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# Vector Borne Disease Bulletin



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## A Note from the Editor:

Welcome to the second 2009 issue of the Vector-borne Disease Bulletin. The intent of this quarterly bulletin is to keep you better informed about the vector-borne disease investigations and surveillance conducted by the California Department of Public Health and collaborating state and local agencies in California. This publication is a summary of surveillance results for January- April, 2009. Look for the next quarterly bulletin at the end of August. In the meantime, please email me with any suggestions to make this bulletin more useful for your work and research and any pictures you have of surveillance activities. Thanks to everyone who contributed to this bulletin.

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## Mosquito-borne Virus Surveillance

As of April 24, 2009, West Nile virus (WNV) activity has been reported from 5 counties. WNV positive dead birds have been detected in Fresno (1), Los Angeles (1), Orange (2) and San Diego (5) counties. Eight mosquito pools have tested positive for WNV from Contra Costa (7) and Los Angeles (1) counties, and antibodies to WNV have been detected in three sentinel chickens from Los Angeles County. No human or equine cases have been reported.





2009 & 2008 YTD West Nile Virus Comparisons\*

	2008	2009
Positive Counties	6	5
Human Cases/Tested	0/152	0/265
Horse Cases/Tested	0/0	0/32
Total Dead Bird Reports	3,543	2,730
Positive Dead Birds/Tested	10/ 465	9/ 363
Positive Mosquito Pools/Tested	9/ 922	8/ 1,610
Positive Chicken Sera/Tested	2/ 1,902	3/ 1,839
Positive Squirrels/Tested	0/ 20	0/ 8



\* As of April 24th, 2009



A summary of West Nile virus activity from 2003-2009 can be found at:

[www.westnile.ca.gov](http://www.westnile.ca.gov)



## Hantavirus Surveillance

No human cases of hantavirus cardiopulmonary syndrome have been identified in California in 2009 to date.



The following *Peromyscus* spp. were submitted to the CDPH Viral and Rickettsial Diseases Laboratory for Sin Nombre virus serology in January - March 2009:

### Peromyscus tested for Sin Nombre virus antibodies January-March, 2009

County	<u><i>P. boylii</i></u>		<u><i>P. californicus</i></u>		<u><i>P. eremicus</i></u>		<u><i>P. maniculatus</i></u>	
	Pos	Tested	Pos	Tested	Pos	Tested	Pos	Tested
Orange							0	8
Riverside	0	8	1	23	0	21	1	12
San Bernardino	0	2			0	6	0	20
San Diego	0	14	0	64	1	172	1	37
California: 2009 YTD	0 / 24		1 / 87 (1.1%)		1 / 199 (0.5%)		2 / 77 (2.6%)	

## Plague Surveillance

The VBDS state-wide plague surveillance program will start testing in May.



CDPH/VBDS staff assist with tick collection in Calexico



## Tick-borne Disease Surveillance



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Web at:**

[www.cdph.ca.gov](http://www.cdph.ca.gov)



[www.calsurv.org](http://www.calsurv.org)

No cases of Lyme disease have been reported this year to date in California. From January to April, 2009, 1,353 adult *Ixodes pacificus* and 74 *I. pacificus* nymphs were collected from 16 counties by VBDS staff and local vector control districts. In addition, 1,166 adult *Dermacentor occidentalis* and 2 *D. occidentalis* nymphs were collected from 15 counties



### **Spotted Fever Group *Rickettsia***

In 2008, VBDS, Lake County Mosquito Vector Control District and the Division of Viral and Rickettsial Diseases, Centers for Disease Control and Prevention (CDC), conducted tick surveillance in Lake County as follow-up to the first human case of *Rickettsia* 364D. A total of 57 adult *D. occidentalis*, 14 adult *Dermacentor variabilis* and 267 adult and nymphal *Ornithodoros coriaceus* were collected by flag or by CO<sub>2</sub> traps. *Rickettsia* 364D was detected by PCR in 4 of 52 (7.7%) adult *D. occidentalis* collected in Lake County. Non-pathogenic spotted fever group *Rickettsia* were detected in 13 of 52 (25%) *D. occidentalis*. All other tick species were negative for spotted fever group *Rickettsia*.

In March and April, 2009, 565 adult *D. occidentalis* were collected in Lake County as follow-up surveillance for a 2008 human case of *Rickettsia* 364D. Over half these ticks were submitted to CDC to test for spotted-fever group *Rickettsia*; results are forthcoming.

### **Rocky Mountain Spotted Fever**

In late February 2009, CDPH was informed of an outbreak of severe disease in Mexicali, Mexico occurring between September 2008 and mid February 2009. Mexican health authorities had identified 15 cases characterized by acute fever, headache, jaundice, and septic shock; 8 of these cases were fatal. Serum diagnostics performed at the Centers for Disease Control and Prevention identified *Rickettsia rickettsii*, the agent of Rocky Mountain spotted fever (RMSF) as the likely etiologic agent. Stray and uncontrolled dogs heavily infested with ticks likely contributed to the high incidence of disease in this impoverished community. RMSF is rarely reported in California (average 1-2 cases per year), but the implicated tick vector, *Rhipicephalus sanguineus*, the brown dog tick, is a common parasite of domestic dogs. To date, no cases of RMSF associated with this outbreak have been identified in California residents.

To gauge potential risk to residents in Southern California, CDPH and Imperial County Public Health Department initiated tick surveillance in dogs housed at Imperial County animal shelters. To date, approximately 200 ticks have been collected from 20 of 55 shelter dogs (36.4%); the majority of these ticks are brown dog ticks. Ticks are currently being tested by CDPH-Vector-Borne Disease Section and CDPH-Viral and Rickettsial Disease Laboratory.

If you have questions about the information contained in this report, please contact your CDPH VBDS Regional Biologist, or VBDS Headquarters at 916-552-9730.