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Vector Borne Disease Bulletin



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A Note from the Editor:

Welcome to the third 2008 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 third publication of the year includes a brief summary of surveillance results from June 1st, 2008. Look for our year-end summary bulletin at the beginning of 2009. In the meantime, please email me with any suggestions to make this bulletin more useful for your work and research. Thanks to everyone who contributed to this bulletin.

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Mosquito-borne Virus Surveillance



As of July 18, 2008, West Nile virus (WNV) activity has been reported from 28 counties. Six WNV human cases have been reported in four counties (Orange-2, San Joaquin-1, Stanislaus-2, Tulare-1). In addition, three asymptomatic blood donors have been identified in Orange (2) and Stanislaus (1) counties. Two WNV equine cases have been reported in Riverside (1) and San Diego (1) counties. Twenty-five counties have detected a total of 435 WNV positive dead birds, and two counties have detected a total of three positive tree squirrels. Nineteen counties have detected a total of 292 positive mosquito samples. Eleven chicken sera samples have tested positive from five counties.



2008 & 2007 YTD West Nile Virus Comparisons*

	2008	2007
Positive Counties	28	36
Human Cases/Tested	6/ 426	28/ 542
Horse Cases/Tested	2/109	4/168
Total Dead Bird Reports	16,699	15,806
Positive Dead Birds/Tested	435/2,542	355/2,631
Positive Mosquito Pools/Tested	292/11,428	223/11,201
Positive Chicken Sera/Tested	11/14,684	21/14,186
Positive Squirrels/Tested	3/87	5/86



Dipping for mosquito larvae in Mendocino National Forest

* As of July 18, 2008



A summary of West Nile virus activity from 2003-2008 can be found at:

www.westnile.ca.gov



Hantavirus Surveillance

Rodent surveillance for Sin Nombre virus (SNV) was conducted in three California counties from April through June, 2008. Of 68 deer mice (*Peromyscus maniculatus*) collected and tested, antibodies to SNV were detected in 12 (17.6%).

Results of testing for serum antibody to Sin Nombre virus in *Peromyscus maniculatus* reported in April-June, 2008.

County	No. Positive	No. Tested
Lassen	0	3
Mono	10	12
Orange	1	17
Riverside	0	5
San Bernardino	0	23
San Diego	0	4
Siskiyou	1	4



Plague Surveillance

A total of 349 sera samples have been tested for plague antibody in 2008. Of these, 10 additional specimens have tested positive since April 30, 2008.

Mammals testing positive for plague (*Yersinia pestis*), April- June 2008

County	Location	Date	Host	No. pos	Results
Modoc	Cedarville, 6S	24-Apr	Coyote	2	1:64, 1:512
Modoc	Alturas, 5S	28-Apr	Coyote	1	1:128
Inyo	Taboose Creek CG	12-Jun	California Ground Squirrel	7	1:32, 1:256, 1:256, 1:512, 1:512, 1:1024, 1:1024
Total No. Mammals Positive for Plague				10	

Tick-borne Disease Surveillance

2008 Activity:

Eleven cases of Lyme disease and two cases of tick-borne relapsing fever have been reported this year to date in California.

Between January and July, 2008, 3,951 adult *Ixodes pacificus* were collected in 22 California counties (Alameda, Amador, Butte, Calaveras, Contra Costa, Lake, Los Angeles, Madera, Marin, Mariposa, Mendocino, Nevada, Placer, Riverside, San Bernardino, San Diego, San Joaquin, Santa Clara, Shasta, Solano, Stanislaus, and Trinity) by CDPH-VBDS and local vector control and public health departments. In addition, 248 *I. pacificus* nymphs were collected from 10 counties (Alameda, Butte, Contra Costa, Lake, Los Angeles, Madera, Marin, Nevada, Riverside, and Santa Clara).



*A questing
female Ixodes
pacificus*

Adult *Dermacentor occidentalis* (n = 1,889) were collected in 18 counties (Alameda, Butte, Calaveras, Contra Costa, Lake, Los Angeles, Marin, Mendocino, Nevada, Placer, Riverside, San Bernardino, San Diego, San Joaquin, Santa Clara, Shasta, Solano, and Stanislaus). *Dermacentor variabilis* adults (n=43) were collected in Alameda, Contra Costa, Lake, Marin, Nevada, and Santa Clara counties.

As part of a risk assessment study, VBDS staff collected nymphs in Tilden Regional Park, Contra Costa County. From February to July, six species of nymphs were collected from recreational areas (*D. occidentalis*, *Haemaphysalis leporispalustris*, *Ixodes auritulus*, *Ixodes brunneus*, *I. pacificus*, and *Ixodes spinipalpis*). To date in 2008, *I. pacificus* adults (n = 18) and nymphs (n = 159) from Tilden Park were tested by direct fluorescent antibody (DFA) assay for *Borrelia* spirochetes; 2 nymphs were DFA positive.





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***Ixodes pacificus* collected per county, California, January - July 2008.**

County	Male	Female	Nymphs
Alameda	32	50	0
Amador	16	15	0
Butte	52	82	5
Calaveras	58	58	0
Contra Costa	214	257	182
Lake	318	266	14
Los Angeles	302	291	1
Madera	2	0	1
Marin	41	54	8
Mariposa	8	12	0
Mendocino	12	17	0
Nevada	65	84	8
Placer	58	88	0
Riverside	28	27	1
San Bernardino	3	3	0
San Diego	39	20	0
San Joaquin	14	14	0
Santa Clara	374	406	28
Shasta	160	168	0
Solano	64	69	0
Stanislaus	1	2	0
Trinity	52	55	0
Total	1913	2038	248

Collections made by VBDS staff and local agencies.

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.