

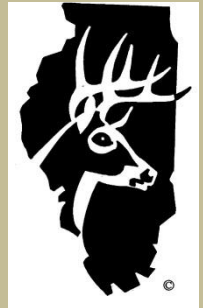
Urban Deer: How Do We Coexist?



Tim Preuss

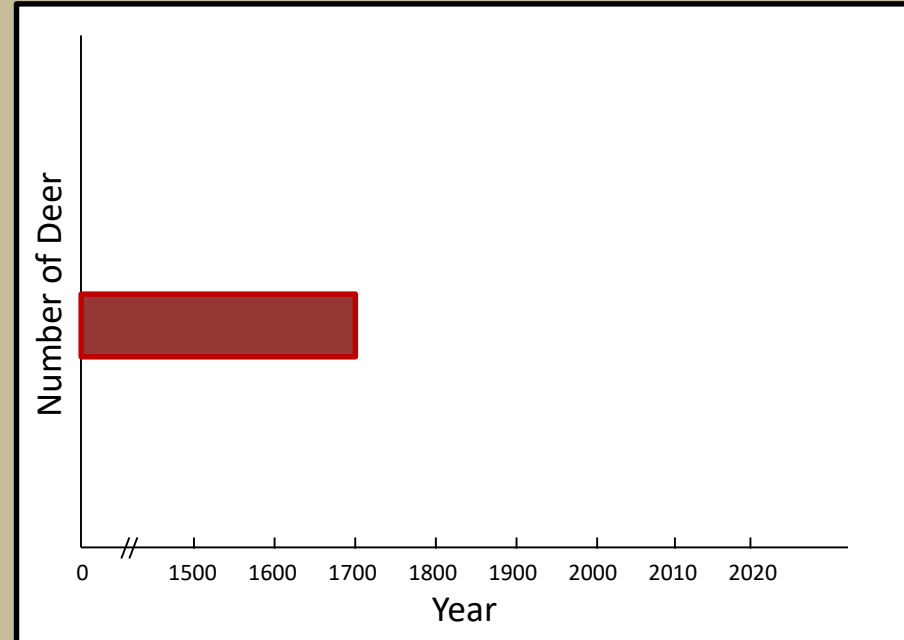
Urban Deer Project Manager

Illinois Department of Natural Resources



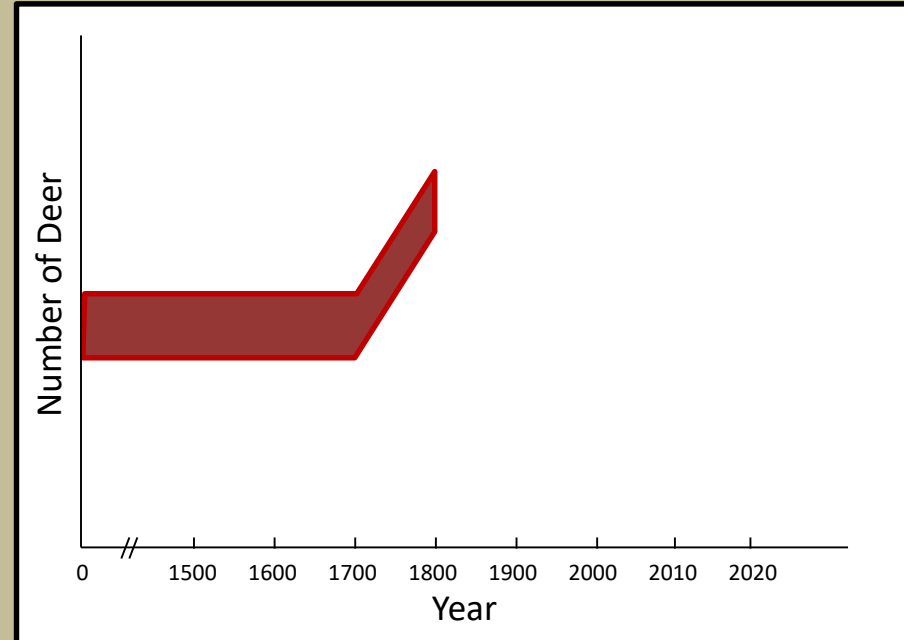
History of Deer in Illinois

- Prior to European settlement:
 - *Deer abundant and in balance with habitat*
 - *Native Americans likely harvested 20-30% of the deer population annually*
 - *Food*
 - *Clothing*
 - *Tools*
 - *Predation by:*
 - *Wolves*
 - *Mountain lions*
- During the 1700's:
 - *Europeans began settling the land now called Illinois*



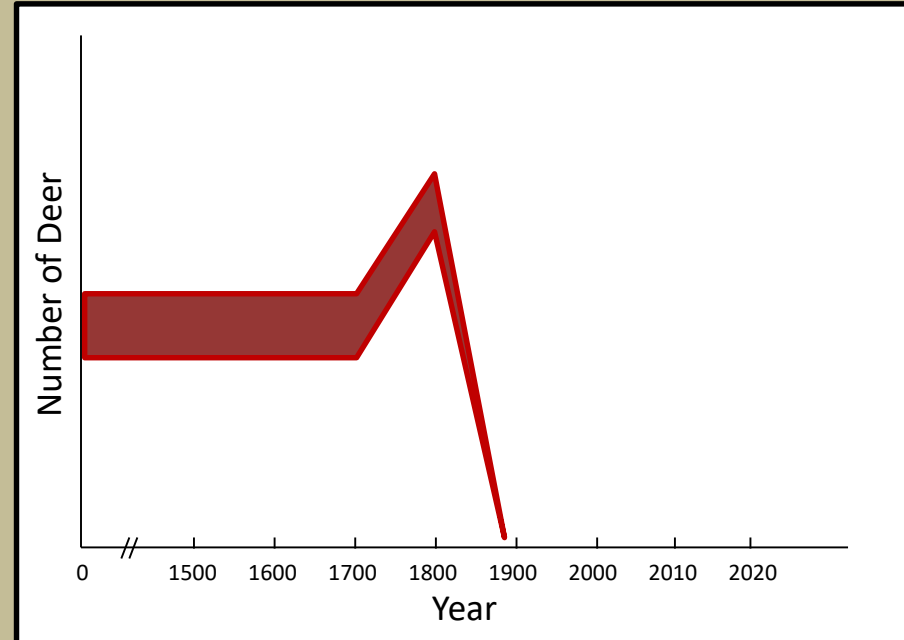
History of Deer in Illinois

- During the early 1800s:
 - *Deer numbers higher than during the 1700's*
 - *Reduction of predators, as humans eliminated wolves and cougars*
 - *Decrease in number of Native Americans*
 - *Increase in deer habitat; "edge habitat" created as forests were cleared to make way for agriculture*
- 1809:
 - *The Territory of Illinois was created*
- 1818:
 - *Illinois was awarded statehood*
 - *Immigrants to Illinois from eastern states and Europe increase*



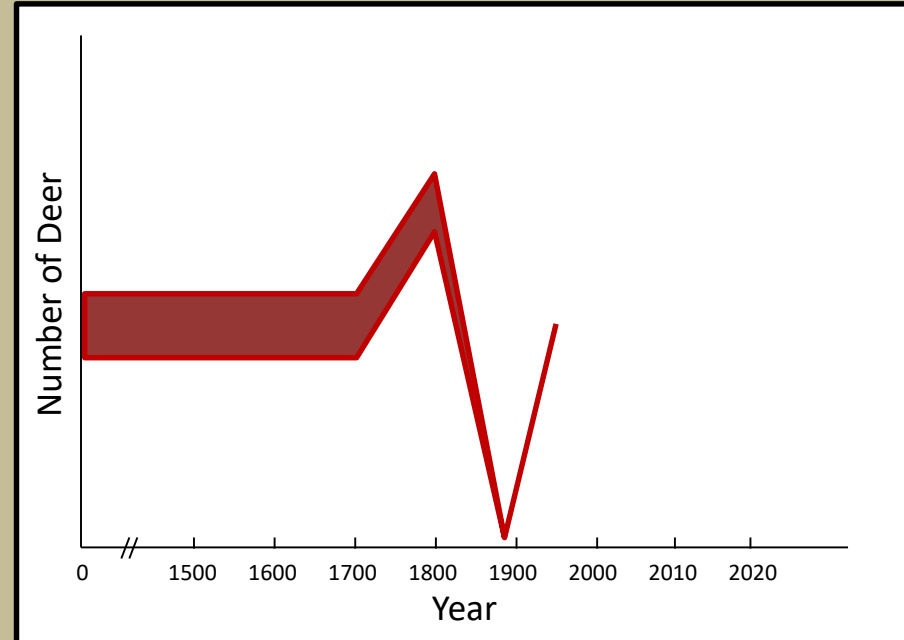
History of Deer in Illinois

- During the mid-1800's:
 - *Clearing of land for farming intensified, destroying deer habitat in the process*
 - *Market hunting*
 - *Unregulated hunting*
 - *No seasons*
 - *No regulations*
 - *Deer numbers decline*
- By the late 1800s
 - *Deer almost eliminated from the State*
 - *Deer remained in only a few isolated pockets*



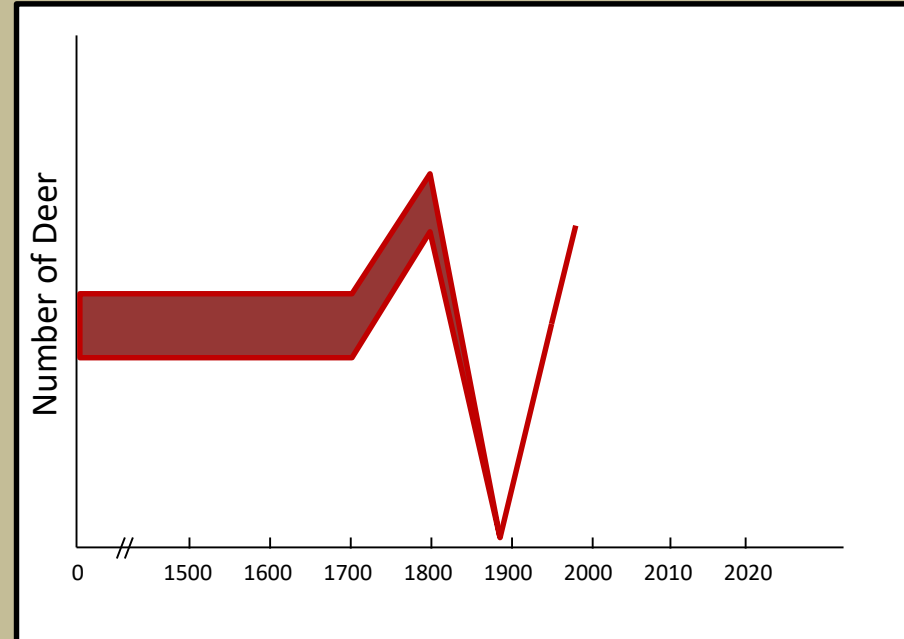
History of Deer in Illinois

- 1901:
 - *The Illinois Legislature placed a ban on deer hunting*
- 1912:
 - *The last native deer was seen in an area of southern Illinois*
- During the mid-1900's:
 - *Continued protection from hunting*
 - *Rebuilding of deer herd*
 - *Captive-breeding of deer in State-run game farms and release throughout State*
 - *Natural breeding of deer from small remnant populations*
 - *Escape of captive deer into the wild*
 - *Immigration of deer from neighboring States*
 - *Deer numbers increase*



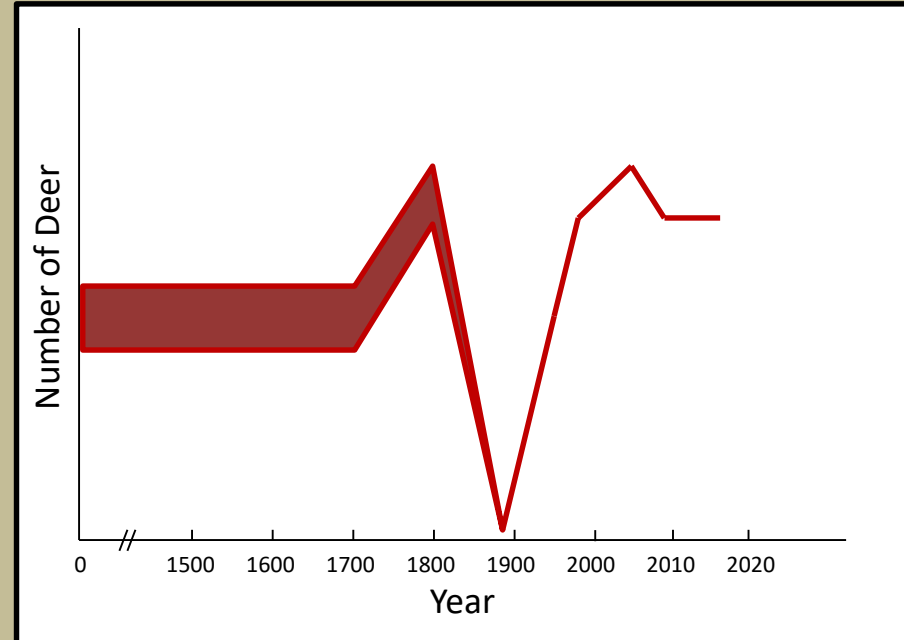
History of Deer in Illinois

- 1957:
 - *The first modern deer season was opened in 33 counties*
 - *1,913 deer were harvested*
- During the late 1900's:
 - *Deer increase statewide*
- 1976:
 - *Every county opened to hunting*
 - *Archery and firearm hunting in all counties except Cook, DuPage, Kane, and Lake (archery only)*
- 1980:
 - *Approximately 21,000 deer were harvested statewide*
 - *Problems associated with deer develop in urban areas as deer increase*



History of Deer in Illinois

- 2002:
 - *Chronic Wasting Disease is discovered in wild deer along the Boone/Winnebago county line*
- 2004:
 - *A portion of Kane County west of Route 47 opened to firearm deer hunting*
- 2005-2006:
 - *A record harvest of 201,209 deer was recorded*
- Present:
 - *Approximately 150,000 deer are harvested statewide annually.*
 - *Areas with limited or no hunting often experience issues associated with overabundant deer*



Ecological Role of Deer

- Primary plant-eaters
- Aid in seed dispersal
- Prey for other animals
- Impacts change as populations fluctuate
 - At *healthy levels*: Deer maintain balance in plant communities
 - When *overabundant*: Overbrowsing damages habitat for native species



How do Deer in Urban Areas Become Overabundant?

- A combination of factors
 - Long-lived (> 10 years)
 - Food preferences
 - Adapt to food availability
 - Behavior
 - Small home ranges in urban areas
 - Limited predation
 - Deer-vehicle accidents
 - Coyotes (fawns only)
 - Limited, or no, hunting pressure
 - Habitat
 - Quality food available year-round (ornamental plants and gardens)
 - Interspersion of natural areas
 - Prolific breeders
 - Deer numbers in an area can increase by 50-60% each year if the population isn't controlled



Food Preferences

- Food preferences vary by season

- *WINTER*

- Acorns
- Twigs and buds
- Evergreens
- Landscaping
- Bird seed
- Waste corn
- Illegal feeding



- *SPRING*

- Wildflowers
- Anything green



Food Preferences

- Food preferences vary by season

- *SUMMER*

- Wildflowers
 - New growth
 - Corn and soybeans
 - Landscaping
 - Vegetable gardens



- *AUTUMN*

- Acorns
 - Bird seed
 - Corn
 - Fruits
 - Landscaping



Behavior

- Behavior varies as the seasons change

- *WINTER*

- Form larger groups
- Bucks less aggressive
- Travel together



- *SPRING*

- Groups split up
- Does search for fawning areas
- Bucks grow antlers



Behavior

- Behavior varies as the seasons change

- *SUMMER*

- Does drive off bucks and offspring from previous years
- Fawns are born, cover is needed



- *AUTUMN*

- Bucks “rut”
 - *Pursue females*
 - *More aggressive*
 - *Rubs and scrapes*
- Increase in deer-vehicle accidents



Behavior

- Range and movement
 - Home range is ~ 1 mile²
 - Does in urban forest preserves average 0.17 mile²
 - Primarily active at dawn and dusk
 - Follow predictable daily patterns
 - Range shifts due to extreme weather conditions or food availability



Overabundant Deer

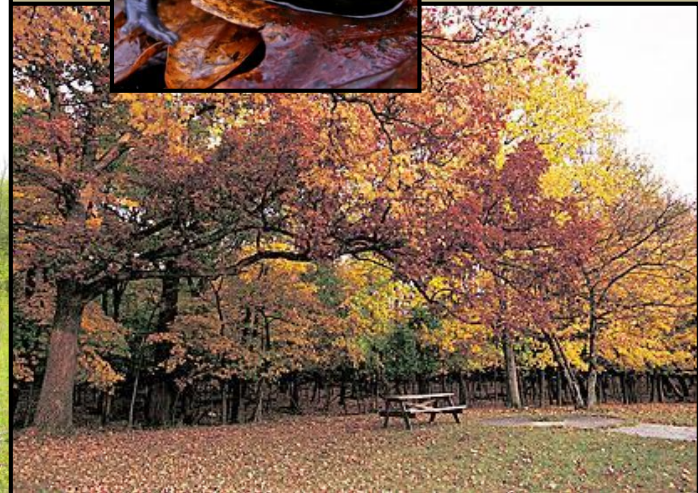
- Ecological damage
 - Damage to plant and animal communities
 - Loss of local plant populations
 - Loss of wildlife shelter & habitat
 - Soil compaction and erosion
 - Disease (e.g. chronic wasting disease)



Ground-nesting birds, woodland frogs and salamanders lose much needed shelter



Damage to wildflowers & other plants



Overbrowsing reduces understory & shelter

Overabundant Deer

- Public health and safety
 - Deer-vehicle accidents
(In IL: ~15,000/year; ~600 injuries; <10 fatalities)
 - Deer on airports
 - Disease and parasite transmission (ticks and tick-borne diseases)
- Property damage
 - Damage to residential and commercial landscaping



So What's the Problem?

- Are deer themselves the problem?
 - Usually not
 - The damage caused by deer is the problem
- Define the problem
 - Deer-vehicle accidents?
 - Damage to natural areas?
 - Damage to landscaping?
 - ...?
- Define the scope/scale of the problem
 - Localized to a few properties?
 - Widespread throughout the area?
 - ...?
- Then determine how to respond to the problem
 - Fencing/deterrents on private properties?
 - Population control in specific locations?
 - Population control throughout the entire area?
- Minimize damage without eliminating the source of the damage

How To Manage the Problem?

- Hunting
 - The primary method of controlling deer numbers in Illinois



- Non-lethal Management
 - Habitat modification
 - Exclusion
 - Repellents
 - Deterrents
 - Home remedies



- Special Deer Control Permits
 - Deer Removal Permits (DRPs)
 - Deer Population Control Permits (DPCPs)



Habitat Modification

- Basic tips for reducing damage to your property
 - Never feed deer
 - They do not need supplemental food to survive
 - Deer become acclimated to human presence and activity
 - Bird feeders may need to be taken down or covered at night



Habitat Modification

- Basic tips for reducing damage to your property
 - Plant landscaping that is not preferred by deer
 - Smelly
 - Thorny
 - Fibrous



Swamp rose



Illinois rose



Northern dropseed, grass



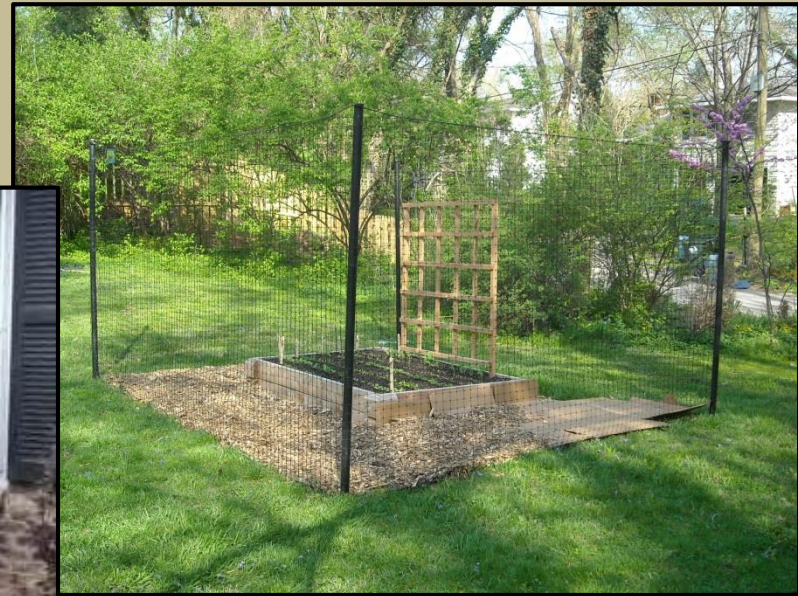
Wild garlic

*Find a list of plants not preferred by deer on The Morton Arboretum website

Exclusion

- Fencing

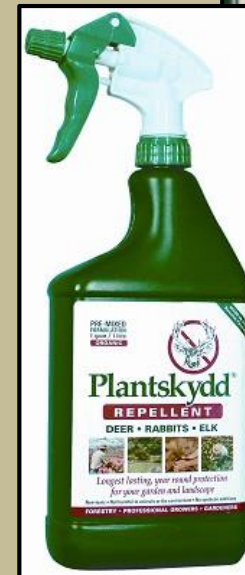
- To keep deer off your property, fence must be at least eight feet tall
 - Difficult in urban areas due to fencing ordinances
- Effective for localized applications (e.g., gardens)
 - Height matters – 6 feet high or taller
- Protect individual trees or plants
 - Five-foot tall wire cylinder
 - Tree wrap
 - Netting and burlap



*Find more information on fencing on the Internet Center for Wildlife Damage Management website

Repellents

- Reduce damage to vegetation but will not eliminate it
 - Effectiveness is variable; depends on:
 - Local deer density
 - Availability of other foods
 - Palatability of the plants being protected
 - Regularity with which the repellent is used
 - Can be expensive
 - Must be reapplied regularly
 - Most effective when applied before damage begins



Deterrents

- Generally not effective, but work in some cases
 - Motion-activated sprinklers
 - Shocking devices
 - Ultrasonic devices



**DELIVERS A 400-VOLT SHOCK
TO HARMLESSLY REPEL DEER**



Home Remedies

- Generally not effective, but work in some cases
 - Deodorant soap
 - Human hair
 - Blood meal and bone meal





**Illinois
Department of
Natural Resources**

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Wildlife Illinois

<https://www.wildlifeillinois.org/>

White-tailed Deer Illinois

<https://deer.wildlifeillinois.org/>

Internet Center for

Wildlife Damage Management

<http://icwdm.com/>

The Morton Arboretum

<https://www.mortonarb.org/trees-plants/tree-and-plant-advice/horticulture-care/plants-not-favored-deer/>

Avoiding Conflicts with Coyotes

- Do not feed coyotes
- Keep garbage stored securely
- Feed pets indoors
- Keep bird feeding areas clean of debris
 - Seed on the ground attracts rodents, which may attract coyotes
- Do not let pets run loose
 - Keep pets on leash when walking
- Do not leave cats or small dogs outside unattended, especially at night
- Reinforce coyotes natural fear of humans



Avoiding Conflicts with Raccoons

- Do not leave pet food outside overnight
- Keep garbage stored securely
- Remove tree branches that overhang the roof to limit access to chimney or attics
- Attach heavy duty, commercial grade chimney caps at the top of chimneys
- Repair holes and close all openings to attics
- Seal all openings under porches or decks to prevent access
- Use fencing to protect vegetable gardens



Avoiding Conflicts with Skunks

- Do not leave pet food outside overnight
- Keep garbage stored securely
- Remove brush or wood piles
- Control lawn grubs
- Use window well covers to keep skunks from falling into window wells
- Seal all openings under porches and decks to prevent access
- Seal all openings along the foundation to keep skunks from burrowing under buildings

