A Historical and Biological look at the Tumultuous Relationship between Rural and Suburban Homeowners with the White-tailed Deer in the mid-Atlantic Region, as well as the Negative Impacts on our Properties and Natural Ecosystems Created by its Overabundance

Christopher J Markham
President/Wildlife Biologist
New Jersey Deer Control
Cook College, Rutgers University
Audubon Cooperative Sanctuary System for Golf Courses
Butterfly &

Hummingbird Gardens
Eat your cilantro son, it will put hair on your chest.
Edge Species

- Need and Use of transitional zone at boundary of 2 distinct habitat types- in this instance fields and forest
Herbivore

*largest Herbivore in region*

grasses, seeds, nuts, fruits & grains
Damage Characteristics

- bite and tear
- rough, torn edges;
Ruminant

• cud chewing behavior
• four-compartment stomach with *seasonal* changes in bacterial flora
Mobility

- 1 sq mile?
- Jumping ability
Reproductive Ability

• Polygamous species
• Doe can reproduce as early as 6 months, and can have 1-3 fawns per year
• Unchecked, population can double every 3 years
Rut = Mating Season

*early October – late December

*height of deer/car
Buck Rub

- Early September – Late December
Disfigurement, Disease & possible Death of Shrub/Tree
Remove the Velvet
Practice Sparring/Strengthen Neck
Mark Territory/Leave Scent

- 7 scent glands on white-tailed deer, including forehead, pre-orbital, nasal and several on the legs
- pheromone excretion communicating territory, sexual readiness and more
Evolution of a Problem

© Stephen J. Krasemann / www.photoshot.com
Evolution of a Problem

(lots and lots of deer!)
• Columbus discovers America (1492)
• General “mass” colonization 1600-1700s
Pre-Colonial Times

More Mature Forests/
Forest Interior Habitat

Native Americans used Deer for Meat and Fur
Early Colonization

• Increased deer harvests for fur, meat and trade by both the Colonists and Native Americans
Change in Landscape

• Cut down forests in favor of farmland
Increasing Human Population and Consumption lead to Over-Hunting and Desolation of Deer and Lots of Wildlife
Early 1900s

- Deer population at an all-time low
CHANGES:

- Settlers move West in greater numbers
- Hunting Regulations as well Conservation Movement begin

Leopold

Roosevelt
Start of Land Management and Land Use Changes (again)

- Abandoned Farms start Secondary Succession
Leads to More:

* Food
* Habitat
* Edge
Extirpation of Predators

Wolves

Mountain Lions
Reminder:
Deer are a Prey Species

*This is Natural

*This is NOT
Suburban Sprawl
We have Created an Environment for Deer to not only Survive in, but **THRIVE**
Deer in Suburbia
Suburbia creates MORE edge habitat on large scales...
and more edge habitat on small scales
With abundant food in a safe environment
This does *NOT* count as a common predator...
Lack of Population Controls

- Absence of Predators
- Greatly reduced room to Hunt
All Lead to Deer Population Explosion
Effect of Deer Over-Population on the Natural Environment
Decimation of Forest Undergrowth
Lack of Forest Regeneration

Healthy Forest with “layers”
Lack of Forest Understory affects many kinds of Wildlife

Reptiles

Birds

Amphibians

Mammals
Increased chance of Disease...

- **EHD** (Epizootic Hemorragic Disease) - spread through biting midge; causes abnormal behavior and physical traits; most often fatal

- **CWD** (Chronic Wasting Disease) - spread deer to deer through saliva, feces and urine; causes abnormal behavior due to damage to the brain; fatal

- **BTV** (Bluetongue Virus) - spread through biting midge; causes swelling and erratic movements; sometime fatal

- **Cutaneous Fibroma** (Deer Worts) - physical large worts on body, usually not fatal
and Starvation
Population Control Methods

Historical estimates for white-tailed deer abundance in Connecticut (Data: CT DEP).
Natural Way

PREDATORS
Human-Influenced = HUNTING
Densely Populated Townships and Municipalities

- Cull (*selective kill*) of the deer herd through:
  - controlled hunts
  - sharp shooters (often hired)
  - local hunters (who sometimes pay for the privilege)
  - live-capture and euthanasia (hired)

*(in many instances, the meat is donated to local food bank)*
Densely Populated Townships and Municipalities

• Sterilization
  - through surgery
  - expensive, but effective on a limited scale

• Contraception (Gonacon, Spayvac)
  - reapplication, slowly developing technology
Densely Populated Townships and Municipalities

*ALL METHODS OFTEN HIGHLY CONTESTED*

-Public Officials often making decisions, being influenced by many diverse groups:

  - hunters
  - conservationists
  - farmers
  - biologists
  - animal rights advocates
  - homeowners (love/hate)
Small Scale Deterrents

Planting Methods
- deer resistant plants on perimeter

Sound/Sonar/Shock
- scare or annoyance technique

Fencing
- perimeter of property or surrounding plant/bed

Repellents (Liquid/Granular)
- usually work by smell, taste or both

*Do-it-Yourself or Professional Companies*
Commonly Used Landscape Plants with their Associated Deer Resistance

• DEER RESISTANT DOES NOT EQUAL DEER PROOF!!!

• Tastes change from region to region, and can depend on seasonal weather conditions
Commonly Used Plants Deer Love

*The Big Summer 3*

Tulips  Hosta  Daylily
Commonly Used Plants Deer Love

*The Big Winter 2*

**Arborvitae**
(esp. Emerald Green)

**Euonymus**
(esp. Manhattan)
Other Commonly Used Plants Deer Love

- Geranium
- Sedum
- Coneflower
- Roses
- Hibiscus
- Hydrangea
- Weeping Cherry
- Dogwood
Commonly Used Deer Resistant Flowers

- Daffodil
- Iris
- Allium
- Hellebores
Commonly Used Deer *Resistant* Flowers

- Yarrow
- Catmint
- Speedwell
- Coreopsis
Commonly Used Deer Resistant Flowers

- Russian Sage
- Ligularia/Rocket Flower
- Milkweeds
- Blue Mist
Commonly Used Deer *Resistant* Flowers

Lamb’s Ear

Lavender (most herbs)

Ferns

Ornamental Grasses
Commonly Used Deer *Resistant* Trees/Shrubs

- Beautyberry
- Andromeda
- Boxwood
- Barberry (*Invasive!*)
- Birch
- American Holly
Thank You!

Christopher J Markham
President/Wildlife Biologist