



Living with Suburban Deer: An Overview of the Issues



Overview

1. Deer-Vehicle Collisions
2. Tick-borne Illness
3. Deer Damage in Yards and Gardens

Deer-Vehicle Collisions: Background

Potential factors affecting rate of collision:

- Animal population abundance
- Habitat fragmentation
- Cover density near roads
- Lighting
- Speed limits
- Traffic volume



Deer-Vehicle Collisions: West Seneca Data

	2018	2019	2020	2021
West Seneca	174	194	145	35*
Lancaster	186	149	134	52
Orchard Park	179	173	152	45

*Through early June 2021

**Note that all collisions were property damage only,
no personal injuries reported.**

Deer-Vehicle Collisions: West Seneca Data

Using collision data, we might examine:

- Hotspots
- Correlations with risk factors
 - Surrounding land uses
 - Speed limits
 - Lighting
 - Traffic volume

Deer-Vehicle Collisions: Mitigation Methods

- Wildlife warning reflectors shown to be ineffective (Benten et al. 2018)
- Wildlife fencing
- Crossing structures
- Reduce speed limits
- Clear vegetation along roadway hotspots
- Improve lighting
- Reduce deer population

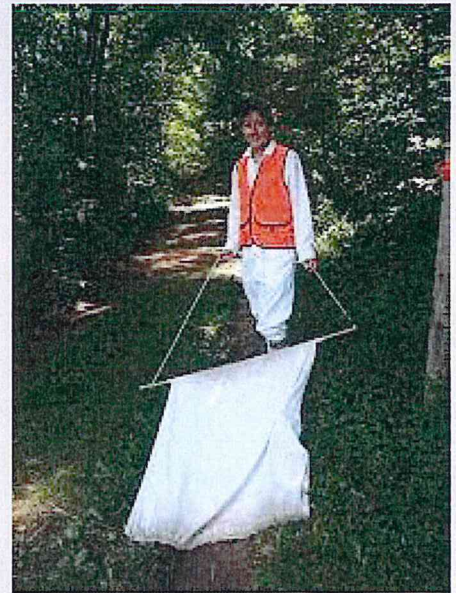


Photo courtesy of New York City Dept. of Transportation

Tick-borne Illness: Background

Surveillance for *five* tick-borne illnesses is regularly conducted in Erie County by NYDOH:

- **Lyme Disease**
- Anaplasmosis
- Babesia
- Borrelia
- Powhassan Virus – not yet found in Erie Co.



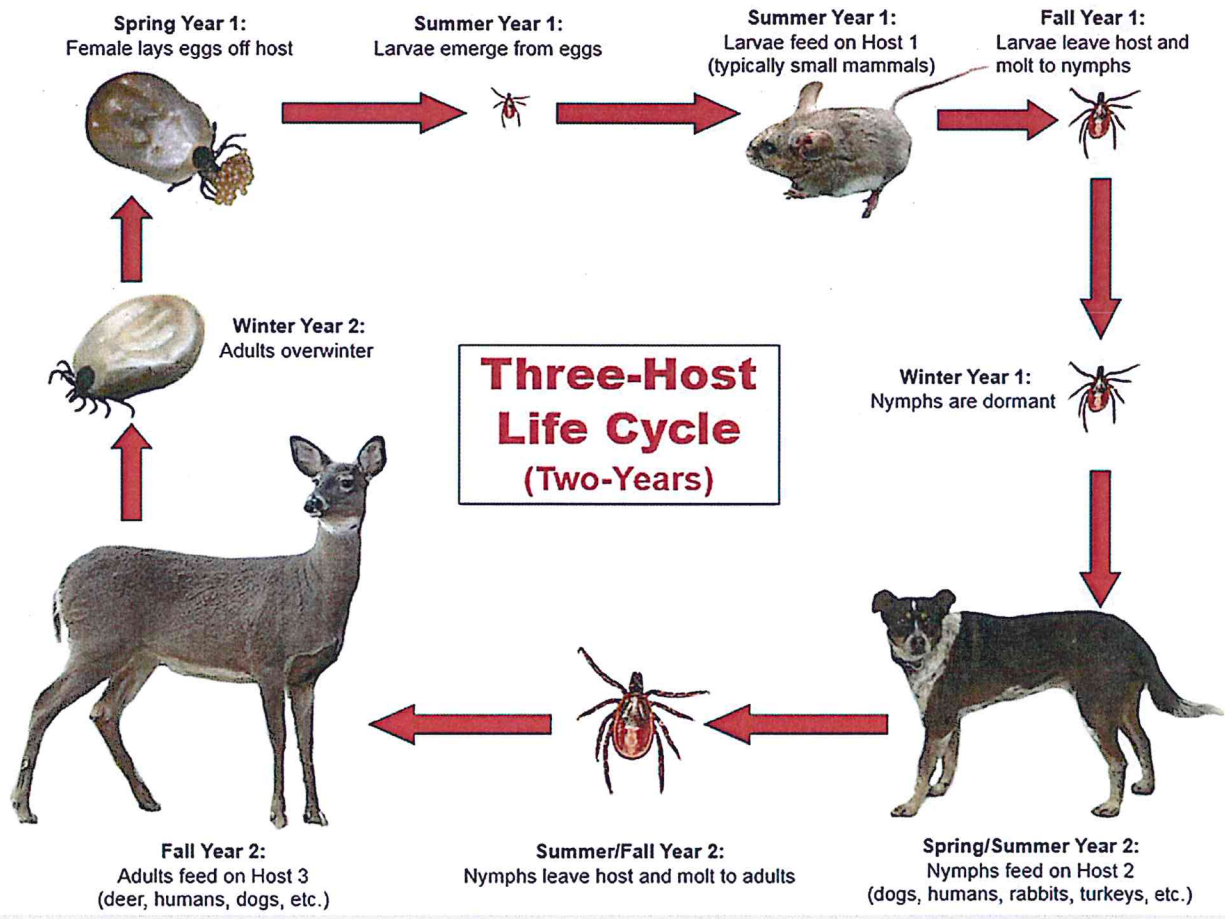
***ONLY LYME DISEASE IS COMMON IN THIS PART OF THE STATE**

NYSDOH Adult Deer Tick Surveillance Data for Erie County

Year	Sites	Ticks	Tick Density	Total Tested	Lyme	Anaplas -mosis	Babesia	Borrelia
2020	6	99	15.28	91	54.90%	4.40%	0%	0%
2019	2	145	68.05	51	45.10%	0%	7.80%	2%
2018	3	89	29.7	62	50%	1.60%	1.60%	0%
2017	3	94	31.3	50	52%	6%	0%	0%
2016	6	283	47.1	60	30%	0%	0%	0%

NYSDOH Nymph Deer Tick Surveillance Data for Erie County

Year	Sites	Ticks	Tick Density	Total Tested	Lyme	Anaplasmosis	Babesia	Borrelia
2020	1	235	8.6	9	44.40%	0%	0%	0%
2019	5	83	7.54	52	28.80%	7.70%	0%	0%
2018	5	5	0.5	5	20%	0%	0%	0%
2017	8	93	3	35	28.60%	0%	0%	0%
2016	8	125	11	118	30.50%	3.40%	0%	0%

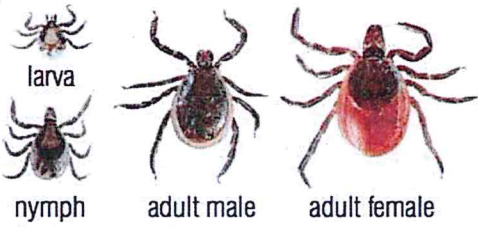


***Most Lyme disease cases are reported in summer after exposure to nymph stage ticks (which are smaller and harder to detect). Lyme disease is generally not transmitted if the tick is attached for less than 24 hours!**



Blacklegged Tick (Deer Tick)

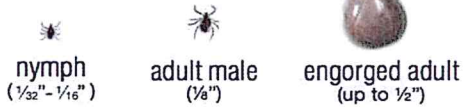
Image source: URI TickEncounter Resource Center



Enlarged View

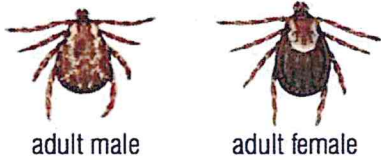
(inches) 0 1/4" 1/2" 3/4" 1" 1 1/4" 1 1/2"

Approx. Size



American Dog Tick (Wood Tick)

Image source: Maine Medical Center Research Institute



Enlarged View



	Deer (Black-legged) Ticks	Dog (Wood) Ticks
Habitat	Prefer wooded areas or woodland edges with dense vegetation and leaf litter. Attracted by taller trees and shrubs. Require a high moisture environment.	Survives in drier locations, such as roadsides, lawns, and trails.
Hosts	Adults prefer larger hosts (dogs, deer, humans)	Adults will utilize large or small hosts (rabbits, raccoons, etc)
Diseases Carried	Lyme disease, Anaplasmosis, Babesiosis, Powassan Virus	Rocky Mountain Spotted Fever, Tularemia

Solutions

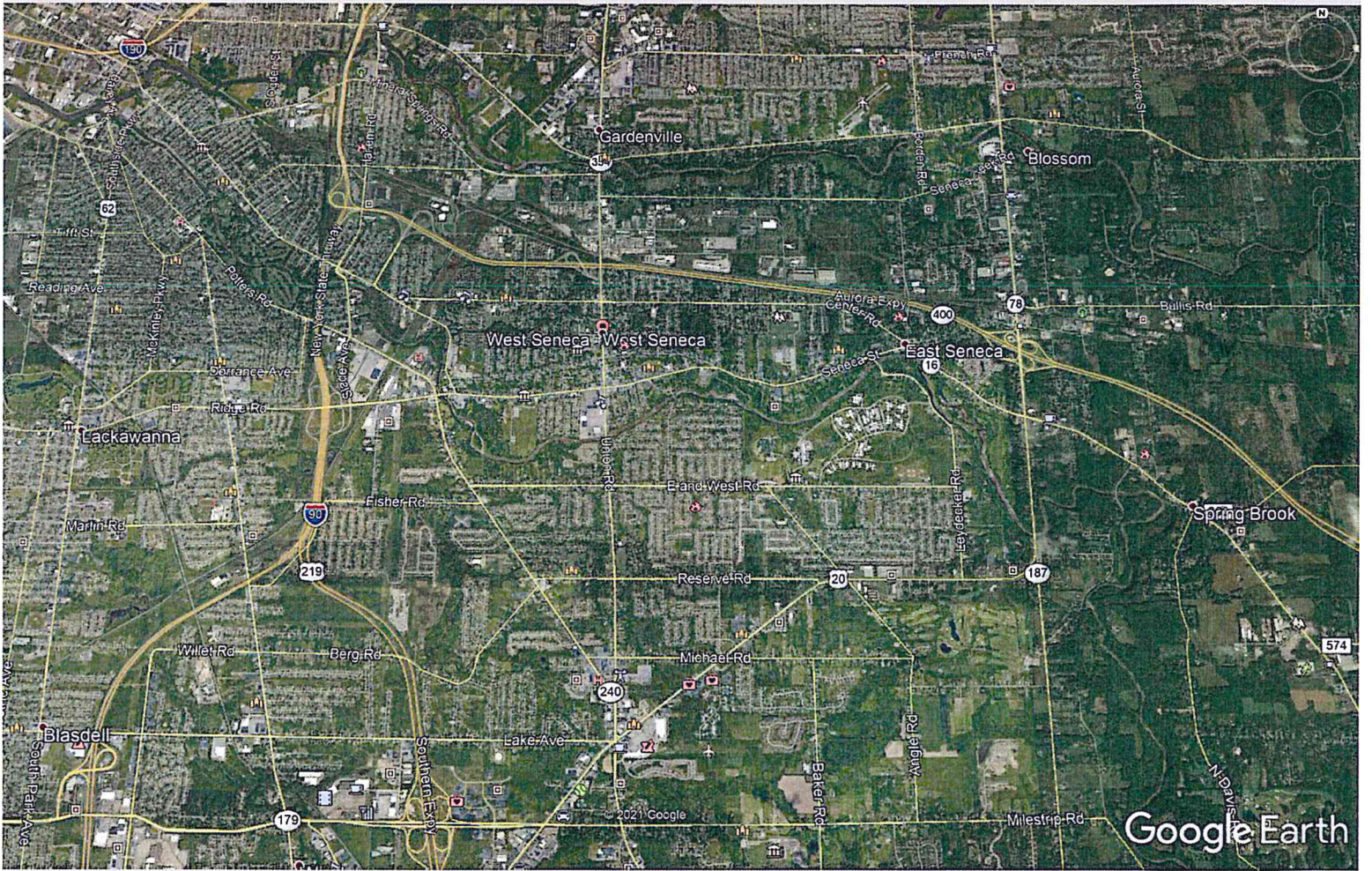
- Public education
 - Landscaping
 - Pesticides
 - Tick safety measures and identification
- Pesticide applications to reduce ticks in the area
- Treat deer using 4-poster bait stations to reduce tick loads
- Reduction of deer herd



Deer Damage in Yards/Gardens

What brings deer into people's yards?

- Habitat Fragmentation
- Attractive plants in gardens and landscapes
- Supplemental feeding



What Attracts Deer to Yards?

- Water and food sources!
- Safe shelter for fawns
- Deer are generalists – they eat a wide variety of foods
- Deer are attracted to some plant types more than others, but if the herd cannot find sufficient food in their natural habitat, they will eat almost ANY plant material



Solutions

- Educate public on which plants are most attractive, and which are deer-resistant
- Deer-proof fencing and netting
- Repellent sprays
- Hedge borders
- Motion activated sprinklers
- Wind chimes and “moving” décor
- Reduction of deer population



Deer Feeding

- Common in suburban areas
 - Connection to nature
 - Desire to help deer
 - Improve photography opportunities
- Impacts of feeding
 - High density “hotspots”
 - Increase population
 - Spread disease among deer
 - Digestive issues in deer



Some Closing Points and Recommendations

- No single solution typically solves these issues
- Culling alone rarely reduces the population sufficiently to fully alleviate suburban human-deer conflict issues – a multifaceted approach should be investigated
- Each doe may have 1-5 offspring. When food is abundant, they will produce more deer (and more young survive)
- Public education and land management approaches can help to alleviate many of these issues
- A list of resources has been provided with our handouts to help with research into solution options