Dealing with Deer Impacts and Suburban Damage in New York

Collaborative Deer Management Outreach Initiative
Problems Caused by Deer Overpopulation
150+ Human Fatalities per year

**AROUND NEW YORK**

**Car-deer crash kills teen-ager**

CANTON, N.Y. — A 15-year-old girl riding in the backseat of a van was killed when a deer crashed through the vehicle’s windshield, striking her in the head. Misty Hanson of Canton died Wednesday of massive head injuries, authorities said.

“We have been saying right along that there are so many deer, there has to be something done,” St. Lawrence County Sheriff Keith K. Knowlton said Thursday. “Deer are pretty in the woods and fields, but they are dangerous on the highways.”

Police said the teen was riding with her family on Route 29 in the town of Pierrepont when the accident happened at about 5:15 p.m. The deer ran into the road and collided with a car driven by Rebecca J. Paul, 33, of Colton.
Ways to Reduce DRVAs

• Education for motorists is important
• Use extra caution while driving during Oct., Nov., and Dec.
• Be careful when driving at dawn or dusk
• Note areas with deer crossing signs and places where deer cross roads
• Scan the roadsides for eye reflections
• Manage herd density where possible
Seasonal Trends in DVCs
Bells and Whistles
...Don’t Work!
Black-legged (‘Deer’) Tick
*Ixodes scapularis*

Male and female

Nymph

Larva

Iowa State Univ.
Lone Star Tick
Amblyomma americanum

1st documented Long Is (Montauk) 1971 (Good 1973)
1st documented Fire Is. 1988 (Ginsburg et al. 2002)

- Birds
- Mammals

Female

Nymph & larvae

Male
<table>
<thead>
<tr>
<th>Pathogen</th>
<th>Disease</th>
<th>Tick Vector</th>
<th>Reservoir</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>E. chaffeensis</em></td>
<td>HME (Erlichiosis)</td>
<td>Lone star</td>
<td>deer</td>
</tr>
<tr>
<td><em>A. phagocytophilum</em></td>
<td>HGE (Anaplasmosis)</td>
<td>BL, Am. dog</td>
<td>deer, small mammals (w-f mouse)</td>
</tr>
<tr>
<td><em>B. burgdorferi</em></td>
<td>Lyme (Borreliosis)</td>
<td>BL</td>
<td>rodents</td>
</tr>
<tr>
<td><em>B. microti</em></td>
<td>Babesiosis</td>
<td>BL</td>
<td>w-f mouse, rodents</td>
</tr>
<tr>
<td>Bartonella spp.</td>
<td>Bartonella</td>
<td>BL?</td>
<td>rodents, cats, cattle, dogs</td>
</tr>
</tbody>
</table>

BL = blacklegged (deer) tick

Emerging Inf. Diseases CDC Mar 2010 16(3)
http://pathmicro.med.sc.edu/book/welcome.htm
Lyme Disease Figures Reported to CDC: New York State

Source: http://www.cdc.gov/lyme/stats/chartstables/reportedcases_statelocality.html
Managing Lyme Disease

- Direct reductions in deer densities (??)
- Fencing to exclude deer from sensitive areas (parks, playgrounds, etc.)
- Self-application of acaricides to deer via 4-Poster Device (only on LI)
- Landscaping changes
Create a Tick-Safe Zone

- Wood chips along stone wall & under foundation plantings
- 3' wide or greater barrier
- Deer resistant flower garden or vegetable garden with fence
- Swing Set
- 3 yard tick migration zone
- Stone wall with tick barrier
- Tick Safe Zone
- Wood pile
Deer Management Toolbox

No Population Control
- Hands-off
- Damage control
  - Repellents
  - Fencing
- Feeding illegal

Population Control

Lethal methods
- Predator introduction
- Capture and kill
- Bait and shoot
- Traditional hunting
- Controlled hunting
- Commercial hunting??

Non-lethal methods
- Habitat alteration
- Capture and relocation
- Fertility control
  - Transient
  - Permanent
Deer Population Reductions

- Recreational hunting
- Deer Damage Permits
- DMAP Permits
- Special urban deer permits
Fertility Control

• Experimental
• Theoretically possible
  • Rose petal hypothesis
• Unproven in the field
  • Biologically feasible?
  • Economically practical?
• Females only
• Limited scale
• Maintenance required
Management Options

Population management

Fencing

IPM

Plant selection

Repellents
Factors Influencing Deer Feeding Pressure

- Deer population density
- Food and cover sources
- Travel corridors
- Alternative foods
- Season and weather
- Deer nutrition
- Plant palatability and nutrients
- Previous experience
Reducing Plant Damage

• Repellents may work when deer pressure and damage is light
• Fencing provides reliable control when deer damage is moderate to heavy
• Manage herd density
• Choose plants that are less attractive to deer if possible
Commercial Deer Repellents

• BGR Deer-Away
• Hinder
• Deer-Off
• Chew-Not
• Bonide Rabbit/Deer Repellent
• Hot Sauce Repellent
• Tree Guard
• Spotrete-F
Deer Exclusion Alternatives

- 8-foot barrier fences
- Individual plant protection
- Electric fences
Baited Electric Deer Fence

- Electric fencer
- 110 volt or 12 volt
- Hot wire
- Piece of foil 3" x 4"
- Cloth tape
- Foil stuck to tape
- Mixture of peanut butter and peanut oil
- Finished flag
- Ground line
- Ground rod
Northeastern Woody Ornamentals Rarely Damaged by Deer

Paper Birch
Common Boxwood
Russian Olive
American Holly
Drooping Leucothoe
Colorado Blue Spruce
Japanese Pieris
Northeastern Woody Ornamentals Frequently Severely Damaged

- Balsam fir
- Frasier fir
- English ivy
- Norway maple
- Eastern Redbud
- Atlantic white cedar
- Clematis
- Cornelian dogwood
- Winged Euonymus
- Apples
- Rhododendrons
- Evergreen azaleas
- Pinxterbloom azalea
- European mountain ash
- Yews
- American arborvitae
- Hybrid tea rose
- Winter creeper
- Cherries
- Plums
Bulb Varieties in the Trial

- **Narcissus** - Carlton, Ice Follies, Tete a Tete, Minnow
- **Hyacinth** - Pink Pearl, Carnegie
- **Crocus** - Pickwick
- **Allium** - Caruleum, Christophi, Sphaerocephalon, Ivory Queen, Purple Sensation, Neapolitanum
- **Iris** - Buchaica, Blue Diamond, Reticulata JS Dyt and Pauline
- **Fritillaria** - Imperalis Rubra Max, Persica
- **Colchicum** - The Giant
- **Chionodoxa** - Forbesii
- **Galanthus** - Nivalis Single
- **Camassia** - Leigh Coer
- **Arum** - Italicum
- **Muscari** - Armeniacum
- **Scilla** - Siberica
- **Tulips** - Turkestanica, Tarda Dasystemon, Apeldoorm, Monte Carlo
Deer Damage by Bulb Genus

1. Hyacinth
2. Tulip
3. Narcissus
4. Crocus
5. Iris “Blue D”
6. Allium
7. Arum
8. Camassia
9. Chionodoxa
10. Colchicum
11. Fritillaria
12. Galanthus
13. Iris
14. Muscari
15. Scilla
Urban Deer Management Summary

- Exclusion provides the best long-term deer control
- Repellents provide limited short-term control
- Choose ornamental plants carefully to reduce damage
- Scare devices are usually ineffective
- Hunting of female deer should be encouraged where possible to lower impacts
For More Information

http://wildlifecontrol.info
For PDF files and fact sheets