



United States Army Public Health Command
Army Vector-borne Disease Report

08 August 2013

Data are preliminary and subject to change

- **West Nile virus:** CDC reports 99 human cases including 4 deaths for calendar year 2013; Army reports no confirmed/probable cases or deaths.
- **WNV mosquito pools:** PHCR-North has reported four new positive mosquito pools; to date five pools have tested positive at PHCR-North.
- **Lyme Disease:** 54 cases of confirmed or probable Lyme Disease were reported among Army beneficiaries this year.

West Nile Virus (WNV)

United States

- Since the last published report, 68 additional human WNV cases have been reported to the CDC, including one death; 45% (n=45) of all cases are neuroinvasive.
- The majority of cases (55%, n=54) are classified as non-neuroinvasive; the remainder are considered neuroinvasive (i.e., meningitis, encephalitis, or acute flaccid paralysis).
- As of 06 August, 38 states (an increase of eight since the last report) and Washington, D.C. report WNV activity of some type (infections in humans, birds, or mosquitoes).
- 22 states report WNV human infections; newly reporting states include ID, ND, WI, IN, MI, LA, NM and WY. The highest number of cases are reported from SD (n=21) and CA (n=18), accounting for 39% of the total.
- California reports two WNV fatalities; Nevada and Mississippi report one each.

West Nile Virus Activity by State—United States, 2013 (as of August 6, 2013)



Cases in Army AD and Other Beneficiaries

- In 2013, no confirmed or probable WNV infections in Army AD or other beneficiaries have been reported. Two individuals with WNV-related diagnoses were identified in purchased care records; however, as the case statuses cannot be confirmed, they are excluded from this report.
- No WNV fatalities have been reported among Army beneficiaries this year.

West Nile Virus Activity, by State and Army Public Health Command Region (PHCR), United States, 2013 As of August 6, 2013



DoD Mosquito Surveillance from Army Laboratories

- PHCR-North reports 4 positive pools in the greater DC metropolitan area.
- PHCR-West and PHCR-South report no positive pools.

Mosquito Pool Testing	PHC Region	Reporting Period [¥]		Year to Date 2013		¥ Absolute difference between last published report and this week's year to date number.
		No. Positive (No. Tested)	No. Positive (No. Tested)	No. Positive (No. Tested)	No. Positive (No. Tested)	
	North	4 (23)	5 (227)			
	South	0 (130)	0 (639)			
	West	0 (30)	0 (52)			

Prevention and Control Activities

- Mosquito activity peaks in the summer; expect mosquitoes to remain active until the first hard or killing frost.
- Preventive Medicine personnel should continue to stress the importance of eliminating mosquito breeding sites (standing water) around homes and workplaces, and using personal protective measures (preferably those containing DEET).

Tick-borne Diseases

- Through week 31, 54 cases of Lyme Disease (LD) have been reported in Army beneficiaries.
- 21 (39%) LD cases were AD; four of whom reported duty-related exposure. Two cases each occurred in deployed and non-deployed settings.
- The season for *Ixodes scapularis* (the primary LD vector in the Eastern US) nymphs winds down in August; adults ticks will emerge in late September and be active until December. During this period, they are likely to be infected with *Borrelia* spp., the causative agent of LD, at an even higher rate.

Reported Cases of Lyme Disease—United States, 2013



Human Tick Testing

- Tick testing is species-specific; each tick species transmits different pathogens.
- To date, 83 of 369 (22%) CONUS ticks tested positive for *Borrelia* spp.; this rate is typical for *I. scapularis* in CONUS. 6/113 (5%) ticks submitted to PHCR-Europe tested positive.
- Of the ticks sent to the CONUS Human Tick Test Program within the reporting period, 1/42 (2%) ticks each tested positive for both the causative agent of Anaplasmosis (*A. phagocytophilum*) and Babesiosis (*B. microti*). Less than 2% of ticks tested for *E. chaffeensis* (8/465) and *E. ewingii* (6/465), the pathogens which cause human monocytic Ehrlichiosis and ewingii Ehrlichiosis respectively.

Human Tick Test Program	<i>A. phagocytophilum</i>	<i>B. microti</i>	<i>B. burgdorferi</i>	<i>E. chaffeensis</i>	<i>E. ewingii</i>	<i>E. muris-like</i>	<i>R. parkerii</i>	<i>R. rickettsii</i>
YTD No. Positive (YTD No. Tested)	12 (369)	8 (369)	83 (369)	15 (1405)	24 (1405)	0 (369)	2 (9)	0 (361)

Note: CONUS data only.

WNV Human Cases ^β		
Population	Reporting Period [¥]	Cum. 2013
United States	68	99
Army Cases [±] Confirmed and Probable		
Army AD [‡]	0	0
Army Non-AD [†]	0	0
WNV Human Deaths		
United States	1	4
Army	0	0

Sources: CDC and AIPH DRSL as of 06 August 2013.

Note: Reporting location may differ from exposure location.

^β Confirmed and probable neuroinvasive and non-neuroinvasive cases.

[¥] Difference between last published report and this week's cumulative 2013 value.

[±] Only Army AD and beneficiaries who have a Reportable Medical Event generated on their behalf and whose case status is verified as confirmed/probable are included in this report.

[‡] Active duty, recruits, cadets.
[†] Army-associated beneficiaries.

Lyme Disease Cases		
Population	Reporting Period [¥]	Cum. 2013
United States ^β	547	9,914
Army Cases [±] Confirmed and Probable		
Army AD [‡]	7	21
Army Non-AD [†]	13	33
Regional Case Distribution		
PHCR-Europe	7	18
PHCR-North	8	22
PHCR-Pacific	0	3
PHCR-South	2	3
PHCR-West	1	2
Other/Unknown	2	6

Sources: CDC and AIPH DRSL.

Note: Reporting location may differ from exposure location.

^β Provisional cases through 27 July.

[¥] National cases are those reported for EpiWeek 30. Army cases are the difference between last published report and this week's year to date number.

[±] Cases reported through 6 August.

[‡] Active duty, recruits, cadets.
[†] Army-associated beneficiaries.

Resources: CDC WNV • CDC Tickborne Diseases • Human Tick Test Program • USAPHC WNV Fact Sheet • Army Vector-borne Disease Reports • USAPHC

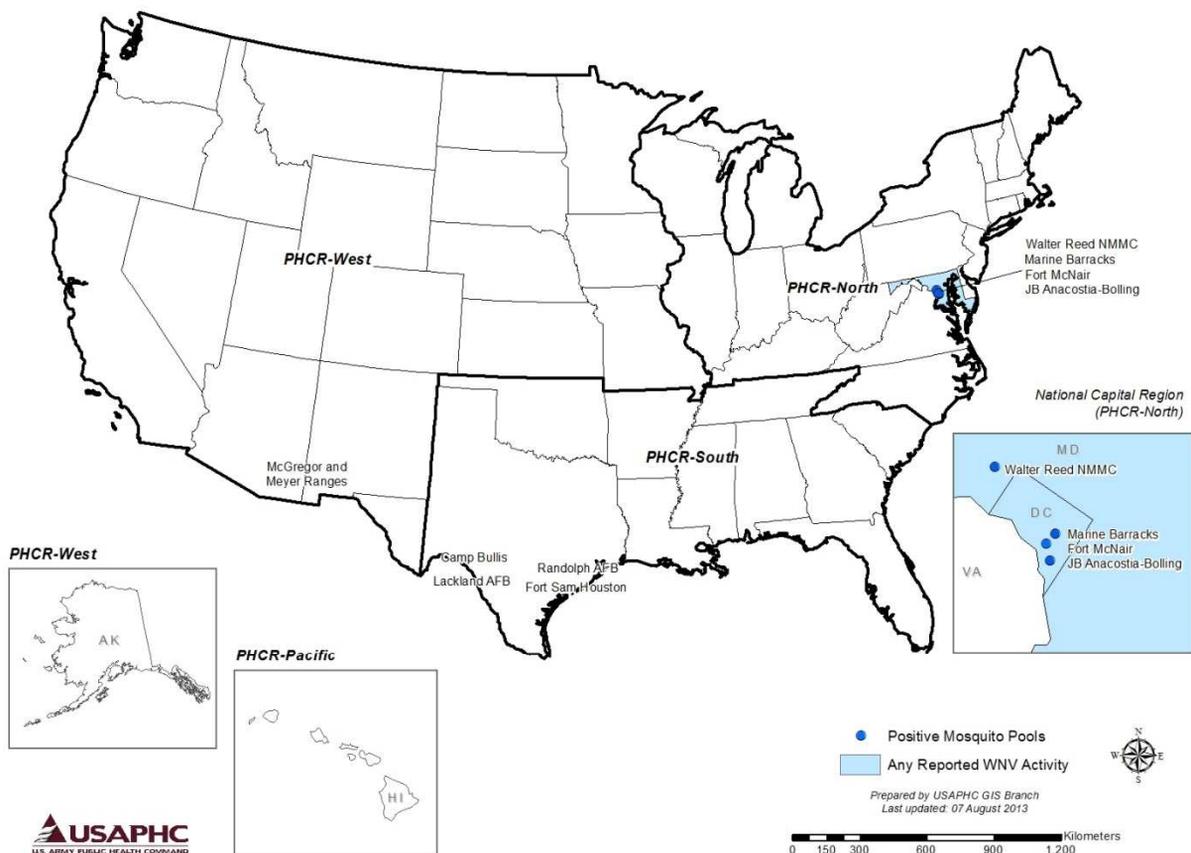
Key: CDC Centers for Disease Control and Prevention; DRSL Disease Reporting System Internet; Mosquito pool 1 to 50 mosquitoes; AD Active Duty

Contact us: USAPHC Disease Epidemiology or 410-417-2377

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West Nile Virus Activity, by State and Army Public Health Command Region (PHCR), United States, 2013

As of August 6, 2013



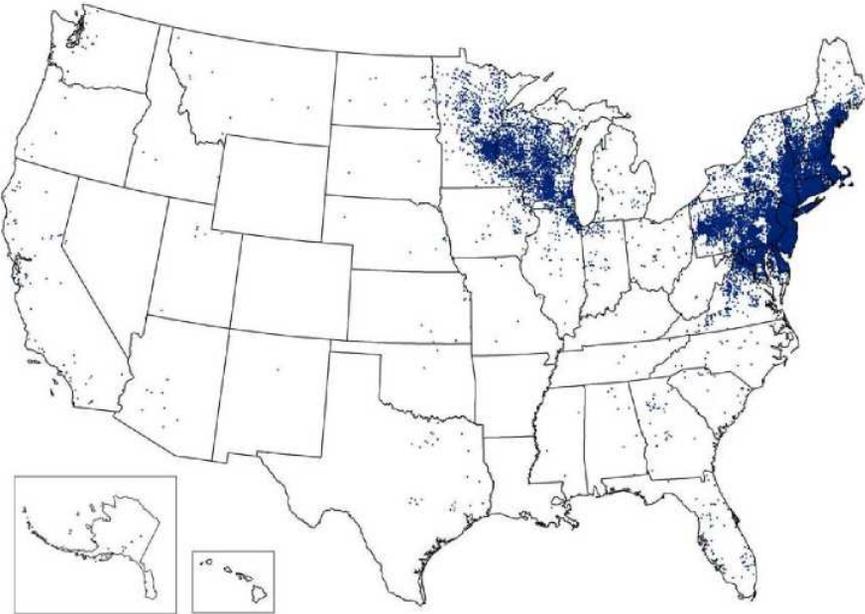
Footnote: The map displays white areas that indicate no reported West Nile virus (WNV) activity, light blue areas represent any reported WNV activity* within a state; dark blue circles represent WNV positive mosquito pools on military installations, and red squares represent the reporting location/installation of Army human cases (probable and/or confirmed). If West Nile virus infection is reported from any area of a state, that entire state is shaded light blue.

*Includes WNV Army human disease cases (probable and/or confirmed) and infections in mosquito pools on military installations.

Prepared by: US Army Public Health Command Geographic Information Systems Branch.

Reported Cases of Lyme Disease—United States, 2011

One dot is placed randomly within the county of residence for each confirmed case. Though Lyme disease cases have been reported in nearly every state, cases are reported based on the county of residence, not necessarily the county of infection.



National Center for Emerging and Zoonotic Infectious Diseases
Division of Vector Borne Diseases | Bacterial Diseases Branch



This figure shows the reported cases of Lyme Disease in the United States in 2011. Lyme disease is the 6th most commonly reported Nationally Notifiable disease nationwide. Of all vectorborne disease, Lyme is the most commonly reported; however, 96% of cases in 2011 were reported from only 13 states in the Midwest, Mid-Atlantic and Northeastern regions of the US. These states include Connecticut, Delaware, Maine, Maryland, Massachusetts, Minnesota, New Hampshire, New Jersey, New York, Pennsylvania, Vermont, Virginia and Wisconsin.

Source: Lyme Disease Data. Centers for Disease Control and Prevention. Last updated September 10, 2012. Available at: <http://www.cdc.gov/lyme/stats/index.html>.