

Lyme Disease Prevention



August 2014



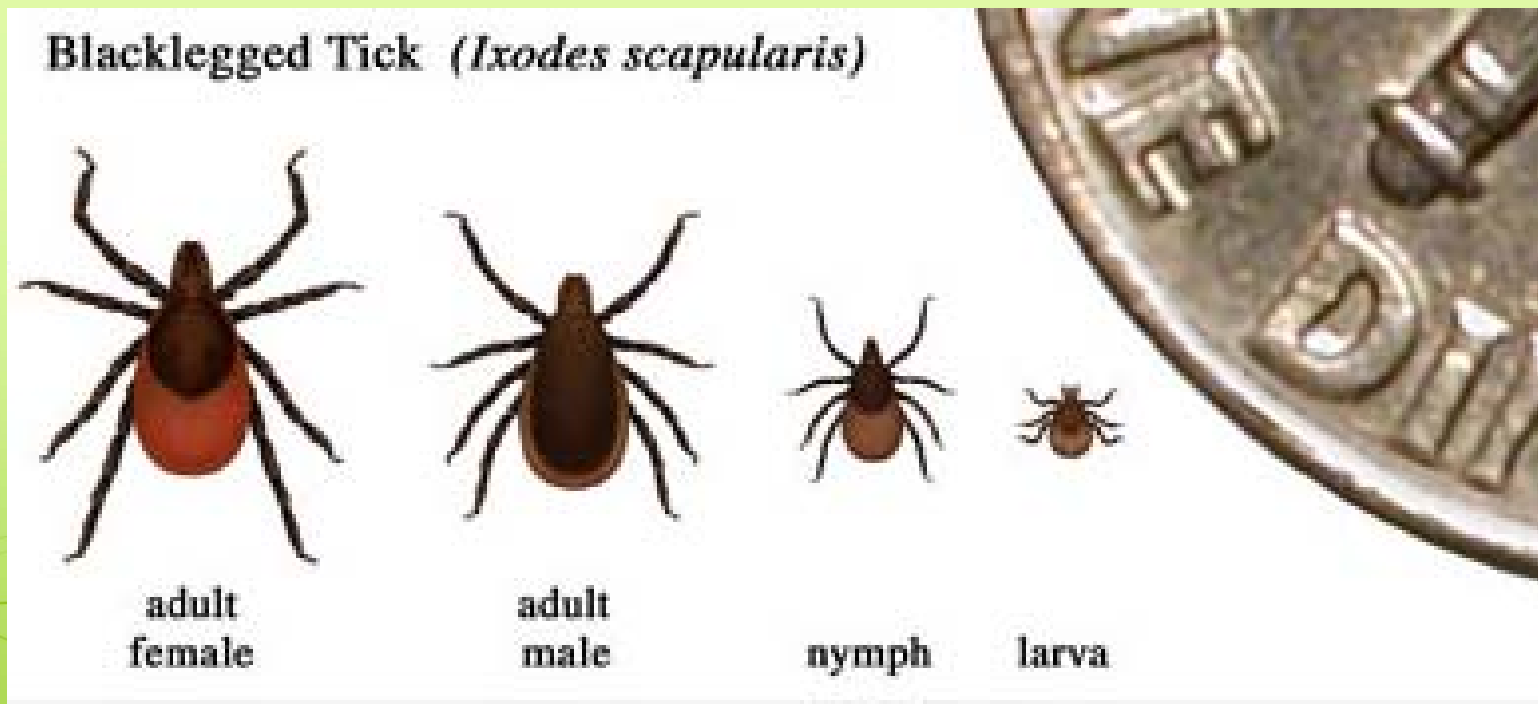
**City of Nashua
Division of Public Health and Community Services
Greater Nashua Public Health**

What is Lyme Disease?

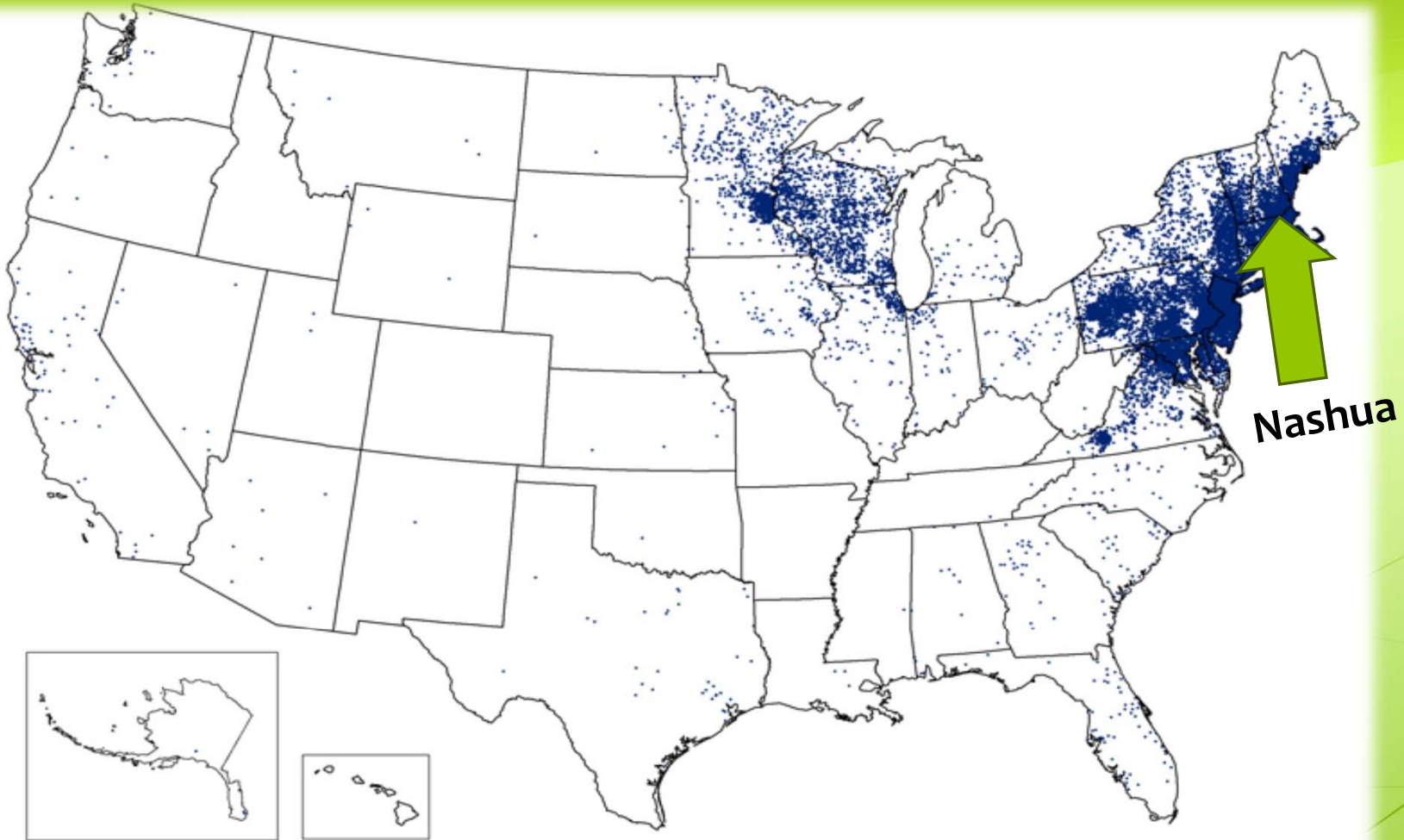
- * Caused by the bacteria *Borrelia burgdorferi*
- * Transmitted by blacklegged deer ticks
- * If you remove a tick within 24 hours, you reduce your chances of getting Lyme disease
- * Ticks like to rest on shrubs and grasses and do not fly or jump
- * Anyone that goes outside is at risk for getting a tick bite, pets are at risk too

Lyme Disease Biology

- * Nymphs are very small and can go unnoticed

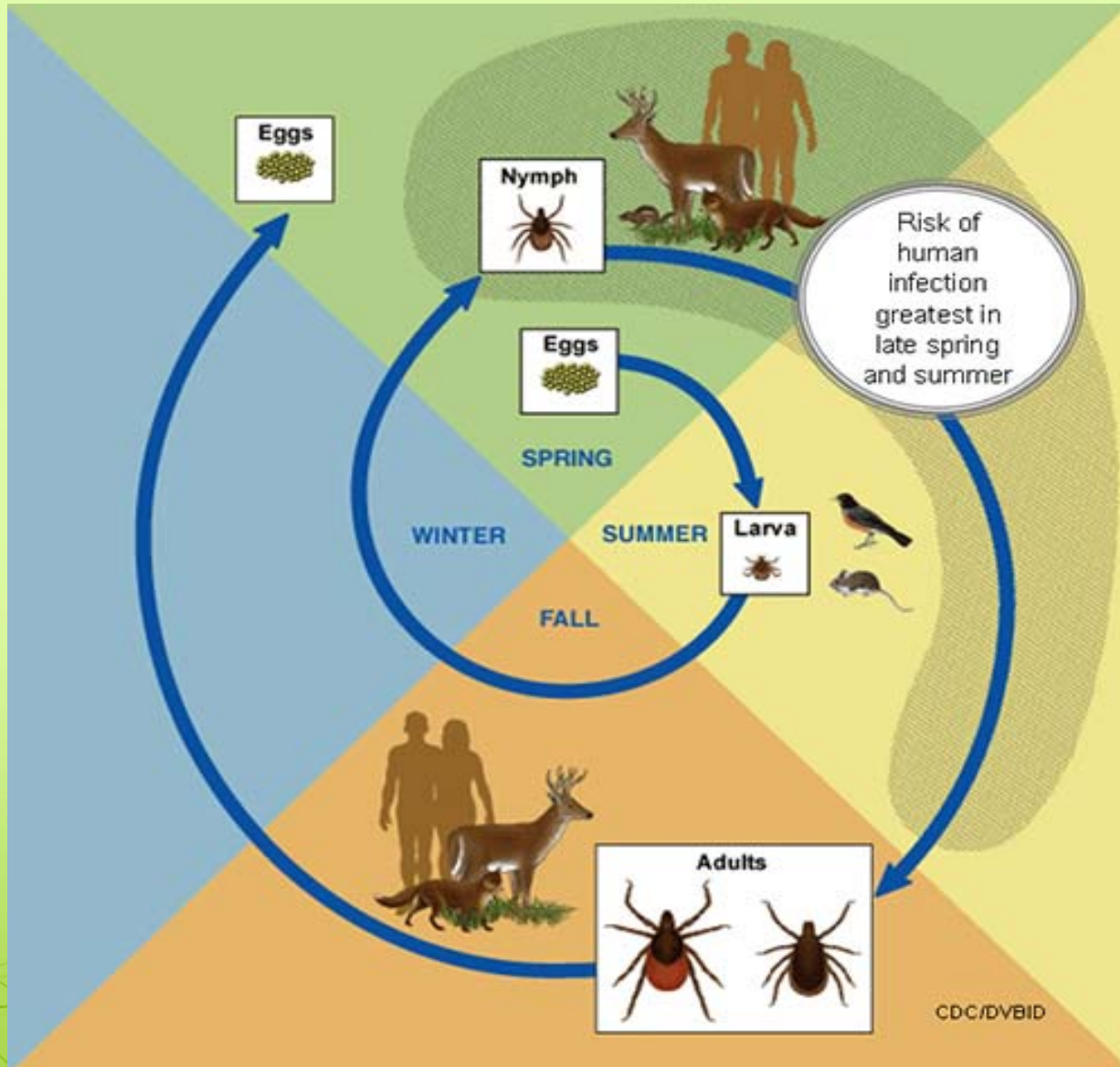


2012 Lyme Disease Occurrence



1 dot placed randomly within county of residence for each confirmed case

Life Cycle

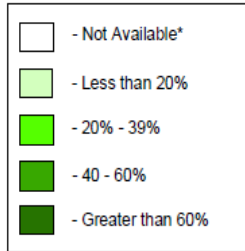


http://www.cdc.gov/ticks/life_cycle_and_hosts.html

Ticks in New Hampshire

- * **Common human-biting species in NH**
 - * **American dog tick: *Dermacentor variabilis***
 - * **Black legged tick (deer tick): *Ixodes scapularis***
- * **Other ticks**
 - * **Winter tick: generally does not bite humans, looks similar to dog tick**
 - * **Lone star tick: currently found in the southeast region of the country but may be moving towards New Hampshire**

Proportion of Adult Black-legged Ticks
Infected with *Borrelia burgdorferi* (Lyme disease)
Fall 2007-2010 Samplings

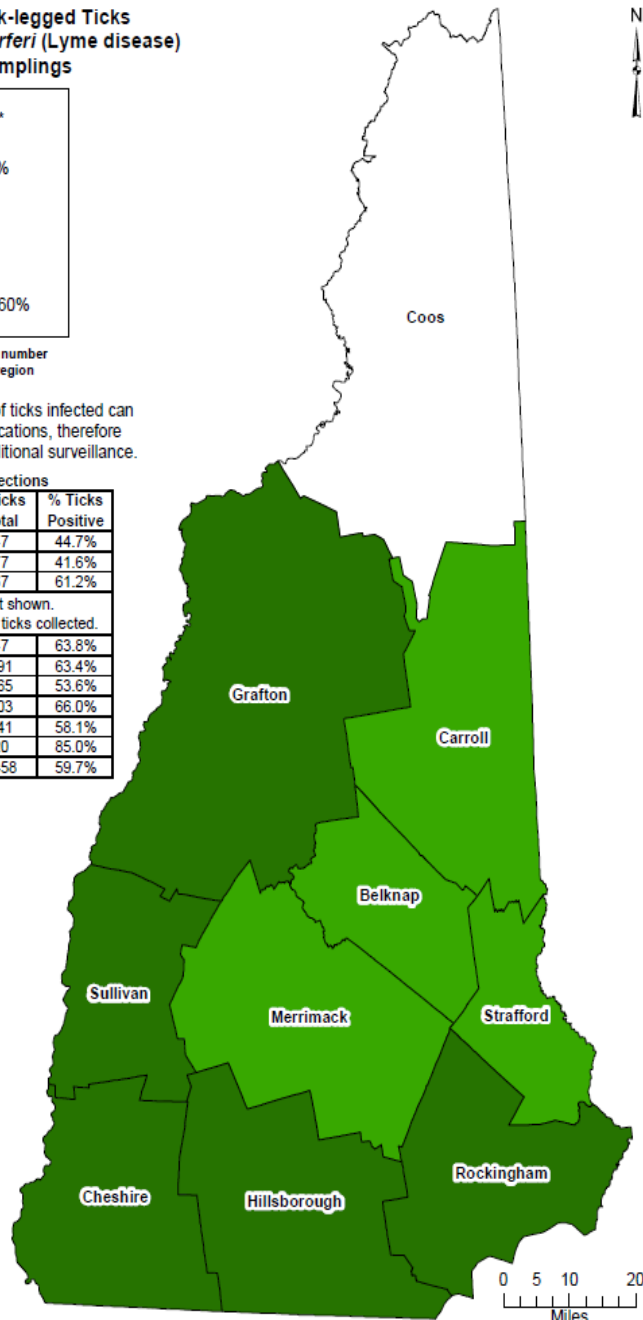


*Not available due to low number of ticks collected in the region

Tick numbers and percentage of ticks infected can change between years and locations, therefore estimates may change with additional surveillance.

2007-2010 Fall Tick Collections

County	# Ticks Positive	# Ticks Total	% Ticks Positive
Belknap	21	47	44.7%
Carroll	32	77	41.6%
Cheshire	41	67	61.2%
Coos	Data not shown. Fewer than 20 ticks collected.		
Grafton	30	47	63.8%
Hillsborough	248	391	63.4%
Merrimack	142	265	53.6%
Rockingham	200	303	66.0%
Strafford	140	241	58.1%
Sullivan	17	20	85.0%
State Total	871	1458	59.7%



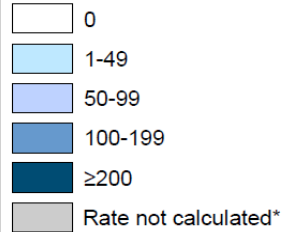
Presence of the *Borrelia* bacteria in NH Black-legged Ticks 2007- 2010



New Hampshire Department of Health and Human Services
Division of Public Health Services
Bureau of Infectious Disease Control

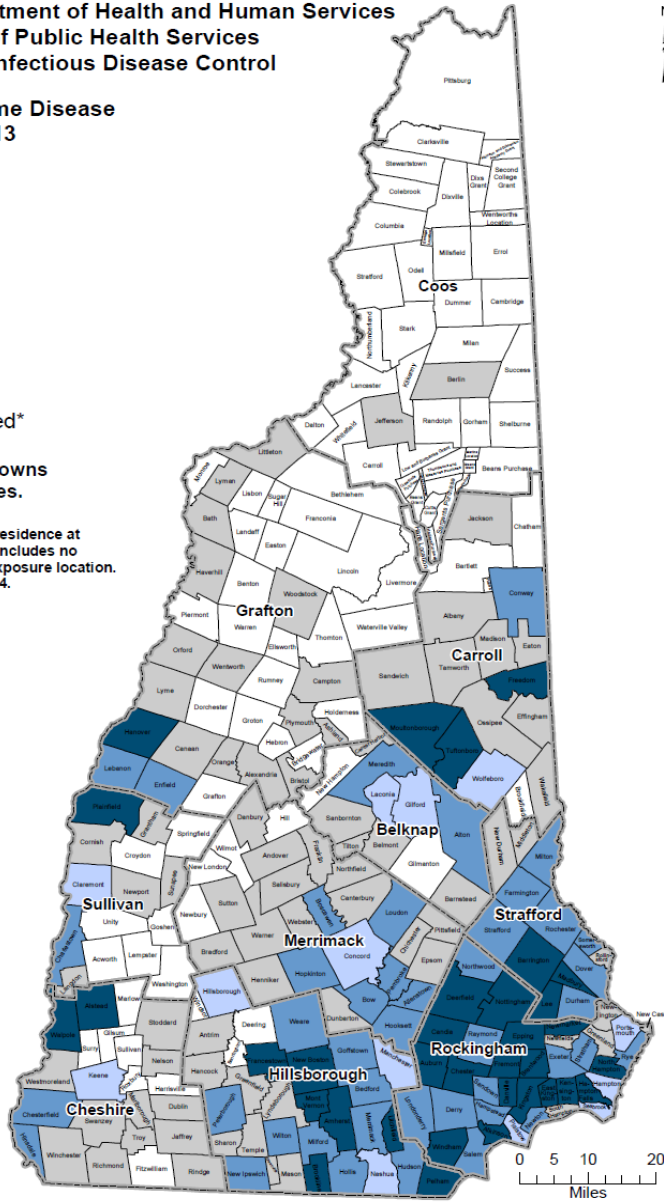
Reported Cases of Lyme Disease
in New Hampshire, 2013

Rates per 100,000



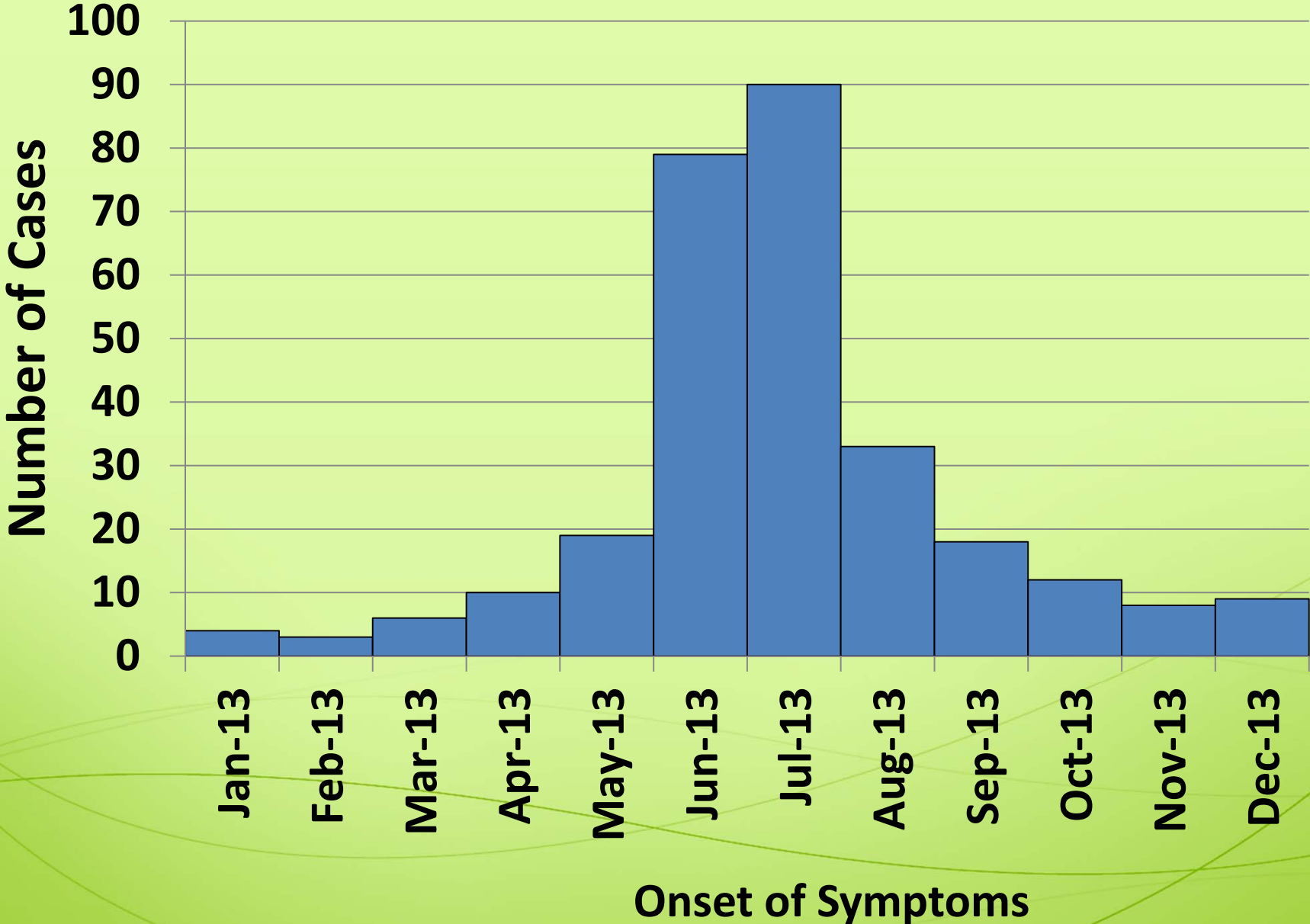
*Rates not calculated for towns
with between 1 and 4 cases.

Note: County/town is based upon residence at
the time of disease diagnosis and includes no
additional information regarding exposure location.
Data are complete as of May 6, 2014.



Reported Cases of Lyme Disease in NH, 2013

Lyme Disease Epi Curve, GNPHR, 2013



Signs & Symptoms of Lyme Disease

- * A bulls eye shaped rash
- * Fever, headache, muscle and joint aches, and swollen lymph nodes
- * Pain and swelling in joints
- * Loss of muscle tone on one or both sides of the face



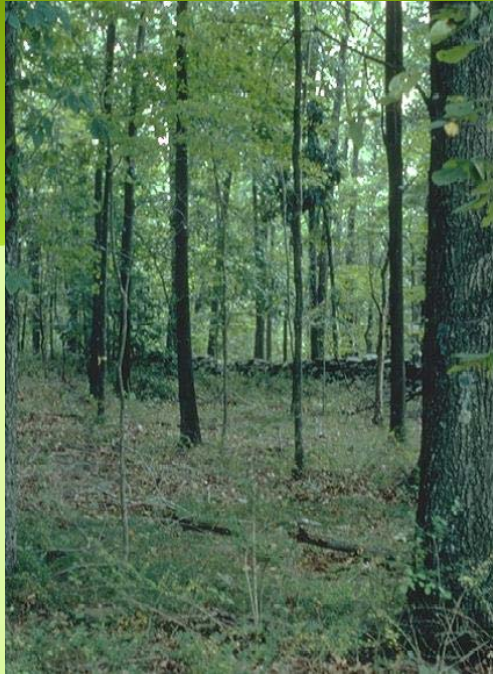
Bulls Eye Rash

Source: CDC PHIL

Protect Yourself Against Tick Bites

- * Use EPA registered repellent
- * Stay in the middle of cleared trails when possible
- * Wear long pants, long sleeves, hat, closed-toe shoes
 - * Tuck shirts into pants and pants into socks
 - * Light colors may make ticks on clothing easier to spot
- * Daily tick checks for you and your pets
 - * If found, remove promptly
- * Shower after returning indoors
- * Dry clothes in hot dryer





All make great tick habitat!

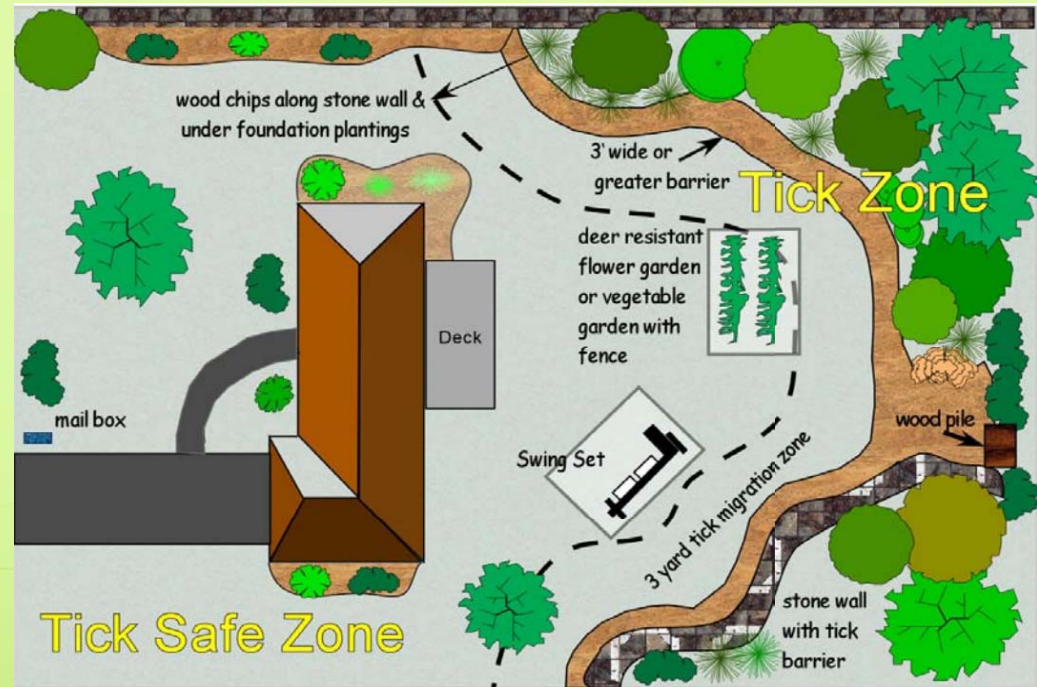
**Tall grass
Brush
Leaf litter**



**Ticks prefer sheltered, humid
areas away from direct sunlight**

Create a “Tick-Safe Zone”

- * Keep lawn mowed and remove leaf litter
- * Remove brush, leaves by stonewalls, wood piles
- * Consider moving woodpiles away from house
- * Create a 3-foot wide border between edge of lawn/woods
- * Use mulch, wood chips, or gravel



http://www.cdc.gov/lyme/prev/in_the_yard.html

BEFORE



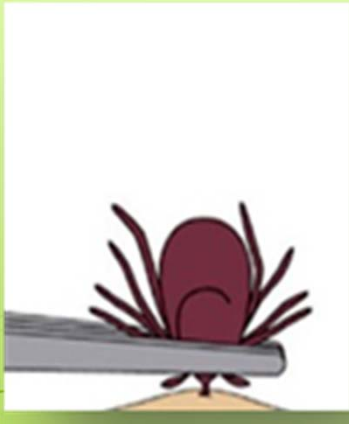
AFTER



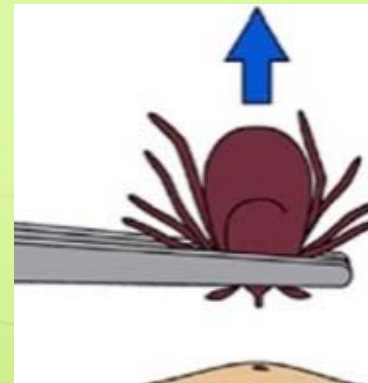
Source: Connecticut
Agricultural Experiment Station

If I have found a tick on me how do I remove it?

1. Grasp the tick with fine-tipped tweezers as close to the skin as possible.



2. Pull outward with steady pressure. Make sure not to twist or jerk the tick.



Do not use petroleum jelly, nail polish or direct heat to remove ticks

Tick Removal

* Do NOT:

- * Twist or jerk the tick
- * Squeeze the tick
- * Rub petroleum jelly on the tick
- * Pour kerosene or nail polish on the tick
- * Use a hot match or cigarette



Types of Repellents

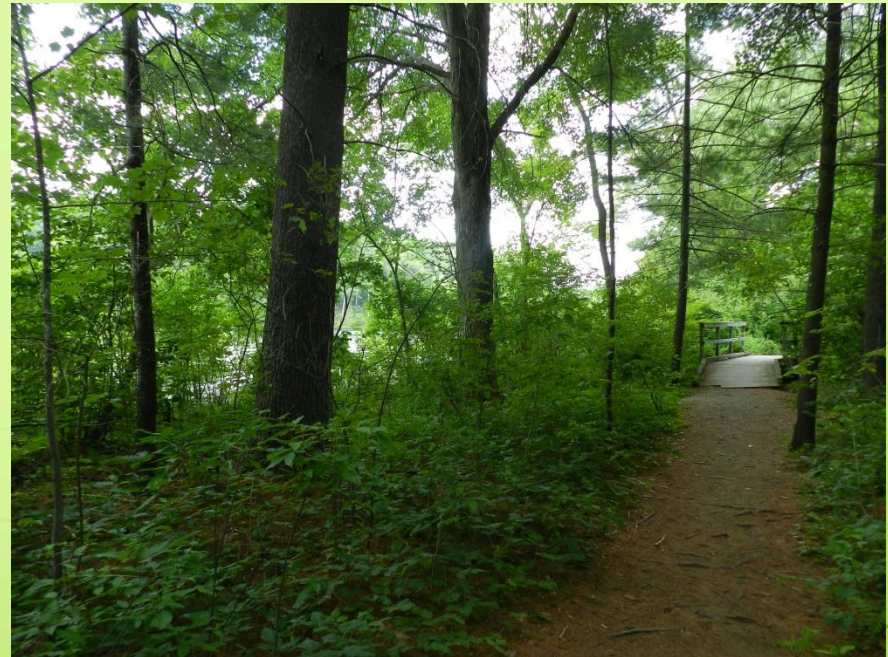
***Use EPA registered repellents as directed by label**

- * DEET**
 - * Mosquitoes and Ticks**
- * Oil of Lemon Eucalyptus**
 - * Mosquitoes and Ticks**
- * Picaridin**
 - * Mosquitoes**
- * Permethrin**
 - * Mosquitoes and Ticks**
 - * Applied to clothing**
 - * Permethrin impregnated clothing**



Acknowledgments

- * **City of Nashua, Division of Public Health and Community Services**
- * **NH DHHS Division of Public Health Services**



Helpful Resources

- * For more general information on Lyme disease visit:
 - * <http://www.cdc.gov/lyme>
- * For a list of tick repellents visit:
 - * <http://cfpub.epa.gov/oppref/insect/>
- * For guides, activities and distributable items visit: <http://bit.ly/YEIq8q>

Who can I contact?

New Hampshire Department of Health and Human Services

- * Telephone:
 - * 603-271-4496
- * Website:
 - * <http://www.dhhs.nh.gov/dphs/cdcs/lyme/>

City of Nashua, Environmental Health Department

- * Call to bring your tick in for identification!
- * Telephone:
 - * 603-589-4530
- * Website:
 - * www.nashuanh.gov