A GROWING THREAT

Illnesses from Mosquito, Tick, and Flea Bites *On the rise!*

Ticks

Ticks are on the move, and bringing their diseases with them. Year after year, ticks are expanding their habitats into new areas of the country. Ticks are now a year-round problem, and cold-hardy ticks can activate even in the winter on days temperatures hit above freezing.

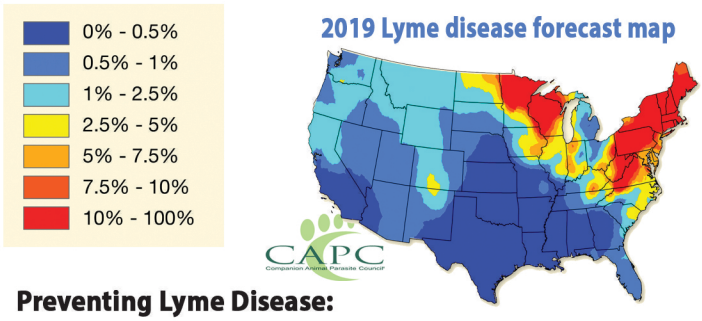
Causes of the geographic expansion of tick habitats:

- Natural climate fluctuations
- Residential encroachment into wildlife areas
- Population changes in wildlife species
- Migratory birds

Lyme Disease

Spread by the bite of infected Blacklegged ticks, the geographic range of this tick has significantly grown and populations have intensified. Lyme disease can infect a multitude of mammals, including dogs, cats* and humans.

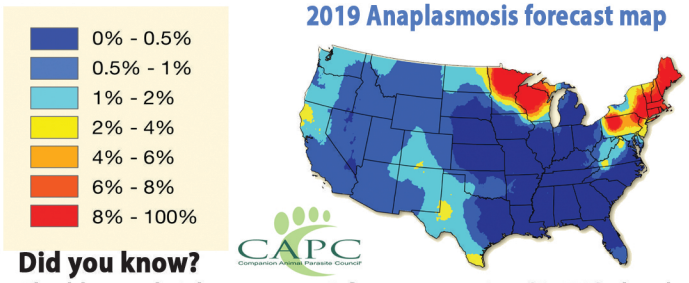
**Studies of infected cats are sparse; however, it is clear that cats, while not clinically affected, do become infected.*[1]



Preventing Lyme Disease:

- Vaccinate
- Use tick control
- Check for and remove ticks after any outdoor time

Anaplasmosis



Did you know?
Blacklegged ticks carry anti-freeze proteins (AFGP) that help them survive cold winters. Remarkably, ticks infected with the Anaplasma bacteria carry enhanced AFGP proteins, making these infected ticks more likely to survive freezing temperatures![1]

The Usual Suspects

The Blacklegged (Deer) Tick

(Ixodes scapularis)

Known for:

Lyme disease

Anaplasmosis:
Causing lameness, joint pain, fever, lethargy, and inappetence. Infecting dogs, horses, and people.

Tick-borne relapsing fever:
Characterized by recurring episodes of fever, headache, nausea, muscle and joint aches.

American Dog Tick

(Dermacentor variabilis)

Known for:

Rocky Mountain Spotted Fever:
Affecting animals and people, symptoms include fever, headache, and rash. RMSF can be deadly if not treated.

Tularemia:
The signs and symptoms of tularemia vary depending on how the bacteria enters the body. Illness ranges from mild to life-threatening. The CDC reports cases of human infection in all states, except Hawaii.

Brown Dog Tick

(Rhipicephalus sanguineus)

Known for: **Rocky Mountain Spotted Fever**

Lone Star Tick

(Amblyommia americanum)

Known for:

Tularemia

Ehrlichiosis: Infected dogs may have fever, swollen lymph nodes, respiratory distress, weight loss, bleeding disorders, and, occasionally, neurological disturbances. (Infection in humans results in initial flu-like symptoms and can progress to require hospitalization).

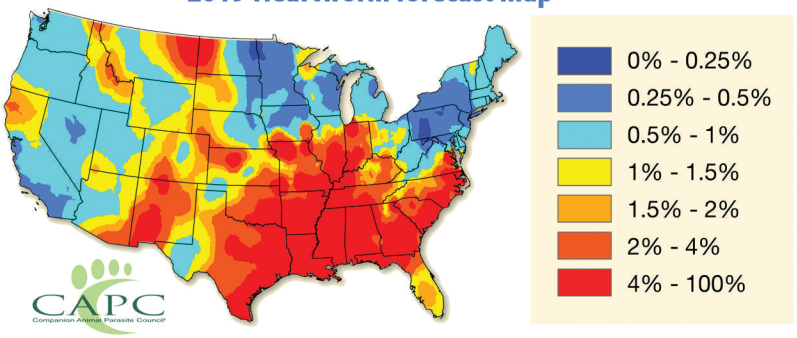
The Mosquito and Heartworm disease

For the fifth year in a row, 2019 forecasts of Heartworm disease indicates a rise in infections. Over the last five years, Heartworm disease prevalence has risen over 20%.

How is Heartworm disease spread?

Adult worms living in a host (your dog, cat, or even local wildlife such as foxes) make "baby-worms" called microfilaria. These microfilaria circulate in the blood stream until they are picked up by a feeding mosquito. Inside the mosquito, the microfilaria develop into larvae. This larvae is then transmitted to your unaffected pet where they develop into adult heartworms.

2019 Heartworm forecast map



Why is Heartworm disease on the rise?

- Overall increased seasonal temperatures
- Increased pet travel
- Infected animals act as "reservoirs of infection", increasing the number of infected mosquitoes and animals in a given area

Did you know?

Heartworm disease is treatable in dogs. Unfortunately, the treatment can have harsh side effects, be very costly, and the treatment medication can be difficult for your veterinarian to obtain. There is NO approved Heartworm treatment for cats.

A GROWING THREAT

Tick Distribution Maps

Protect your pet from Heartworms:

- Heartworm prevention product given monthly, 12 months a year
- Yearly heartworm testing by your veterinarian

Protecting your Pets

It is essential to use all available means to prevent fleas, ticks and mosquitoes from transmitting disease to your pets. Fortunately, great advancements have been made in the veterinary industry, and your veterinarian can provide you the best tools to fight these growing threats.

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[1] Sonenshine DE. Range Expansion of Tick Disease Vectors in North America: Implications for Spread of Tick-Borne Disease. International Journal of Environmental Research and Public Health. 2018; 15(3):478.

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