

Lyme Disease Tracking & Prevention

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What is Lyme Disease?

A Tick-borne bacterial disease

3 Stages of Infection

- **Early Localized Infection (3-30 days)**
Bulls-eye rash, muscle or joint aches, fever, headache
- **Early Disseminated Infection (1- 4 months)**
Severe headaches, pain, neurological symptoms
- **Late Disseminated Infection (3 months to years)**
Severe arthritis and swelling of large joints, pain, neurological and cognitive disorders



Common Virginia Ticks



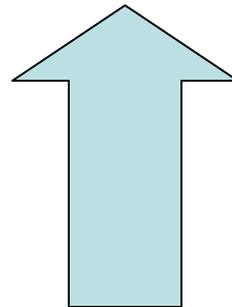
Lone Star Tick



Blacklegged Tick



American Dog Tick



Blacklegged Ticks

Blacklegged Tick (*Ixodes scapularis*)

1/4
1/8
1/16

Inch (fractions)

adult female (af) ☹️

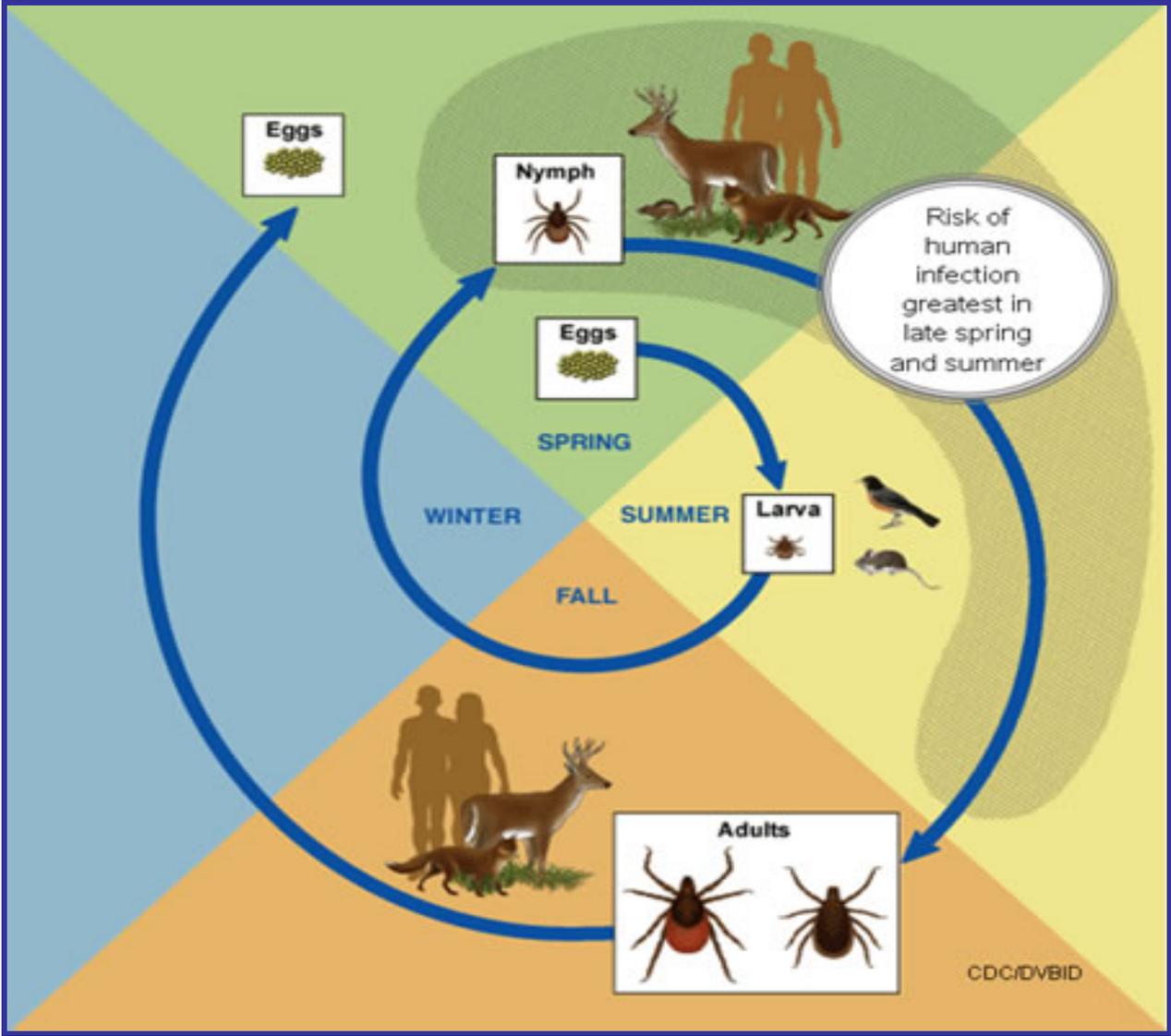
adult male (am)

nymph (n) ⭐ ☹️

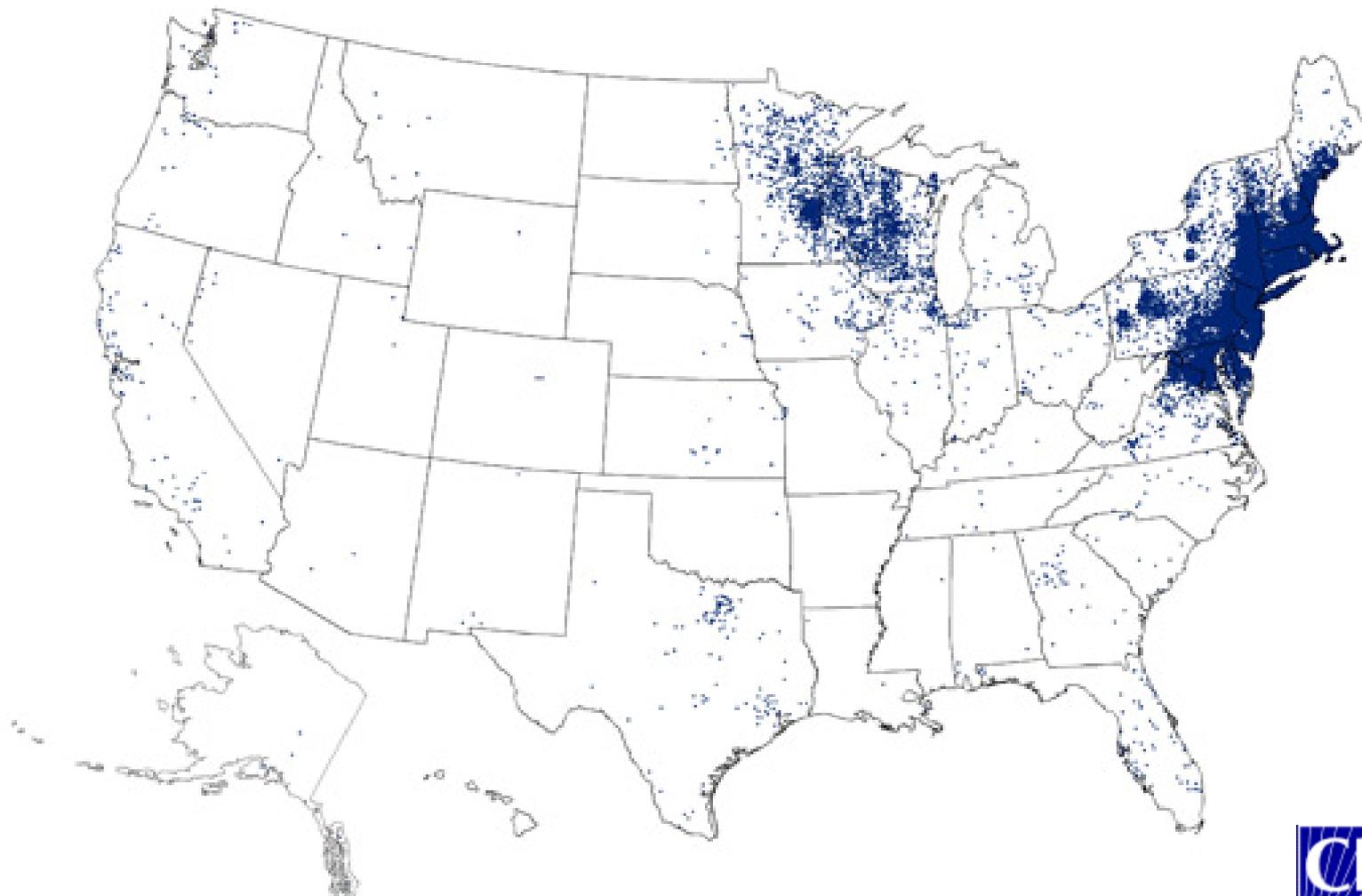
larva (l)

☹️ = Tick stages known to feed on people.
⭐ = Tick stage causing the most disease transmission

Lyme Disease Transmission – Two Year Cycle



Reported Cases of Lyme Disease -- United States, 2008



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



Role of the Virginia Department of Health

- Tracking
Monitoring the annual number and geographic distribution of newly identified Lyme disease cases in VA
- Preventing disease through Education



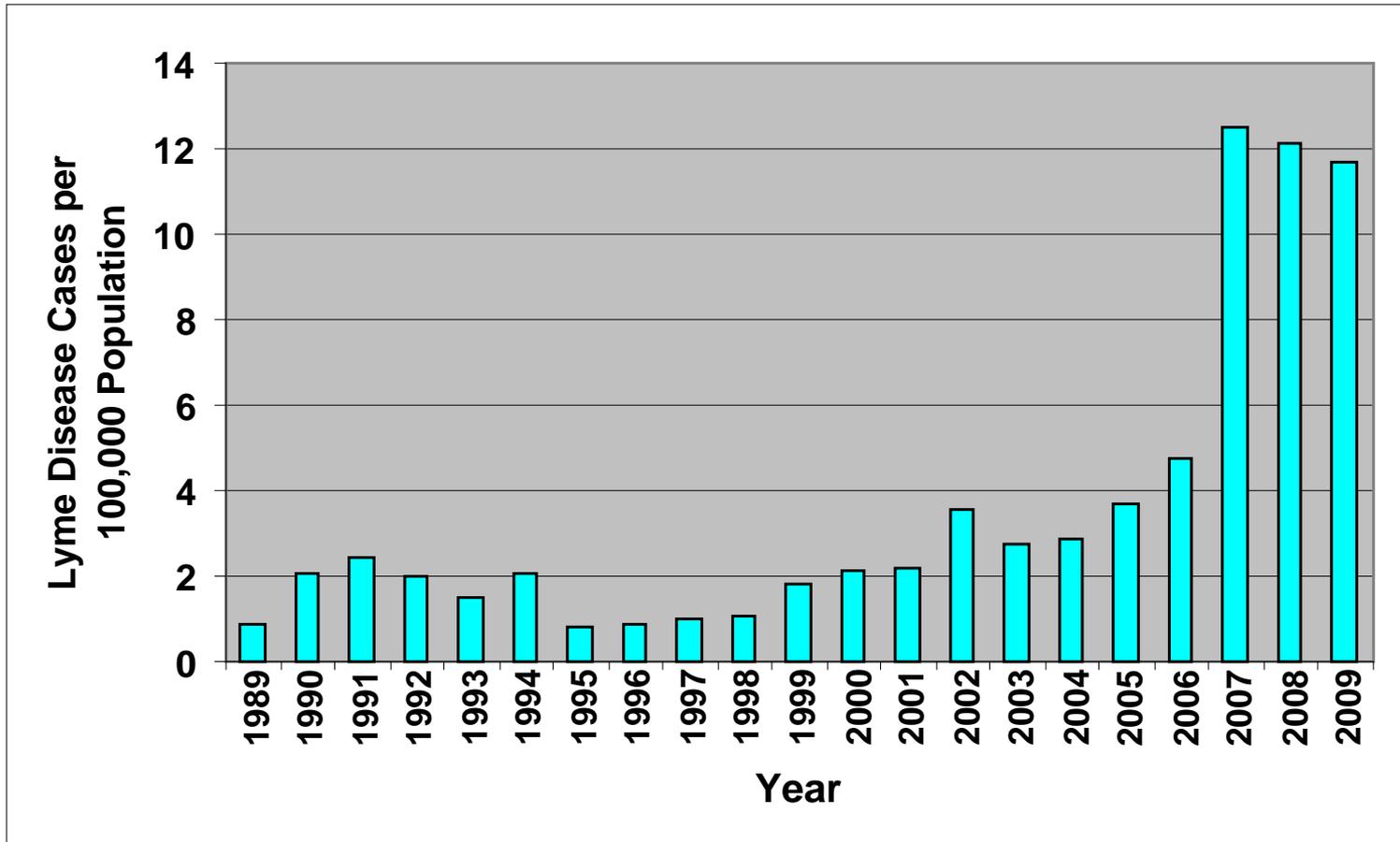
www.vdh.virginia.gov

Tracking Lyme disease

1. Reporting cases to local health departments by healthcare providers.
2. Reporting positive test results to VDH by private laboratories.
3. Use of the CDC's Lyme disease case definition to identify new cases.
4. Entering identified cases in a database.

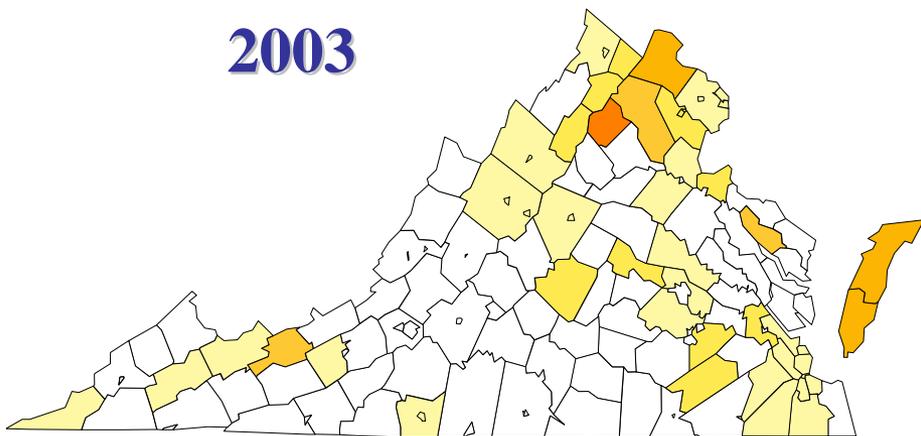


Lyme Disease Cases in Virginia, 1989 - 2009

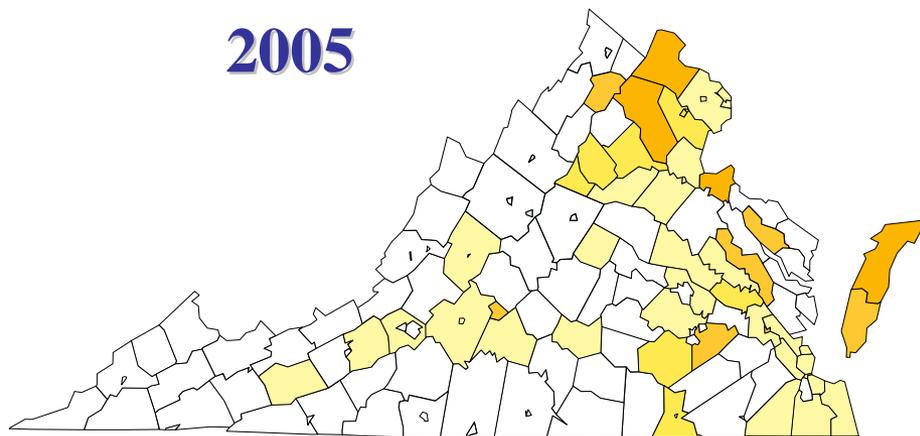


Newly Identified Lyme Disease Cases by County

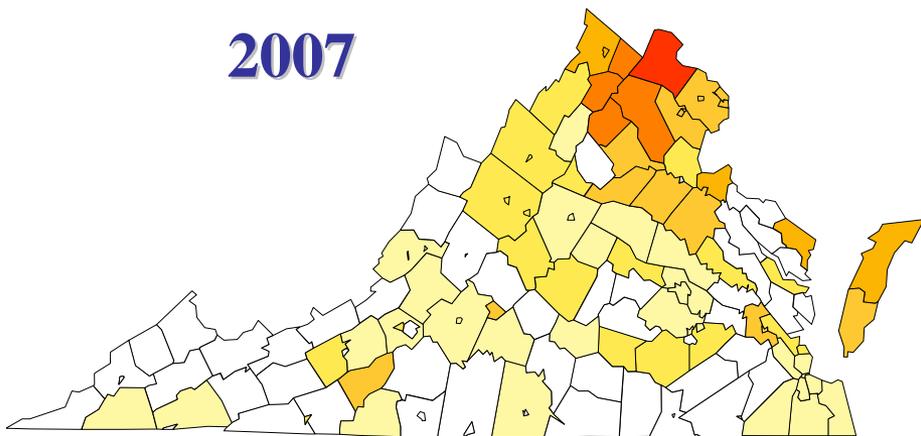
2003



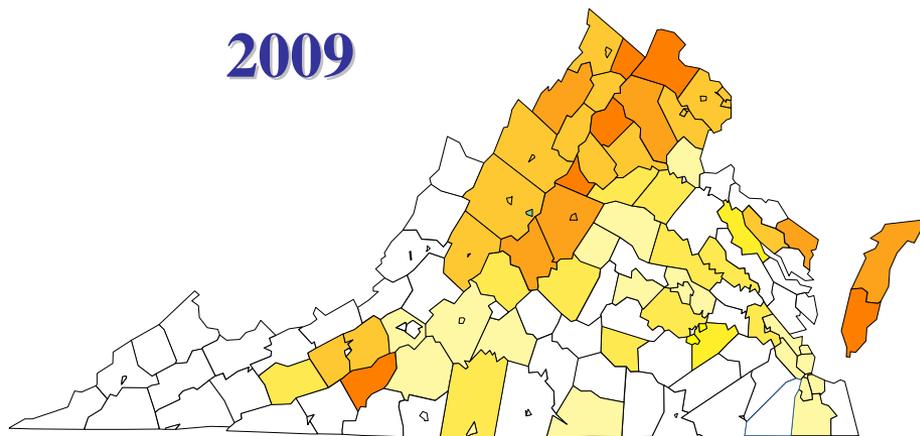
2005



2007



2009

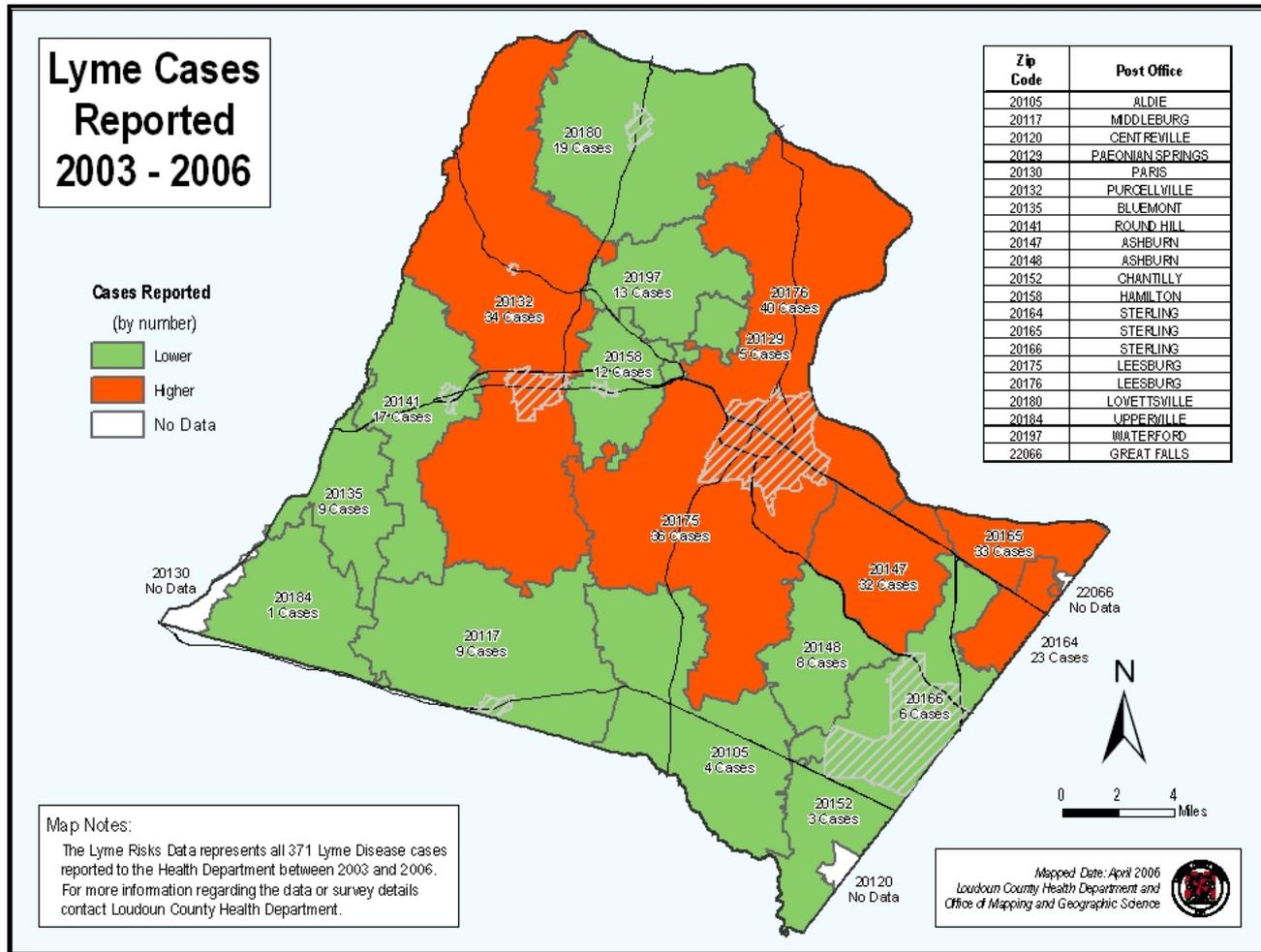


Confirmed and Probable cases per 100,000 population

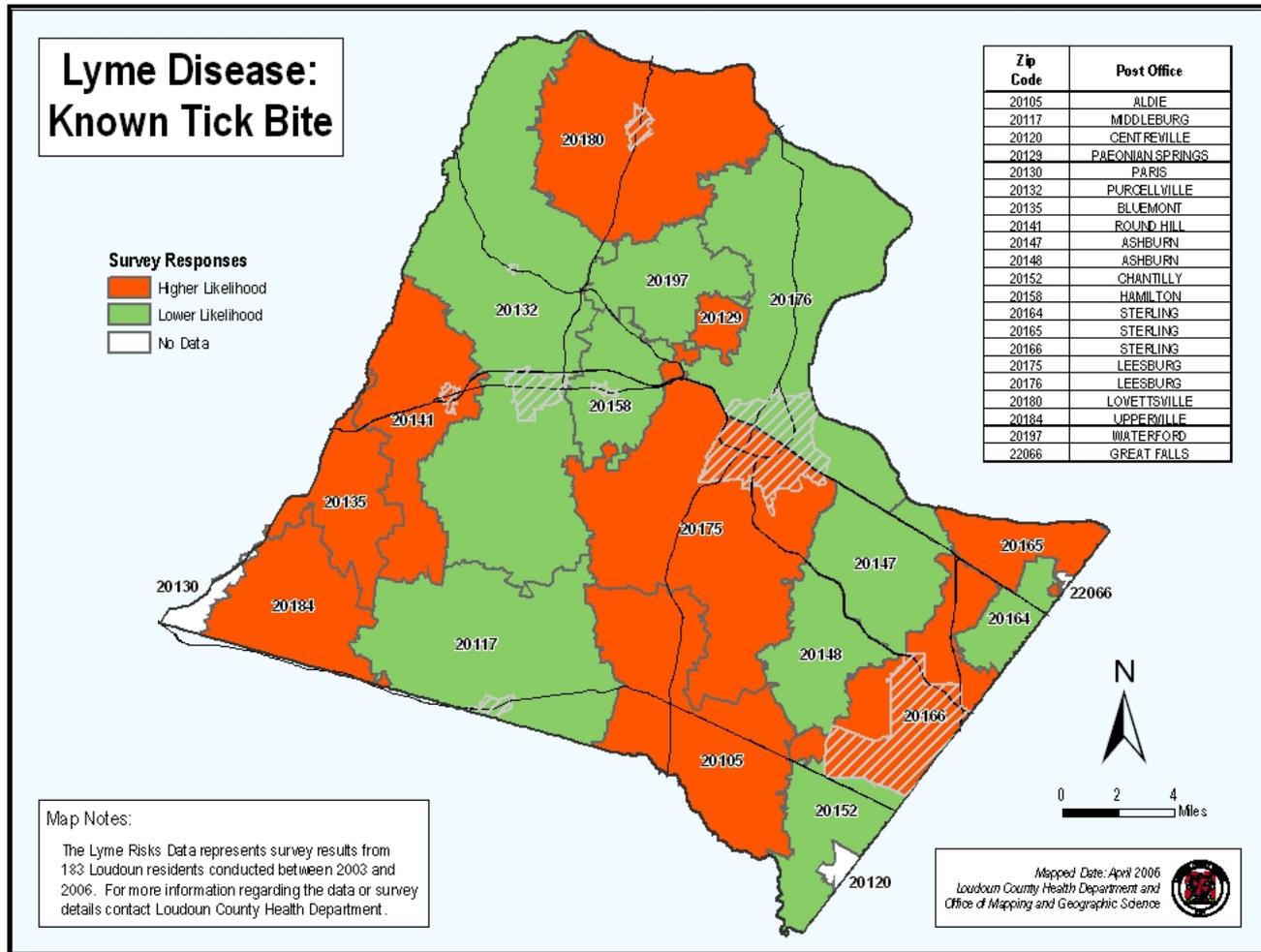


Lyme Disease in Loudoun

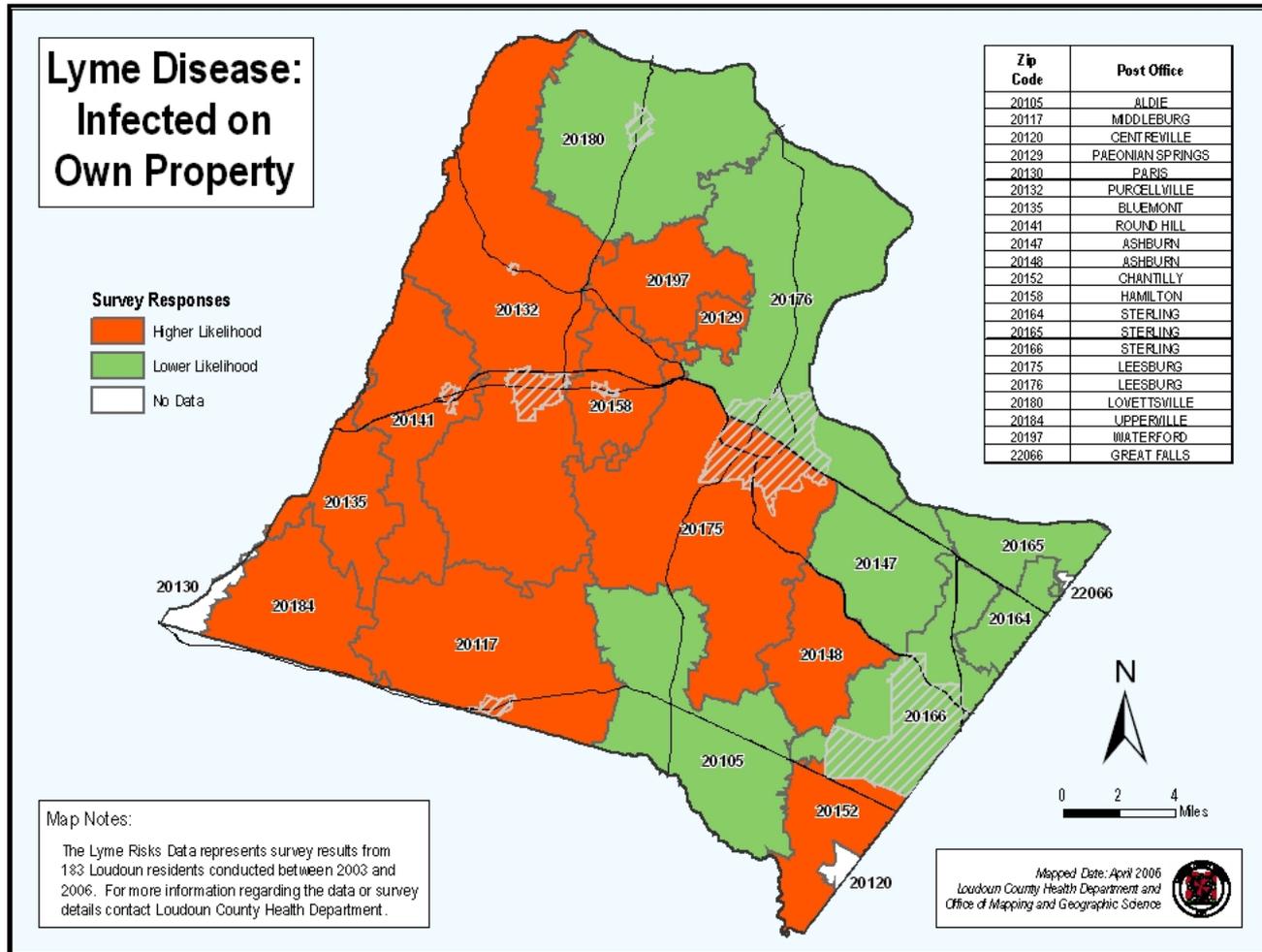
- Between 1999 and 2009, the number of reported of Lyme disease in Loudoun County increased from 29 to over 500 reports last year, 201 of these met the CDC's case definition of confirmed or probable Lyme disease



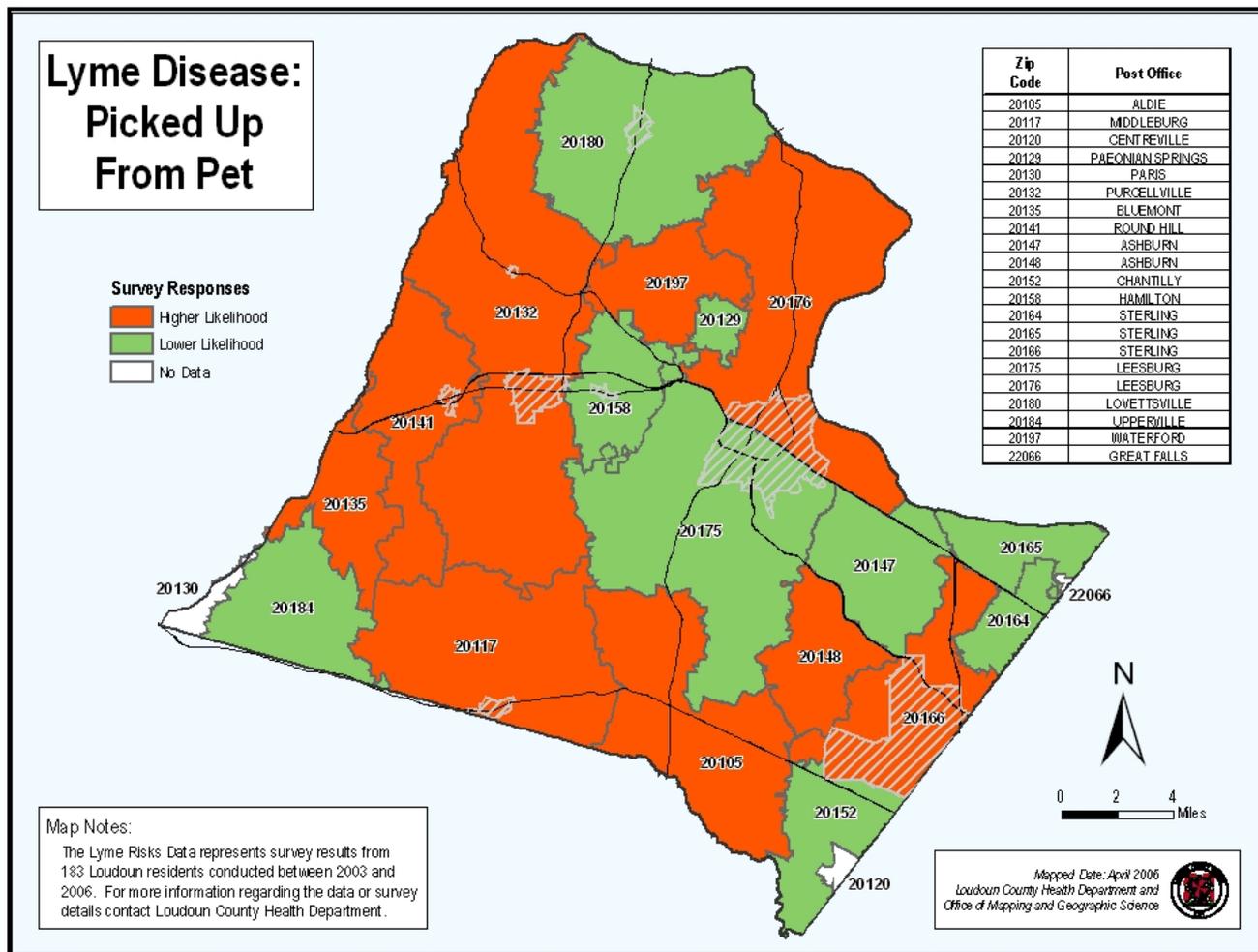
- Lyme cases were reported from all Loudoun zip codes



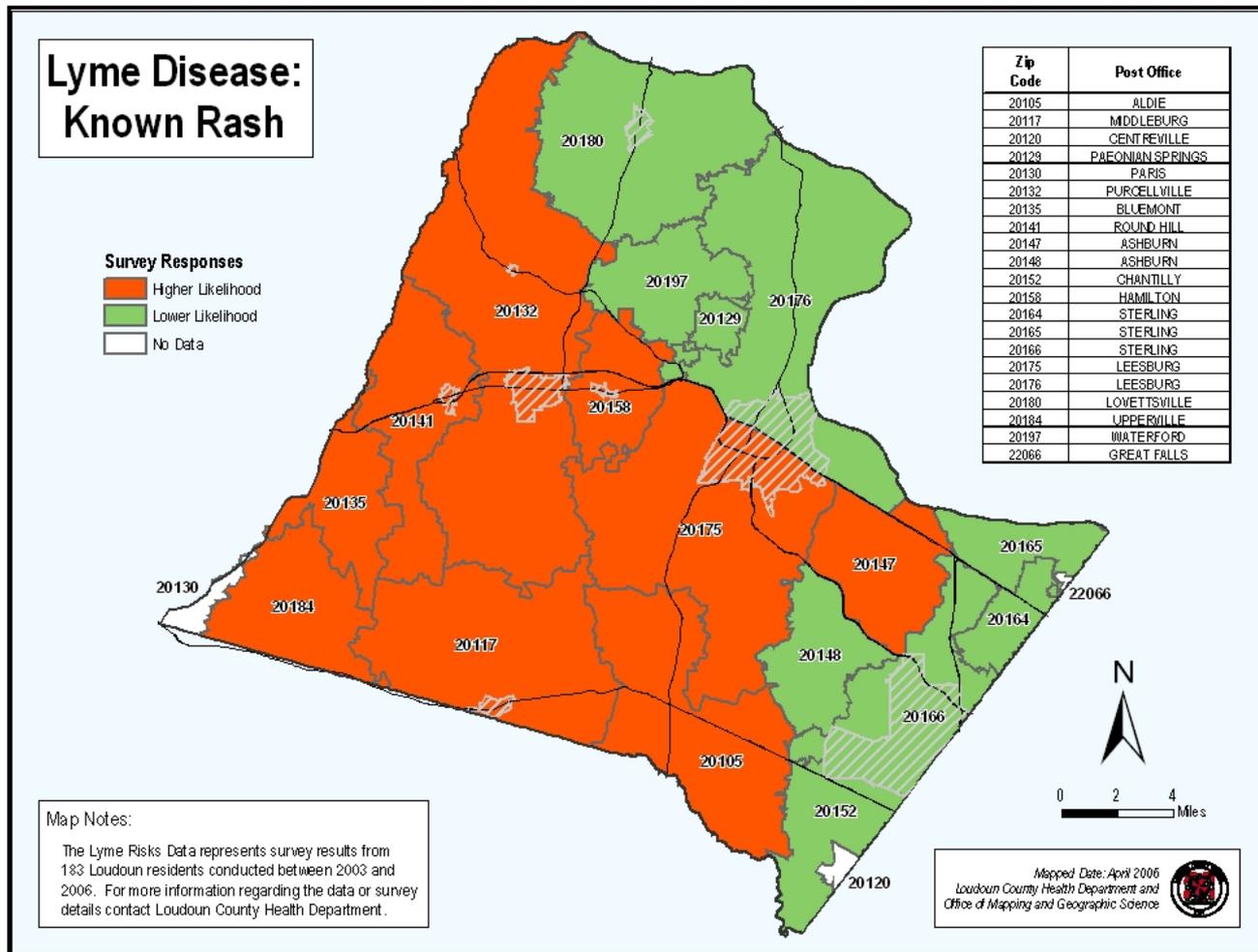
- Only 1/3 of respondents had a known tick bite



- 3/4 believe they were infected on their own property, higher in the West



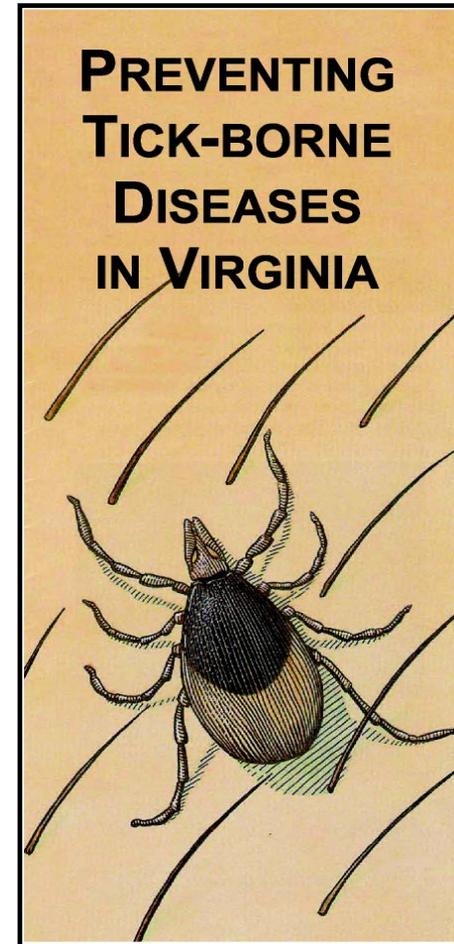
- 1/4 believed they picked up the tick from their pet, higher in the West



- Half had a known rash, higher in the West

Lyme Disease Prevention

1. Avoid tick habitats.
2. Dress appropriately.
3. Use repellents.
4. Do tick checks.
5. Remove ticks.
6. Know the early signs of Lyme disease.



<http://www.vdh.virginia.gov/epidemiology/DEE/Vectorborne/TickBrochure.pdf>

1. Avoid Tick Habitats



2. Dress Appropriately

- Light colors
- Tucked and buttoned
- Prompt clothing removal
- Launder



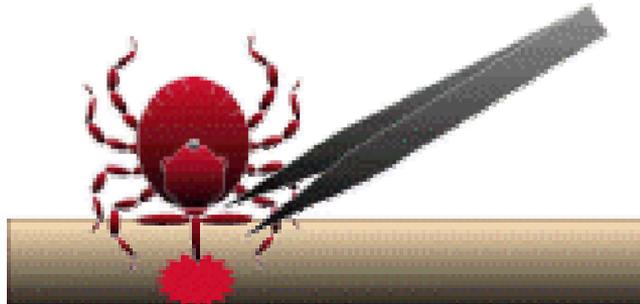
3. Use insect repellents



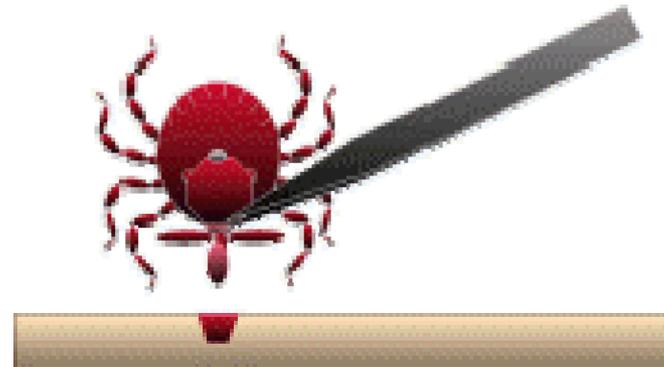
4. Do a tick check



5. Remove ticks promptly



Use pointed tweezers to grasp the tick by the head; do not squeeze its body!



Pull slowly and steadily until the tick releases; do not jerk or twist the tick.

6. Know the early signs of Lyme



- Bull's Eye rash
- Fatigue
- Fever
- Joint or muscle aches
- Headache
- Swollen glands

Other Tick-borne Diseases

- **Ehrlichiosis/Anaplasmosis**
(tick must be attached 24 hrs)
- **Babesiosis**
- **Rocky Mountain Spotted Fever** (tick must be attached only 4-6 hrs)



For more information...

- Virginia Department of Health
(www.vdh.virginia.gov)
- Centers for Disease Control and Prevention
(<http://www.cdc.gov/ncidod/dvbid/lyme/>)
- Local Health Department
(www.loudoun.gov/lyme)

Acknowledgements

- David Gaines, Ph.D., Public Health Entomologist, Virginia Department of Health
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- American Lyme Disease Foundation
- Google Images