (2), Contra Costa (3), Kern (8), Lake (1), San Diego (1), and Sutter (1). This is the first WNV positive chicken detected in Lake County this year. In 2009, 422 chickens from 23 counties have tested positive for WNV antibodies. At this time last year, 481 WNV seroconversions had been reported from 22 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.

California Arbovirus Surveillance Bulletin # 37

Week 42 Friday, October 23, 2009

YTD WNV Activity by Element and County, 2009

County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens	Squirrels
Alameda			10	1		
Amador			1			
Butte	2		13	5	36	
Colusa			2			
Contra Costa	5	1	43	17	13	2
El Dorado	1		9			
Fresno	13	1	62	136	17	1
Glenn			6		3	
Imperial				3	41	
Kern	16		28	138	104	1
Kings	3		9	105		
Lake			2	2	1	
Los Angeles	18	1	78	90	35	
Madera			11	3	7	
Merced	1	3	9	11	14	
Modoc			1			
Mono				1		
Monterey			4			
Napa					3	
Orange	3		9	14		
Placer			4	40	11	
Riverside	1		2	27	29	
Sacramento		2	25	36	2	1
San Bernardino	1		17	51	13	2
San Diego	3		35	5	5	
San Francisco			1			
San Joaquin	5	3	23	84	10	
San Luis Obispo			1			
San Mateo			1			
Santa Barbara			1			
Santa Clara			13	14		2
Santa Cruz			1			
Shasta		1	8	2		
Solano		1	3	2	10	
Stanislaus	12	2	28	94	25	
Sutter				25	11	
Tehama		1			2	1
Tulare	4	1	25	131	28	
Tuolumne			2			
Ventura			3			
Yolo	2		7	16	2	
Yuba				1		
Total	90	17	497	1054	422	10

California Arbovirus Surveillance Bulletin # 37

Week 42 Friday, October 23, 2009

2009 & 2008 YTD West Nile Virus Comparisons		
	2008	2009
Total # Dead Bird Reports	30,799	14,609
# Positive Counties	48	42
# Human Cases / # Tested	331 / 969	90 / 843
# Horse Cases / # Tested	28 / 287	17 / 182
# Positive Dead Birds / # Tested	2,387 / 5,495	497 / 2,611
# Positive Mosquito Pools / # Tested	1,849 / 28,877	1,054 / 24,674
# Positive Chicken Sera / # Tested	481 / 26,517	422 / 22,503
# Positive Squirrels / # Tested	29 / 275	10 / 98

TEST SUMMARIES

Human & Horse Cases

		Number Tested	WNV		WEE		SLE		Other	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
Humans Tested*	Week	11	0	9	0	0	0	0	0	0
	YTD	843	1	89	0	0	0	0	0	0
Horses Tested	Week	4	0	2	0	0	0	0	0	0
	YTD	182	0	17	0	0	0	0	0	0

Dead Birds & Tree Squirrels

		Number Tested	WNV Positive
Dead Birds	Week	17	1
	YTD	2,611	497
Tree Squirrels	Week	1	0
	YTD	98	10

Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	SLE Positive	WEE Positive
Chicken Sera	Week	545	16	0	0
	YTD	22,503	422	0	0
Mosquito Pools: RT-PCR	Week	285	7	0	0
	YTD	23,482	981	0	0
Mosquito Pools: RAMP	Week	18	0	N/A	N/A
	YTD	1,192	73	N/A	N/A

California Arbovirus Surveillance Bulletin # 37

Week 42 Friday, October 23, 2009

POSITIVES

Dead Birds & Tree Squirrels

County	Submitting Agency	City	Zip	Species	Reported	Tested	Virus	Method
Contra Costa	Contra Costa MVCD	Brentwood	94513	American Crow	9/24/09	9/25/09	WNV	RAMP

Mosquitoes

County	Site Code	Pool #	Species	# in Pool	Collected	Tested	City	Virus	Method
Kern	KERN0044	651	Cx quinquefasciatus	44	10/16/09	10/21/09	Shafter	WNV	RTPCR
Los Angeles	GRLA2383	1846	Cx quinquefasciatus	43	10/16/09	10/21/09	Whittier	WNV	RTPCR
Los Angeles	GRLA2954	1824	Cx quinquefasciatus	50	10/16/09	10/21/09	Cerritos	WNV	RTPCR
Los Angeles	GRLA2956	1819	Cx quinquefasciatus	50	10/16/09	10/21/09	Lakewood	WNV	RTPCR
Los Angeles	GRLA2957	1815	Cx quinquefasciatus	50	10/16/09	10/21/09	Hawaiian Gardens	WNV	RTPCR
Los Angeles	GRLA3131	6055	Cx quinquefasciatus	50	10/16/09	10/21/09	San Fernando	WNV	RTPCR
Riverside	COAV0017	1746	Cx tarsalis	50	10/14/09	10/21/09	Mecca	WNV	RTPCR

Sentinel Chickens

County	Site Code	Nearest City	Date Bled	Virus	Band 01	Band 02	Band 03
Butte	BUCO0002	Oroville	10/12/09	WNV	3269		
Butte	BUCO0005	Honcut	10/12/09	WNV	3303		
Contra Costa	CNTR7402	Oakley	9/28/09	WNV	3014	3019	
Contra Costa	CNTR7402	Oakley	10/12/09	WNV	3018		
Kern	KERN0101	Lost Hills	10/12/09	WNV	2682	2683	2699
Kern	KERN0107	Arvin	10/12/09	WNV	2710	2714	2715
Kern	KERN0111	Arvin	10/12/09	WNV	2708		
Kern	KERN0114	Bakersfield	10/12/09	WNV	2717		
Lake	LAKE1000	Upper Lake	9/15/09	WNV	2583		
San Diego	SAND0057	Sorrento Valley	10/6/09	WNV	1644		
Sutter	SUYA0014	Sutter	10/15/09	WNV	1284		

NATIONAL COMMENTS

As of October 20, 2009, 515 human cases had been reported nationwide in the following 34 states: Arizona (16), Arkansas (4), California (84), Colorado (51), Florida (3), Georgia (4), Idaho (8), Illinois (4), Indiana (3), Iowa (5), Kansas (9), Kentucky (3), Louisiana (13), Maryland (1), Minnesota (3), Mississippi (50), Missouri (2), Montana (4), Nebraska (41), Nevada (12), New Jersey (2), New Mexico (7), New York (4), North Dakota (1), Ohio (2), Oklahoma (8), Oregon (7), Pennsylvania (2), South Carolina (3), South Dakota (19), Tennessee (6), Texas (91), Washington (33), and Wyoming (10). Of the 515 individuals, 278 (54%) have neuroinvasive illness. The median age of the 515 individuals is 55 years (range: 10 months-91 years); 57% are male. A total of 23 fatalities had been reported as of October 20 in Arizona (1), California (3), Georgia (1), Idaho (1), Indiana (1), Mississippi (4), New Mexico (1), Oklahoma (1), Tennessee (1), Texas (7), Washington (1), and Wyoming (1).

California Arbovirus Surveillance Bulletin # 37

Week 42 Friday, October 23, 2009

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
