



Deer Management

in Will County Forest Preserves

The Forest Preserve District of Will County prepared a Draft Deer Management Plan to assess the need to manage deer populations within the forest preserve system, evaluate the feasibility of known management options, and examine the suitability of existing preserves for implementing different management options. Following public review and comment on the Draft Plan, the District will develop and implement strategies to manage white-tailed deer in Will County forest preserves.

This evening's public meeting includes six stations for the public to visit, ask questions and obtain information about the District's proposed deer management program. Comments will also be taken at the designated comment area.

This brochure elaborates on the information at each station, and serves as a resource for you to take with you following the meeting.



Forest Preserve District
OF WILL COUNTY

Bringing People and Nature Together



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STATION 1

Mission of the Forest Preserve District of Will County

The Forest Preserve District is dedicated to protecting, conserving, enhancing, and promoting Will County's natural heritage for the educational, recreational, and environmental benefit of present and future generations.

One of the District's core purposes is to steward its public lands. Good stewardship means comprehensively managing the health, viability and sustainability of the ecosystems under the District's charge for all species—not just one. This is best accomplished by conserving the biological diversity of the land through the management, restoration or reconstruction of natural habitats and natural plant communities on District preserves.

Natural History and Ecology of White-Tailed Deer

Deer are an important component of the region's biodiversity and are found in a variety of habitat types including forest, open woodland and prairie, frequently utilizing edges between habitat types. A deer's diet consists of legumes, woody leaves and stems, grasses, acorns and other seeds, wildflowers and corn. Deer are known to preferentially select certain more palatable and readily digestible food types and species.

White-tailed deer were hunted nearly to extinction by the 1930s. Controlled hunting allowed deer to recover to their pre-European settlement numbers—approximately 30 million in North America. However, deer no longer roam free through a continuous habitat. Rapid growth and development of open space have eliminated and fragmented remaining suitable deer habitat. Deer have been concentrated into increasingly smaller

areas, resulting in numbers that are beyond the ability of habitats to sustain them without significant consequences to the health and quality of our natural ecosystems, to the health of the deer and to human safety.

STATION 2

Ecological Impact of White-Tailed Deer

The impacts caused by over-abundant deer have been widely studied. As deer numbers reach their upper limit within a habitat, browse pressure increases, and vegetation diversity and vigor decline. This, in turn, reduces the ability of the vegetation to sustain the same number of deer, resulting in a threat to deer health and survival. Excessive deer browsing results in changes to species and habitats:

- Unprotected plants are preferentially browsed.
- Native and desirable species, including shrubs, disappear.
- Reproductive potential in plants, especially rare plants, is reduced.
- Young oaks and hickories are lost and replaced by maples and other tree species.
- Cover and nesting and foraging habitat for native birds and animals are lost.
- "Browse lines" are created.
- Ground cover—herbaceous and woody vegetation—is lost.
- Erosion of soils is exacerbated.
- Restoration efforts are damaged by overbrowsing.
- Non-native or invasive and weedy species take over.
- A decline occurs in deer herd health due to starvation and disease.
- Parasites and related pests increase, which can prove dangerous to humans as well.

Public Safety

Between 1997 and 2007, the Illinois Department of Transportation reported that Will County ranked among the top seven counties in Illinois for total number of vehicle-deer collisions, ranging from 405 in 1998 to 601 in 2006 (2008 and 2009 data are not yet available).

Key Deer Population Management Principles

- **Biological Carrying Capacity:** An absolute maximum number of a species that an ecosystem can support at the expense of habitat, community resources and other species.
- **Social or Cultural Carrying Capacity:** The densities of deer that reflect responsible stewardship and balanced management, including herd health, habitat damage and consequences to human health.
- **Interim Target of 20 Deer per Square Mile** should allow for recovery and stabilization of balance and biodiversity in many ecosystems. Research suggests a target range of 5-20 deer per square mile. Ongoing results will be evaluated to determine future targets and goals.

STATION 3

Deer Population Aerial Survey Results

In 1993 the District began to document the number of deer in the forest preserve system using aerial surveys from a helicopter between December and March when at least three inches of new snow was on the ground. Deer density for a given area was estimated by dividing the number of deer counted by the area surveyed.

Nearly all of the preserves surveyed have an average deer density well above the widely accepted maximum of 20 deer per square mile over the history of the survey,

and many sites consistently show a density that is two or more times greater than the preferred maximum. Population trends over the last three survey periods indicate that deer populations in 79 percent of District preserves are increasing or have remained relatively consistent, but at high densities.

Deer Browse Studies Conducted

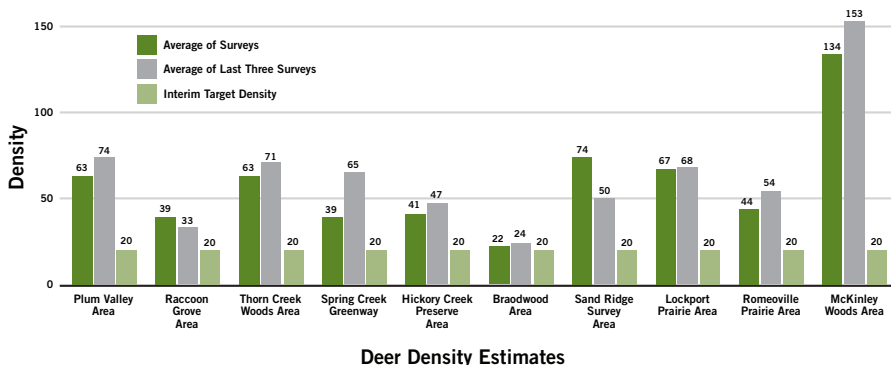
Impacts resulting from overabundant deer populations have been studied by numerous researchers. The District was interested in determining if high deer numbers actually resulted in observable changes in its preserves. Since 1997 several deer browse studies have been conducted within Will County preserves or in northeastern Illinois and include:

- Twenty-Year Woody Vegetation Changes in Four Will County, Illinois Forest Preserves
- Twenty-Year Woody Vegetation Changes and Groundlayer Species Richness in Northeastern Illinois Upland Forests
- Thorn Creek Woods Nature Preserve Exclosure Study
- Messenger Woods Large-flowered Trillium Herbivory Study
- FPDWC Browse Study

Browse Study Results

- Studies concluded that disturbance and deer browse were the most influential factors related to loss of shrubs, reduced oak regeneration and increased dominance by maples.
- Browse pressure resulted in decreasing diversity and loss of ground and low-level cover/habitat.
- The three major contributors to the degradation: ecological succession, lack of fire and **heavy overbrowsing by white-tailed deer**.
- Loss of structural and biological diversity, canopy reduction, soil degradation and erosion had occurred.

*Comparison of Average Deer Density Estimates:
All Surveys, Last Three Surveys and Target Density by Survey Area*



Deer Population Management Goal

As a result of documented high deer densities and overbrowsing impacts, the District’s deer population management goal is to establish and maintain white-tailed deer populations that allow for a sustainable relationship between biological diversity and habitat structure through comprehensive research, monitoring, education and effective management.

Deer Population Management Objectives

Program objectives specify ongoing studies including aerial surveys, floristic inventories and browse studies to determine deer densities, assess vegetation conditions, and define and modify as appropriate the extent of deer management needed to accomplish the goal at a given preserve. The objectives also identify public information efforts to enhance understanding of the need to manage deer, and insuring staff remains aware of the current science to conduct the program in the most effective and efficient manner possible.

STATION 4

Deer Management Options

The District evaluated eight non-lethal and lethal options to reduce and control deer (see below). Based on preliminary public comments, the District also evaluated supplemental deer feeding as another option.

No Action

- Without action, deer herds will increase until the habitat is totally degraded.
- Only appropriate if monitoring indicates that current deer densities are not in conflict with management goals.
- Not feasible because deer densities in our preserves are in conflict with management goals.

Repellents

- Requires frequent applications to ensure that rapidly growing shoots are protected.
- Application limited to mild weather only.
- Cost prohibitive for natural areas.
 - 1 gallon of repellent covers approximately 32,000 square feet.
 - Each acre of land would require 1.36 gallons at \$170 per acre.

- Just 100 acres would cost \$17,000 in product for only 1 application, not including contracted or staff time or application equipment.
- Not feasible for large-scale applications in preserves. Best use is on residential or commercial landscape plantings.

Fencing

- Interferes and/or prevents movement of other forms of wildlife.
- Distracts from aesthetic value of the natural area.
- Pushes deer out of preserves and into surrounding communities.
- Fencing would need to be installed in quadrants within a preserve for maintenance purposes and to facilitate the removal of deer that breach the restricted natural area.
- Cost prohibitive.
 - Polypropylene deer fence costs approximately \$340 for 170 feet. One mile of fencing would cost \$10,800, not including posts and installation.
 - Chain link fence up to 8 feet high is \$12 per linear foot. One mile of this type of fencing would cost \$63,360.

Trap and Relocate

- Requires capture and transportation of deer to a new location within 24 hours of capture at a release site located 10 to 40 miles from the capture sites.
- Illinois Department of Natural Resources (IDNR) must grant authority to release deer at a site greater than 40 miles away and the deer must be tested and certified disease free.
- No place to transport deer.
- Deer experience physiological trauma and high mortality rates, with reports up to 89 percent mortality.
- Cost prohibitive and labor intensive; resources report \$273 to \$2,800 per deer.

Fertility Control

- Currently experimental and includes surgical sterilization, oral contraception, hormone implantation and immunocontraception.
- No state or federally approved options, except the U.S. Environmental Protection Agency (EPA) classifies contraceptives as “restricted use pesticides.”
- Works best on small, isolated populations rather than large, roaming deer herds.
- Depending on method, multiple or daily treatment is required in a large number of does (70-90 percent) to stop or reduce population growth.
- Depending on method, costs vary from \$500 to \$1,300 per deer.
- May alter health and behavior of deer population.
- Does not address existing population problems and may take a decade or more to have an impact on deer abundance.

Reintroduce Predators

- Coyotes, bobcats and black bear are principle deer predators.
- Coyotes and bobcats are sources of annual fawn mortality.
- Predation is not sufficient to reduce high deer populations.
- Wolves and mountain lions are known to be more effective at controlling deer populations.
- Home ranges of black bear, wolves and mountain lions can be 50 to 60 square miles, exceeding preserve boundaries.
- The District could not unilaterally establish a predator reintroduction program; these are under the control of the State or Federal government.
- Reintroduction of predator species is not feasible.

Supplemental Feeding

- State law prohibits feeding or providing salt, mineral blocks or other products for ingestion by wild deer.
- Supplemental feeding conflicts with Cultural Carrying Capacity because it induces increased deer reproduction and population growth as well as increased disease risk, increased vehicle collisions, habituation to humans and alteration of other deer behavioral patterns.
- Studies have shown that feeding concentrates deer in small areas year after year where animals do potentially irreparable damage to native vegetation.
- Cost estimates are reported to be \$82.69 per deer to feed deer throughout the year and about \$36.75 per deer through the winter.
- Feeding 1,000 deer would cost \$82,690 annually.

Sharpshooting

- Involves culling by skilled marksmen during hours when preserves are closed.
- IDNR manages the program through Deer Population Control Permits.
- Can be expensive if contractual sharpshooters are used; \$200 to \$400 per deer removed.
- District law enforcement supplemented by volunteers can perform this duty at a greatly reduced cost to the District.
- Venison must be processed and donated to a food pantry.
- The primary cost for the sharpshooting program would be meat processing, estimated at \$1.25 per pound. The processing fee for a 200-lb. deer could be \$250.

Controlled Public Hunting

- IDNR regulates all hunting activities in Illinois.
- Provides for the public to hunt deer at select district preserves, on select days.
- Occurs between the months of October-January depending on the type of hunting allowed: shotgun, handgun, muzzleloader, and archery.
- Hunting programs can generate revenue through user fees and permits.
- Consumable materials and program supplies would cost approximately \$5,000 annually. Other budgetary impacts to the District would include staff time required to coordinate a public hunting program.

Due to cost, relative effectiveness, and practicality, **public hunting** and **sharpshooting** have the best potential to achieve deer management goals and are the most common techniques used by Conservation Districts and Forest Preserve Districts in Northeastern Illinois.

STATION 5

Preserve Suitability Analysis

All existing forest preserves were evaluated to identify sites suitable for a deer management program using the most feasible culling methods, sharpshooting and a public hunting program. This analysis resulted in four categories of deer management sites based on the criteria defined for each category on pages 6 and 7.

Restricted Sites

Based on the following criteria, 24 preserves are not suitable for deer management.

- Ownership – Properties must be owned by the District.
- Incompatible Use – Restrict sites including regional trails where access is difficult to control.
- Size or Configuration – Properties must be greater than 30 acres and provide a minimum 100-yard buffer from the property line.

Management Sites – Sharpshooting

Based on the following criteria, 16 preserves are suitable for deer management by sharpshooting.

- Ownership – Properties must be fully or partially owned by the District.
- Annexation Status – No municipal restrictions apply.
- Size – Preserves greater than 30 acres.
- Configuration – Preserves must provide a minimum 100-yard interior buffer from the property line.
- Deer Density & Impacts – Preserves must have documented deer densities exceeding 20 deer per square mile as determined through aerial census.
- Active Management – Preserves must have active management or restoration underway.

Potential sharpshooting sites are: Braidwood Dunes & Savanna Nature Preserve; Goodenow Grove Nature Preserve; Hickory Creek Preserve; Isle a la Cache Preserve; Kankakee Sands Preserve; Keepataw Preserve; McKinley Woods; Messenger Marsh; Messenger Woods Nature Preserve; Plum Valley Preserve; Plum Valley Ravines; Raccoon Grove Nature Preserve; Romeoville Prairie Nature Preserve; Sand Ridge Savanna Nature Preserve; Thorn Creek Woods Nature Preserve, and Thorn Grove Preserve.

Management Sites – Public Hunting - Archery

Based on the following criteria, 14 preserves are suitable for deer management by archery.

- Ownership – Properties must be fully or partially owned by the District.
- Annexation Status – Municipal restrictions. Preserves must be unincorporated or located within Joliet, Channahon, Park Forest, Plainfield or Shorewood.
- Size – Preserves greater than 70 acres.
- Configuration – Preserves must provide a minimum 100-yard interior buffer from the property line.
- Deer Density & Impacts – Preserves must have documented deer densities exceeding 20 deer per square mile as determined through aerial census.
- Active Management – Preserves must have active management or restoration underway.

Potential archery sites are: Braidwood Dunes & Savanna Nature Preserve; Goodenow Grove Nature Preserve; Hickory Creek Preserve; Kankakee Sands Preserve; Keepataw Preserve; McKinley Woods; Messenger Woods Nature Preserve; Plum Valley Preserve; Plum Valley Ravines; Raccoon Grove Nature Preserve; Romeoville Prairie Nature Preserve; Sand Ridge Savanna Nature Preserve; Thorn Creek Woods Nature Preserve, and Thorn Grove Preserve.

Management Sites – Public Hunting - Firearm

Based on the following criteria, 8 preserves are suitable for deer management by firearm.

- Ownership – Properties must be fully or partially owned by the District.
- Annexation Status – Municipal restrictions. Preserves must be

unincorporated or located within Shorewood.

- Size – Preserves greater than 70 acres.
- Configuration – Preserves must provide a minimum 300-yard interior buffer from the property line.
- Deer Density & Impacts – Preserves must have documented deer densities exceeding 20 deer per square mile as determined through aerial census.
- Active Management – Preserves must have active management or restoration underway.

Potential firearm sites are: Braidwood Dunes & Savanna Nature Preserve; Goodenow Grove Nature Preserve; Kankakee Sands Preserve; McKinley Woods; Plum Valley Preserve; Plum Valley Ravines; Raccoon Grove Nature Preserve, and Sand Ridge Savanna Nature Preserve.

STATION 6

Detailed Analysis of Management Options

Several local Forest Preserve and Conservation Districts manage white-tailed deer populations or are developing related programs. Currently none of the Forest Preserve Districts permit hunting on District properties (Cook, DuPage, Kane, Kendall, Kankakee Valley, and Lake Counties). Sharpshooters perform all deer culling activities in Forest Preserve Districts where deer management programs are in place (Cook, DuPage and Lake Counties). Two Conservation Districts, Boone and McHenry County, offer public hunting opportunities as well as Lake County Park and Recreation Department (Indiana).

Public Hunting Option

- There are no statutory or District ordinance provisions prohibiting a public deer hunting program on District property.
- If the District proceeds with a public hunting option, **public safety is the top priority** and will not be compromised.
- The District's risk management agency (PDRMA) issued risk management control recommendations. The District will follow PDRMA's recommendations if a public deer hunting option is used.
- IDNR establishes the annual hunting seasons for Illinois and regulates all hunting.
- If the District proceeds with a public hunting option, suitable preserves will need to be ranked and the hunting program implemented at select preserves in 2010 due to current staffing levels and funding. Preserves with high deer densities, low public visitation or limited access and the safest configuration of hunting zones will rank higher for program implementation.
- Elevated hunting stands will be used so that the ground is used as a backdrop for the projectile.

Sharpshooting Option

- Occurs at night using skilled marksmen when preserves are closed.
- Useful in urban and suburban areas that have insufficient open space to support regulated deer hunting and where local municipal ordinances prevent the discharge of firearms.
- Must apply for a Deer Population Control Permit (DPCP) from IDNR that requires the District to develop a deer management proposal documenting the need for deer culling by nontraditional means such as sharpshooting.
- Venison must be processed at a State- or Federally-licensed and inspected meat

processing facility and donated to a bonafide charitable organization.

- Sharpshooter candidates must be tested and seasonally approved by IDNR.
- There is no limit on the number of sharpshooters, but all sharpshooters who are Illinois residents must also have a valid Illinois Firearm Owner's Identification (FOID) card.
- Rather than using contract sharpshooters (Costs range from \$200 to \$600 per deer.), the District would eliminate this cost by having its law enforcement staff and District volunteers qualified by IDNR as sharpshooters.
- The main expense for the sharpshooting program is processing.
- The District will not be able to initiate sharpshooting in every suitable preserve due to current levels of resources.
- Sharpshooting can be a companion to a public hunting program, especially in areas where hunting is not feasible or prohibited.
- Sharpshooting could first occur in preserves where deer densities are substantially high and where hunting alone is not able to reduce deer herd populations.

Deer Management Program Administration

The District would operate a public hunting program in a legal and responsible manner with the following goals:

- Regulated hunting utilizes a renewable resource and fits within the definition and framework of conservation.
- Safety will be the top priority of the hunting program.
- The hunting program will be tailored to prevent conflicts with other public use of forest preserves.

The District is considering structuring the public hunting program as follows:

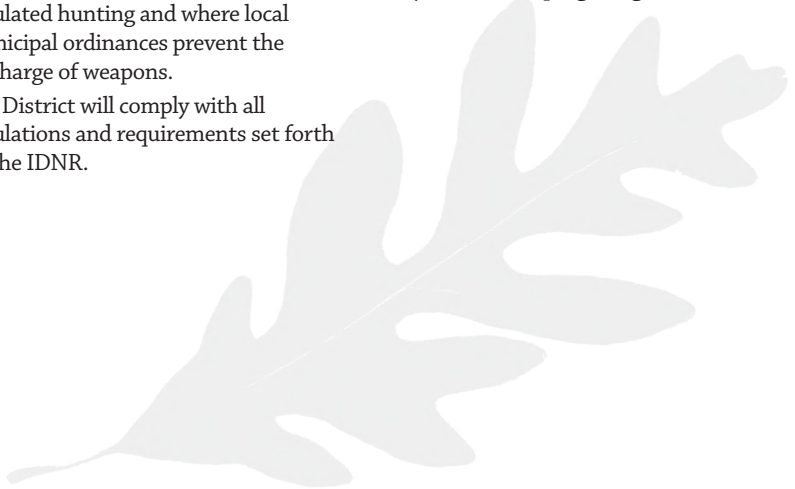
- Would permit archery and firearm (shotgun only) hunting.
- Application and permit fees are to be determined. Participants would be selected through a lottery.
- At this preliminary stage, the District is considering:
 - 2 archery seasons
A 1-month season prior to firearm season and an additional 1-month season following firearm season
 - 2 firearm seasons
1st season in November (3 days) and 2nd season in December (3 days).
- The District will establish hunting zones with 1 hunter per zone.
- Hunters must remain in zones and hunt from a single point on an elevated tree stand.
- Zones will be placed at safe distances from other user groups, access points, preserve boundaries and recreational, residential and commercial areas.
- Hunters must comply with all IDNR regulations as well as Forest Preserve District rules and regulations.
- All hunters must show proof that they have successfully completed the IDNR Hunter Education Course.
- All hunters must participate in a mandatory District Hunter Orientation session given by District Law Enforcement.
- All hunters must submit to a background check administered by District Law Enforcement.
- All archery hunters must qualify during a test of skill prior to permitting.
- District Law Enforcement officers will increase preserve patrols during hunting days.

- The District will conduct a public notification campaign during the hunting season to inform adjacent landowners and the public, will post regulatory and safety signage at preserves prior to and during hunting days, and will temporarily close preserves to ensure safety.
- Violation of any rule or exhibition of inappropriate conduct by a hunter will result in revocation of that person's District-issued hunting permit or a fine, or both.
- Program Evaluation and Enhancement
 - Annual program evaluation with recommendations for successive years.
 - Opportunities for hunter involvement in program development and enhancement.
- Volunteer opportunities to assist with hunting day preparations and implementation.
- Sharpshooting will take place following the regulated hunting season in preserves where hunting alone is not sufficient to reduce deer herd populations.
- The District will substantially reduce costs associated with sharpshooting programs; District law enforcement staff will conduct sharpshooting activities and the District will develop a volunteer position for skilled hunters or marksmen interested in assisting with sharpshooting activities.
- Qualified sharpshooters must pass a test of skill.
- The District will implement a sharpshooting program that allows normal preserve use and ensures public safety.

The District would operate the sharpshooting program with the following goals:

- The District will use sharpshooting in urban and suburban areas with insufficient buffer zones to support regulated hunting and where local municipal ordinances prevent the discharge of weapons.
- The District will comply with all regulations and requirements set forth by the IDNR.

Comments received from the public and evaluations completed by the participants in the program will be utilized to direct the District on program improvements and administration. Over time, changes to the program will be made in order to maintain cost effectiveness and ensure the long-term sustainability of the program. As target deer densities are reached, management activities will be adjusted to stay in line with program goals.



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