

California Arbovirus Surveillance Bulletin #36

Week 43 Friday, October 26, 2012



Human Cases

A total of 38 new cases of West Nile virus (WNV) were reported this week from the following 9 counties: Alameda (1), Fresno (4), Glenn (1), Los Angeles (14), Orange (1), Sacramento (6), San Bernardino (8), Sutter (2), and Yuba (1). As of October 25, 2012, a total of 339 human cases of WNV illness have been reported in 30 counties. Of the 339 case-patients, 218 (64%) had neuroinvasive illness. The median age of the 339 individuals is 55 years (range: 1-93 years); 199 (59%) are male. Dates of symptom onset for all patients ranged from May 23 to October 9, 2012. A total of 15 WNV-related fatalities have been reported to date in Fresno (2), Glenn (1), Kern (2), Los Angeles (4), Merced (1), Placer (1), Sacramento (2), San Bernardino (1), and Sutter (1) counties. A total of 54 WNV-positive blood donors have been reported this year; 16 individuals developed symptoms and were reclassified as cases. At this time last year, 129 WNV cases had been reported from 21 counties.

National Comments: As of October 23, 2012, 4,725 cases had been reported nationwide from 47 states and the District of Columbia (DC). This is the highest number of cases reported through the last week of October since 2003. Almost 70 percent of the cases have been reported from Texas, California, Louisiana, Mississippi, Illinois, South Dakota, Michigan, and Oklahoma. Of the 4,725 cases, 2,413 (51%) were classified as neuroinvasive disease, and 219 (5%) patients died.

Horses

No equine cases were reported this week. In 2012, 21 horses from 12 counties have tested positive for WNV; 7 (33%) died or were euthanized as a result of their illness. At this time last year, 14 equine cases of WNV from 7 counties had been reported.

Dead Birds & Squirrels

A total of 35 WNV positive dead birds were reported this week from 9 counties: Butte (2), Los Angeles (13), Orange (7), Santa Clara (2), Shasta (2), Sonoma (2), Stanislaus (1), Sutter (4), and Tulare (2). Two tree squirrels from Los Angeles County also tested positive for WNV this week. An additional four dead birds and two tree squirrels tested positive for chronic WNV infection (see Dead Bird Table for details). In 2012, 1,604 dead birds and 21 squirrels have tested positive for recent WNV infection from 38 and 5 counties, respectively. At this time last year, 662 dead birds from 26 counties and 24 tree squirrels from 6 counties had tested positive for WNV.

Mosquito Pools

A total of 36 WNV positive mosquito pools were reported this week from 5 counties: Kern (4), Los Angeles (24), Orange (5), Riverside (2), and Tulare (1). In 2012, 2,792 mosquito pools from 28 counties have tested positive for WNV. At this time last year, 2,060 mosquito pools had tested positive for WNV from 26 counties.

Sentinel Chickens

A total of 15 WNV seroconversions were reported this week from 10 flocks in 3 counties: Kern (6), Los Angeles (4), and Riverside (5). In 2012, 492 WNV antibody-positive chickens have been detected among 101 flocks in 21 counties. At this time last year, 351 WNV positive chickens had been detected from 15 counties.

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YTD WNV Activity by Element and County, 2012						
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens	Squirrels
Alameda	2		15			1
Butte	10	1	53	27	43	2
Calaveras		1				
Colusa	3		5		6	
Contra Costa	3		66	19	7	
El Dorado			5			
Fresno	22	3	25	145		
Glenn	7	1	16	4	8	
Imperial	1			4	10	
Kern	25	2	14	570	74	
Kings	3		2	102		
Lake			10	23	4	
Los Angeles	92		249	300	107	15
Madera	1		2	14		
Marin			1			
Mendocino			6			
Merced	13	1	42	4		
Monterey	1					
Napa			1	1		
Nevada			3			
Orange	31		87	67		
Placer	10		60	108	8	
Riverside	12		4	129	62	
Sacramento	21	2	464	487	36	
San Bernardino	17		36	55	42	
San Diego	1					
San Francisco	1		1			
San Joaquin	9	2	55	164		
San Luis Obispo			1			
San Mateo			5			
Santa Clara			19	3		2
Santa Cruz			1			
Shasta	1	5	35	17	6	1
Solano	1		28	3	2	
Sonoma			8	3	1	
Stanislaus	22	1	51	210	8	
Sutter	8		29	19	38	
Tehama	2		5			
Tulare	7		54	143	11	
Ventura	4		37	2	2	
Yolo	5	1	98	154	4	
Yuba	4	1	11	15	13	
Totals	339	21	1,604	2,792	492	21

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2011 & 2012 YTD West Nile Virus Comparisons		
	2011	2012
Total # Dead Bird Reports	9,307	19,518
# Positive Counties	34	42
# Human Cases	129	339
# Horse Cases	14	21
# Positive Dead Birds / # Tested	662 / 2,315	1,604 / 4,148
# Positive Mosquito Pools / # Tested	2,060 / 31,505	2,792 / 31,587
# Seroconversions / # Tested	351 / 21,074	492 / 21,169
# Positive Squirrels / # Tested	24 / 105	21 / 174

TESTING SUMMARIES

Humans and Horses

		WNV		WEEV		SLEV	
		Local	Imported	Local	Imported	Local	Imported
Human Cases	Week	38	0	0	0	0	0
	YTD	339	0	0	0	0	0
Horse Cases	Week	0	0	0	0	0	0
	YTD	21	0	0	0	0	0

Dead Birds & Squirrels

		Number Tested	WNV Positive (recent only)
Dead Birds	Week	171	35
	YTD	4,148	1,604
Squirrels	Week	7	2
	YTD	174	21

Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	325	15	0	0
	YTD	21,169	492	0	0
Mosquito Pools	Week	705	36	0	0
	YTD	31,587	2,792	0	0

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POSITIVES: WEEK 43

Humans

WNV Cases							
ID	Report Date	County	Age	Sex	Clin Pres	Onset Date	WNV Fatality?
12-0302	10/18/12	ALAMEDA	60	M	WNND	09/23/12	NO
12-0303	10/18/12	LOS ANGELES	74	F	WNND	09/11/12	NO
12-0304	10/18/12	LOS ANGELES	46	F	WNND	09/21/12	NO
12-0305	10/18/12	LOS ANGELES	30	M	WNND	09/13/12	NO
12-0306	10/18/12	LOS ANGELES	70	M	WNND	09/20/12	NO
12-0307	10/18/12	LOS ANGELES	48	M	WNND	09/28/12	NO
12-0308	10/18/12	LOS ANGELES	32	F	WNND	09/22/12	NO
12-0309	10/18/12	LOS ANGELES	82	F	WNND	09/18/12	NO
12-0310	10/18/12	LOS ANGELES	24	F	WNND	09/20/12	NO
12-0311	10/18/12	LOS ANGELES	84	M	WNND	09/22/12	NO
12-0312	10/18/12	LOS ANGELES	79	F	WNND	10/01/12	NO
12-0313	10/18/12	LOS ANGELES	68	M	WNND	09/18/12	NO
12-0314	10/18/12	LOS ANGELES	87	M	WNF	09/26/12	NO
12-0315	10/18/12	LOS ANGELES	75	M	WNND	09/26/12	NO
12-0316	10/18/12	LOS ANGELES	64	M	WNND	10/02/12	YES
12-0317	10/18/12	GLENN	>18	M	WNF	N/A	NO
12-0318	10/18/12	SAN BERNARDINO	54	F	WNF	08/20/12	NO
12-0319	10/19/12	SUTTER	>18	F	WNND	09/09/12	YES
12-0320	10/18/12	SAN BERNARDINO	74	M	WNND	07/30/12	NO
12-0321	10/18/12	SAN BERNARDINO	53	M	WNND	08/26/12	NO
12-0322	10/18/12	SAN BERNARDINO	54	M	WNND	09/04/12	NO
12-0323	10/19/12	SUTTER	>18	F	WNND	08/26/12	NO
12-0324	10/19/12	SAN BERNARDINO	52	M	WNND	08/21/12	NO
12-0325	10/19/12	SAN BERNARDINO	48	F	WNND	09/07/12	NO
12-0326	10/22/12	SAN BERNARDINO	86	M	WNND	10/06/12	YES
12-0327	10/22/12	SACRAMENTO	43	M	WNND	09/04/12	NO
12-0328	10/22/12	SACRAMENTO	55	F	WNND	09/02/12	NO
12-0329	10/23/12	SACRAMENTO	57	F	WNND	08/30/12	NO
12-0330	10/23/12	FRESNO	55	M	WNND	10/09/12	NO
12-0331	10/23/12	FRESNO	68	F	WNF	N/A	NO
12-0332	10/23/12	ORANGE	68	M	WNF	Week 39	NO
12-0333	10/23/12	FRESNO	36	F	WNF	09/29/12	NO
12-0334	10/23/12	SAN BERNARDINO	17	M	WNF	09/01/12	NO
12-0335	10/24/12	FRESNO	36	M	WNND	10/09/12	NO
12-0336	10/24/12	SACRAMENTO	64	F	WNND	09/11/12	NO

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12-0337	10/24/12	SACRAMENTO	55	F	WNND	08/11/12	NO
12-0338	10/24/12	SACRAMENTO	70	F	WNF	09/13/12	NO
12-0339	10/25/12	YUBA	N/A	M	WNND	N/A	NO
Presumptive Viremic Blood Donors (Asymptomatic Infections)							
ID	Report Date	County	Age	Sex			
BD12-0043	10/18/12	SAN BERNARDINO	55	M			
BD12-0044	10/24/12	GLENN	>18	F			

Dead Birds & Squirrels

County	Agency	City	Zip	Species	Reported	Virus	Type of Infection	Method
Butte	Butte MVCD	Durham	95938	Yellow-billed Magpie	10/9/2012	WNV	Recent	RT-PCR
Butte	Butte MVCD	Chico	95973	Western Scrub-Jay	10/9/2012	WNV	Recent	RT-PCR
Kern	Kern MVCD	Bakersfield	93308	American Crow	10/10/2012	WNV	Chronic	RT-PCR
Los Angeles	LA Co Vet	Los Angeles	90045	American Crow	9/21/2012	WNV	Recent	VecTest
Los Angeles	LA Co Vet	Los Angeles	90066	American Crow	10/17/2012	WNV	Recent	VecTest
Los Angeles	LA Co Vet	Culver City	90232	American Crow	10/19/2012	WNV	Recent	VecTest
Los Angeles	LA Co Vet	Marina del Rey	90292	American Crow	10/23/2012	WNV	Recent	VecTest
Los Angeles	LA Co Vet	Montebello	90640	American Crow	10/11/2012	WNV	Recent	RT-PCR
Los Angeles	LA Co Vet	Van Nuys	91405	American Crow	10/11/2012	WNV	Recent	RT-PCR
Los Angeles	LA Co Vet	Van Nuys	91406	American Crow	10/11/2012	WNV	Recent	RT-PCR
Los Angeles	LA VCD - Sylmar	Sunland	91041	American Crow	10/11/2012	WNV	Recent	RT-PCR
Los Angeles	LA VCD - Sylmar	Newhall	91321	House Finch	10/5/2012	WNV	Recent	RT-PCR
Los Angeles	LA West VCD	Los Angeles	90066	American Crow	10/12/2012	WNV	Recent	RT-PCR
Los Angeles	LA West VCD	Culver City	90230	American Crow	10/11/2012	WNV	Recent	RT-PCR
Los Angeles	LA West VCD	Culver City	90232	American Crow	10/9/2012	WNV	Recent	RT-PCR
Los Angeles	San Gabriel MVCD	Whittier	90601	American Crow	10/12/2012	WNV	Recent	RT-PCR
Los Angeles	San Gabriel MVCD	Alhambra	91801	Grebe	10/10/2012	WNV	Chronic	RT-PCR
Mendocino	Mendocino EHD	Ukiah	95482	White-crowned Sparrow	10/11/2012	WNV	Chronic	RT-PCR
Northridge	LA County Vet	Los Angeles	91324	Fox Squirrel	10/11/2012	WNV	Chronic	RT-PCR
Northridge	LA County Vet	Los Angeles	91325	Fox Squirrel	10/11/2012	WNV	Recent	RT-PCR
Orange	Orange Co VCD	Buena Park	90620	American Crow	10/12/2012	WNV	Recent	RT-PCR
Orange	Orange Co VCD	Costa Mesa	92626	American Crow	10/18/2012	WNV	Recent	RT-PCR
Orange	Orange Co VCD	Costa Mesa	92626	American Crow	10/17/2012	WNV	Recent	RT-PCR
Orange	Orange Co VCD	Huntington Beach	92647	American Crow	10/17/2012	WNV	Recent	RT-PCR
Orange	Orange Co VCD	Huntington Beach	92649	American Crow	10/17/2012	WNV	Recent	RT-PCR
Orange	Orange Co VCD	Anaheim	92804	American Crow	10/18/2012	WNV	Recent	RT-PCR
Orange	Orange Co VCD	Fullerton	92833	American Crow	10/15/2012	WNV	Recent	RT-PCR
San Mateo	San Mateo Co. MAD	San Mateo	94403	Unknown - Squirrel	10/10/2012	WNV	Chronic	RT-PCR
Santa Clara	Santa Clara VCD	Los Altos	94022	American Crow	10/24/2012	WNV	Recent	VecTest
Santa Clara	Santa Clara VCD	San Jose	95127	American Crow	10/24/2012	WNV	Recent	VecTest
Shasta	Shasta MVCD	Anderson	96007	Western Scrub-Jay	10/19/2012	WNV	Recent	RAMP
Shasta	Shasta MVCD	Palo Cedro	96073	Western Scrub-Jay	10/24/2012	WNV	Recent	RAMP
Sonoma	Marin-Son. MVCD	Santa Rosa	95401	American Crow	10/11/2012	WNV	Chronic	RT-PCR
Sonoma	Marin-Son. MVCD	Santa Rosa	95409	House Finch	10/10/2012	WNV	Recent	RT-PCR
Sonoma	Marin-Son. MVCD	Santa Rosa	95401	American Crow	10/12/2012	WNV	Recent	RT-PCR
Stanislaus	Turlock MAD	Ceres	95307	American Crow	10/9/2012	WNV	Recent	RT-PCR

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Sutter	Sutter-Yuba MVCD	Yuba City	95991	American Crow	10/9/2012	WNV	Recent	RT-PCR
Sutter	Sutter-Yuba MVCD	Yuba City	95991	American Crow	10/9/2012	WNV	Recent	RT-PCR
Sutter	Sutter-Yuba MVCD	Yuba City	95991	American Crow	10/9/2012	WNV	Recent	RT-PCR
Sutter	Sutter-Yuba MVCD	Yuba City	95991	American Crow	10/9/2012	WNV	Recent	RT-PCR
Tulare	Delta VCD	Goshen	93227	American Crow	10/15/2012	WNV	Recent	RT-PCR
Tulare	Delta VCD	Goshen	93227	American Crow	10/12/2012	WNV	Recent	RT-PCR
Los Angeles	LA County Vet	Woodland Hills	91367	Fox Squirrel	10/11/2012	WNV	Recent	RT-PCR

Mosquito Pools

County	Site Code	Pool #	City	Species	# in Pool	Trap Type	Collected	Virus	Method
Kern	KERN156	2786	Butttonwillow	Cx. quinquefasciatus	50	CO2	10/15/2012	WNV	RTPCR
Kern	KERN3029	2812	Butttonwillow	Cx. quinquefasciatus	50	CO2	10/16/2012	WNV	RTPCR
Kern	KERN43	2842	Shafter	Cx. quinquefasciatus	26	CO2	10/17/2012	WNV	RTPCR
Kern	KERN7	2873	Famoso	Cx. quinquefasciatus	50	CO2	10/18/2012	WNV	RTPCR
Los Angeles	GRLA2221	1250	Rowland Heights	Cx. quinquefasciatus	36	GRVD	10/16/2012	WNV	RTPCR
Los Angeles	GRLA2230	1241	Diamond Bar	Cx. quinquefasciatus	13	GRVD	10/16/2012	WNV	RTPCR
Los Angeles	GRLA2247	1251	Pico Rivera	Cx. quinquefasciatus	30	GRVD	10/16/2012	WNV	RTPCR
Los Angeles	GRLA2346	1254	Montebello	Cx. quinquefasciatus	36	GRVD	10/17/2012	WNV	RTPCR
Los Angeles	GRLA2478	6212	Sunland	Cx. quinquefasciatus	40	GRVD	10/18/2012	WNV	RTPCR
Los Angeles	GRLA2512	6217	Los Angeles	Cx. quinquefasciatus	50	GRVD	10/18/2012	WNV	RTPCR
Los Angeles	GRLA2512	6218	Los Angeles	Cx. quinquefasciatus	50	GRVD	10/18/2012	WNV	RTPCR
Los Angeles	GRLA2520	6214	Los Angeles	Cx. quinquefasciatus	42	GRVD	10/18/2012	WNV	RTPCR
Los Angeles	GRLA2592	6221	San Marino	Cx. quinquefasciatus	50	GRVD	10/18/2012	WNV	RTPCR
Los Angeles	GRLA2592	6222	San Marino	Cx. quinquefasciatus	40	GRVD	10/18/2012	WNV	RTPCR
Los Angeles	GRLA2604	6219	Los Angeles	Cx. quinquefasciatus	50	GRVD	10/18/2012	WNV	RTPCR
Los Angeles	GRLA2604	6220	Los Angeles	Cx. quinquefasciatus	32	GRVD	10/18/2012	WNV	RTPCR
Los Angeles	GRLA2614	6201	Newhall	Cx. quinquefasciatus	14	GRVD	10/18/2012	WNV	RTPCR
Los Angeles	GRLA2655	6197	Encino	Cx. quinquefasciatus	41	CO2	10/17/2012	WNV	RTPCR
Los Angeles	GRLA2827	6175	Northridge	Cx. quinquefasciatus	50	GRVD	10/16/2012	WNV	RTPCR
Los Angeles	GRLA2871	1257	South El Monte	Cx. quinquefasciatus	50	USDS	10/18/2012	WNV	RTPCR
Los Angeles	GRLA3026	6178	Studio City	Cx. quinquefasciatus	50	GRVD	10/17/2012	WNV	RTPCR
Los Angeles	GRLA3027	6181	Studio City	Cx. quinquefasciatus	28	GRVD	10/17/2012	WNV	RTPCR
Los Angeles	GRLA3102	6195	Studio City	Cx. quinquefasciatus	22	CO2	10/17/2012	WNV	RTPCR
Los Angeles	LACW1009	326	Los Angeles	Cx. quinquefasciatus	50	GRVD	10/16/2012	WNV	RTPCR
Los Angeles	LACW1010	327	Los Angeles(Miracle Mile)	Cx. quinquefasciatus	50	GRVD	10/16/2012	WNV	RTPCR
Los Angeles	LACW1012	333	Venice	Cx. quinquefasciatus	50	GRVD	10/17/2012	WNV	RTPCR
Los Angeles	LACW1012	334	Venice	Cx. quinquefasciatus	50	GRVD	10/17/2012	WNV	RTPCR
Los Angeles	LACW1026	335	Beverly Hills	Cx. quinquefasciatus	49	GRVD	10/17/2012	WNV	RTPCR
Orange	ORCO128	1420	Huntington Beach	Cx. quinquefasciatus	7	GRVD	10/16/2012	WNV	RTPCR
Orange	ORCO130	1414	Garden Grove	Cx. quinquefasciatus	27	GRVD	10/16/2012	WNV	RTPCR
Orange	ORCO198	1406	La Habra	Cx. quinquefasciatus	28	GRVD	10/16/2012	WNV	RTPCR
Orange	ORCO34	1411	Brea	Cx. quinquefasciatus	19	GRVD	10/16/2012	WNV	RTPCR
Orange	ORCO82	1472	Cypress	Cx. quinquefasciatus	19	CO2	10/19/2012	WNV	RTPCR
Riverside	COAV331	2941	Palm Desert	Cx. quinquefasciatus	37	GRVD	10/19/2012	WNV	RTPCR
Riverside	COAV331	2944	Palm Desert	Cx. quinquefasciatus	25	GRVD	10/19/2012	WNV	RTPCR
Tulare	DLTA9506	609	Visalia	Cx. quinquefasciatus	24	GRVD	10/24/2012	WNV	RTPCR

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Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01	Band 02	Band 03
Kern	AFSB0129	Bakersfield	10/16/2012	WNV	2095		
Kern	AFSB0128	Bakersfield	10/16/2012	WNV	2097	4044	
Kern	AFSB0107	Bakersfield	10/17/2012	WNV	2087	4026	
Kern	AFSB0132	Edison	10/17/2012	WNV	4035		
Los Angeles	ANTV7947	Palmdale	10/17/2012	WNV	1258		
Riverside	COAV0203	Palm Desert	10/15/2012	WNV	3829		
Riverside	COAV0035	Mecca	10/15/2012	WNV	3926	3927	4654
Riverside	NWST0004	Flabob Airport	10/15/2012	WNV	1026		
Los Angeles	GRLA2465	Los Angeles	10/15/2012	WNV	3501		
Los Angeles	GRLA2651	Encino	10/15/2012	WNV	3524	3526	

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.

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.

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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.