



Bringing People and Nature Together

Forest Preserve District

OF WILL COUNTY

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2018-19 Deer Management Plan October 2018

Background

In September 2010 the Board approved the 2010-11 Operational Plan for the Forest Preserve's Deer Management Program. This plan established that only sharpshooting was to be used to manage the deer population to achieve an initial target density of between 20 to 30 deer per square mile.

Adoption of the Operational Plan for Deer Management

The Forest Preserve's Plan states that the deer management program goal is to allow for a sustainable relationship between the deer population, biological diversity and habitat structure, with an initial target deer density of 20 to 30 deer per square mile. The Plan also states that the program will be ongoing and that the target deer density per square mile is expected to change as a result of the Forest Preserve's monitoring which is designed to collect and assess data on deer population levels, habitat recovery, and deer management program effectiveness. The results of the monitoring program will be used to modify and adapt management strategies and targets to existing conditions and insure the ongoing effectiveness of the deer management program. The Plan also states that Staff will consider program effectiveness measured against operational expense, and make the necessary programmatic changes to the deer management program to maintain cost effectiveness and ensure long-term sustainability.

2018-19 Fall-Winter Deer Management Plan

Aerial deer population surveys were completed in winter of 2017-18. Table 1 lists the properties that are proposed for deer management based on that survey data, as well as the estimated deer density and target number of animals by property. Deer removal is recommended in the following eight preserves or complexes (complexes may contain more than one preserve, but the IDNR considers them a single management unit) for the 2018-19 program: Romeoville Prairie Nature Preserve Area, including the Isle a la Cache Museum; Lockport Prairie Nature Preserve; McKinley Woods Preserve, including Four Rivers Education Center; Hickory Creek Preserve; Raccoon Grove Nature Preserve; Thorn Creek Woods Nature Preserve; Goodenow Grove Nature Preserve, and the Kankakee Geologic Area complex, including Braidwood Dunes and Savanna, Sand Ridge Savanna Preserve, and Kankakee Sands Preserve. The total number of deer proposed for removal during the 2018-19 management season is 179. Targets for individual preserve areas are listed in Table 1 below.

Table 1.

	Current Population Size	Target Population Size	Current Density (Deer per square mile)	2018-19 Removal Target	Estimated Density after 2018-19 Removal Target Completed (Deer per square mile)
Romeoville Prairie Area	34	20	38	14	22
Lockport Prairie Nature Preserve	27	10	55	15	24
McKinley Woods and Four Rivers Environmental Education Center	35	18	43	15	24
Hickory Creek Preserve	93	50	39	35	24
Raccoon Grove Preserve	34	10	68	20	28
Thorn Creek Nature Preserve	56	35	36	15	26
Goodenow Grove Nature Preserve	70	30	50	35	25
The Sands: Sand Ridge Savanna Preserve, Kankakee Sands Preserve, Braidwood Dunes and Savanna Nature Preserve				30	
Total Deer to Remove				179	

*IDNR-requested deer removal

The deer removal goals at some preserves in the recommendations for the 2018-19 management season are not intended to accomplish the desired population density by the end of this season. In these preserves the deer population size and current density is such that establishing the desired population size within the time constraints of a single season and Deer Population Control Permit (DPCP) is not feasible. Additional deer removal in subsequent years will be necessary to achieve site goals and as part of maintaining density levels at various preserves in the future.

It is important to note that the population sizes reported in Table 2 do not reflect any immigration, emigration, mortality or births which may have occurred since the time of the aerial survey, and that the aerial deer counts represent a conservative population estimate based on the presence of deer within the preserve or survey area at the specific time of the flyover. Aerial surveys are generally considered to underestimate the actual population size by 25%. Also, it is very common for deer to exhibit daily movements between Forest Preserve properties and adjacent properties depending on various conditions. Appendix A presents the most recent aerial survey and density calculations for the preserves included in the 2018-19 Deer Management Program.

The winter of 2018-19 will be the eighth year of the Forest Preserve’s deer management program. During the 2017-18 permitted season, staff removed a total of 162 deer. Table 2 below summarizes the cumulative number of deer removed from all preserves to date.

Table 2.

Preserve	2010/11 Number Removed	2011/12 Number Removed	2013/2014 Number Removed	2014/2015 Number Removed	2015/2016 Number Removed	2016/2017 Number Removed	2017/2018 Number Removed	Total Number Removed
Romeoville Prairie Area	0	5	10	0	20	14	8	57
Lockport Prairie Nature Preserve	10	8	5	10	15	10	8	66
McKinley Woods Preserve--Four Rivers Education Center	75	16	63	40	30	25	30	279
Kankakee Sands Geologic Area (Sand Ridge, Kankakee Sands and Braidwood Dunes and Savanna Preserves)	0	21	41	41	45	0	30	178
Lockport Prairie East	0	0	0	0	0	6	0	6
Goodenow Grove Nature Preserve	0	39	30	30	20	20	0	139
Hickory Creek Preserve	0	0	60	60	60	60	35	275
Raccoon Grove Preserve	0	0	17	20	10	12	19	78
Thorn Creek Woods Nature Preserve	0	0	0	0	0	33	19	52
Prairie Bluff Preserve	0	0	0	0	0	20	13	33
Total	85	89	226	201	200	200	162	1163

Required Documentation for the Deer Population Control Permit Application

The IDNR also requires deer browse monitoring during the growing season preceding any proposed culling activities when reviewing permit applications. In July, Forest Preserve staff completed vegetation sampling at each of the areas recommended for culling during the 2018-19 season. This sampling documented ongoing deer browse pressure in support of the permit application to initiate or continue population reduction. The complete browse results will be included in the IDNR Deer Population Control Permit application, and are summarized in Table 3.

Table 3.

	% Browse Native Vines	% Browse Native Trees	% Browse Native shrubs	% Browse Native Forbs	% Browse Plants C-value 0-3	% Browse Plants C-value 4-6	% Browse Plants C-value 7+	Total % Deer Browse
RPN	na	na	76%	72%	93%	95%	71%	85%
LPN	na	na	100%	51%	44%	53%	54%	52%
MWP	60%	71%	63%	72%	78%	55%	71%	71%
HCP	na	69%	56%	62%	63%	65%	55%	63%
RGN	na	50%	75%	64%	67%	57%	69%	64%
TCN	na	82%	75%	61%	80%	66%	50%	74%
GGN	75%	78%	77%	68%	78%	70%	73%	72%

Vegetation sampling demonstrates the impact of deer browse on native plants by use of the coefficient of conservatism value (C-Value). The C-Value is a measure developed by staff at the Morton Arboretum to describe the authenticity of the affiliation of plant species to their respective habitats. The higher the C-Value, the distribution of a plant species becomes increasingly narrow and restrictive to unique and specific habitats, and becomes increasingly intolerant of any disturbances or degradations to the habitat. The lower the C-Value, the distribution of a plant species is broader and can be found in a variety of habitats. Plants species with higher C-Values are native species, are generally rare in their associated habitats, and are not likely to be found outside of those habitats; while species with lower C-Values are generalists, include both native and exotic species, and are typically very tolerant of habitats that are disturbed or degraded.

Site Details

Bait station/shooting locations are based upon conversations with the sharpshooting personnel and are equivalent to the official bait station locations from the previous seasons at Romeoville Prairie Nature Preserve, Lockport Prairie Nature Preserve, McKinley Woods Preserve, Hickory Creek Preserve, and Raccoon Grove Nature Preserve, Thorn Creek Woods Nature Preserve, and Goodenow Grove Nature Preserve. These locations have been approved by the Illinois Department of Natural Resources. Additionally, there will be bait stations at the Kankakee Geologic Area as per the IDNR request to remove 30 deer as part of the Chronic Wasting Disease monitoring process. The bait stations have to be approved by the IDNR as part of the permitting process. Safety, specifically the location and terrain of the stations is the basis of the IDNR approval of a station. Habitat conditions, site access, deer availability and safety considerations were primary factors affecting the selection of station locations. Firing stations will be in both elevated stands and at ground level. The main determinant in the firing

station elevation is natural terrain. Natural terrain was considered at all stations in all preserves to ensure an acceptable backdrop for shooting in a downward trajectory at all times over a distance of 50 yards or less (the same distance required for IDNR sharpshooter certification); and shooting into the preserve, not toward or beyond the preserve's boundary. The following is a brief description of bait/firing stations and existing deer browse pressure at each of the eight areas.

Romeoville Prairie Nature Preserve and Isle a la Cache Area (RPN)

Romeoville Prairie Nature Preserve occupies over 590 acres of the Des Plaines River Valley north of 135th Street on the west side of the river. It is dominated by prairie, sedge meadow, and marsh communities. The preserve has no public access areas and is well buffered from residential and other public spaces. The terrain is very level and the landscape very open.

Isle a la Cache occupies 96 acres on an island in the Des Plaines River south of 135th Street. While the Isle a la Cache Museum and associated amenities are located in the northern half of this area, the southern half of the preserve is flat and largely wooded with a few isolated open areas well suited for sharpshooting.

Up to two (2) bait stations/shooting locations are proposed and staff intends to use elevated stands. The recommended 2018-19 removal target for the Romeoville Nature Preserve Area is 14 deer. Staff may also recommend lowering the target density for this site in future seasons if heavy browse of highly conservative plant species continues to be a problem.

Lockport Prairie Nature Preserve (LPN)

Lockport Prairie Nature Preserve is a 254-acre site located along the west bank of the Des Plaines River east of Route 53 and south of Route 7. The preserve has a relatively flat terrain; it occupies the floor of the river valley which is approximately 40 feet below the west bluff of the Des Plaines River valley along Route 53. Up to three (3) bait stations/shooting stations are proposed and staff intends to use elevated stands.

The recommended 2018-19 removal target for Lockport Prairie Nature Preserve is 15 deer. Staff may also recommend lowering the target density in future seasons for this site if heavy browse of highly conservative plant species continues to be a problem.

McKinley Woods Preserve and Four Rivers Environmental Education Center Area (MWP)

McKinley Woods is a 447-acre site situated on bluffs above the Illinois and Michigan (I&M) Canal and the Des Plaines River., The I&M Canal State Trail is between the river and the canal. The preserve is characterized by steep wooded bluffs and ravines that provide a very safe backdrop for firing stations. Up to four (4) bait stations/shooting stations are proposed in this preserve.

The Four Rivers Environmental Education Center is a 78-acre area located essentially on an island in the Des Plaines River. Except for the narrow strip of land connecting it to the mainland, this area is surrounded on all sides by water providing good isolation for sharpshooting activities. While the

northern half of this site is largely open, the southern half is predominately wooded. One (1) bait station/shooting station may be located in this area; if so, Forest Preserve Police will coordinate with facility staff to avoid any scheduled public programs. The recommended 2018-19 removal target for McKinley Woods and Four Rivers Environmental Education Center area is 15 deer.

Hickory Creek Preserve (HCP)

Hickory Creek Preserve is a 1,541-acre mosaic of natural communities including woodland, wetland, barrens and prairie around numerous public use amenities, all of which is surrounded by private residential properties. The preserve has terrain ranging from flat, to rolling, to steeply sloped areas. Using the large amount of interior space and varying terrain, sharpshooters will take advantage of the natural topography and elevated shooting positions from well buffered locations to limit the potential flight of projectiles. Up to eight (8) bait stations/shooting stations are proposed in this preserve. The recommended removal target for this preserve during the 2018-19 management season is 35.

Raccoon Grove Nature Preserve (RGN)

Raccoon Grove Nature Preserve is a 213-acre, heavily wooded preserve south of Goodenow Road and east of Route 50, with a restored prairie on the south end and a former residential area on the west side that provides more of an open savanna structure. The preserve is characterized by rolling terrain, but often features steep slopes where Rock Creek has down-cut through the morainal deposits. The wooded, rolling terrain and steep slopes associated with the creek provide excellent backdrops for safely conducting sharpshooting activities. Up to four (4) bait stations/shooting stations are proposed in this preserve. The recommended removal target for this preserve is 20 deer.

Thorn Creek Woods Nature Preserve (TCN)

Thorn Creek Woods Nature Preserve is a 996-acre preserve in Park Forest and University Park that is managed by the Forest Preserve District of Will County. It contains upland, bottomland, ravine forested land, glacial potholes, prairie and wetlands. This site is topographically suited to deer management activities and may contain up to five (5) bait stations. The recommended removal target for this preserve during the winter of 2018-19 is 15 deer.

Goodenow Grove Nature Preserve (GGN)

Goodenow Grove Nature Preserve is an 891-acre site located east of I-394 and north of Goodenow Road. The site is characterized by heavily wooded areas along Plum Creek and its tributaries, as well as barrens (shrubby prairies), savannas and grasslands associated with level areas. Goodenow Grove Nature Preserve contains high quality remnants of a diverse mixture of natural communities including dry-mesic and mesic upland forests, mesic and wet-mesic floodplain forests, forested seeps, savanna, dry-mesic and mesic prairies, wet-mesic prairie/sedge meadow, marshes and vernal pools. Up to five (5) bait stations are proposed in this area. The recommended removal target for this preserve during the winter of 2018-19 is 35 deer.

Kankakee Sands Geologic Area Complex (KGA)

Sand Ridge Savanna Preserve is a 543-acre site comprised of both Sand Ridge Savanna Nature Preserve and Sand Ridge Preserve located south of Route 113, approximately one mile west of the Kankakee River. The western half of the site is characterized by a series of forested dune ridges and wetlands between the ridges or agricultural fields; the eastern portion of the site contains open prairie and wetlands. One (1) bait station is proposed for this area.

This preserve contains high quality remnants of dry-mesic sand savanna, wetland, and restored sand prairie of various moisture classes in an ancient dune and swale landscape and is part of a complex at which target deer density numbers might be accomplished quickly with sharpshooting. The entire area of Sand Ridge Savanna has a long history of management and restoration activities focused on maintaining community quality and populations of threatened and endangered plants.

Braidwood Dunes and Savanna is a 314 acre preserve located between Route 113 and Smiley Road, west of Sand Ridge Savanna. The preserve is dominated by sand prairie, sand savanna and wetland communities. This is a unique habitat, and contains various native and conservative species. Four (4) potential bait stations are proposed.

Kankakee Sands Preserve is a 555-acre site located north of Route 113 beginning approximately one-quarter mile west of the Kankakee River continuing westward to about one mile away from the river. This preserve is part of the large scale Kankakee Sands Geologic Area restoration efforts, and is dominated by large active agricultural fields interrupted by tree lines and interspersed pockets of wetlands and woodlands. Staff intends to use a combination of natural elevated shooting positions and tree stands throughout this complex. Up to three (3) bait stations are proposed.

Chronic Wasting Disease Protocol

Chronic Wasting Disease (CWD) is a terminal disease that affects a deer's brain. It may take years to show symptoms and eventually kill a deer, but has shown to be 100% fatal. CWD is communicable through fluids, and may remain viable for years in moist organic soils such as the soils found in most of the areas where deer are being managed. Three instances of CWD have been confirmed in the Kankakee Sands Geologic Area complex (KGA). KGA includes Kankakee Sands Preserve, Sand Ridge Savanna Preserve, and Braidwood Dunes and Savanna properties. Following a positive test, the IDNR recommends removing as many deer as possible from the affected area for five consecutive years to reduce the number of deer that may become vectors for the disease. In addition to the 149 deer targeted as part of the Deer Population Control Permit, the IDNR has requested that 30 deer be removed from the KGA as part of the CWD prevention protocol.

2018-2019 Schedule of Tasks

The schedule of tasks below (Table 4) assumes a 60-day IDNR application review period. Ideally, desired winter conditions would allow sharpshooting activities to begin in early to mid-December, allowing the removal targets to be accomplished in time for aerial population counts to be conducted immediately afterwards. This is the ideal situation for assessing the resulting deer population density and determining the need for additional population management the following winter.

Table 4.

Activity	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Submission of IDNR Permit Application	■										
Train and Certify Volunteers	■	■	■								
Update Deer Management Brochure if needed	■	■	■								
Post Deer Management Program Updates on Web Site	■	■	■								
IDNR Review and Approval of Application and Firing Stations	■	■	■								
Sharpshooter Qualification Testing											
Implementation of Culling Activities				■	■	■	■				
Complete Aerial Deer Population Surveys				■	■	■	■	■	■	■	■
Prepare Annual Summary and Recommendations Report							■	■	■	■	■

Deer management activities will likely be completed by the end of February 2019, but could extend into early March depending on when the 90-day population control permit expires, if an extension is requested and granted, and the actual winter weather conditions experienced.

Summary

The Illinois Department of Natural Resources has issued permits to allow the Forest Preserve District of Will County to remove 179 deer from eight (8) forest preserve areas during the 2018-19 fall-winter season. Removal will be conducted by certified sharpshooters including both Forest Preserve Police Officers and volunteers under the direction of the Forest Preserve Police Department in accordance with approved program guidelines and as authorized by the IDNR.

Attachments

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Appendix A													
Area Counted (square miles)*	2002	2005	2006	2007	2008	2009	2010/2011	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018
Preserve & Unit	2002	2005	2006	2007	2008	2009	2010/2011	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018
Romeoville Prairie Area			0.90		0.90		0.90	0.95	0.90	0.90	0.90	0.90	0.9
Lockport Prairie Nature Preserve			0.56		0.43		0.43	0.43	0.43	0.45	0.49	0.49	0.49
McKinley Woods Preserve				0.84	1.11		1.11	1.11	1.11	0.88	0.88	0.88	0.88
Hickory Creek Preserve			3.25		3.25		3.25	3.25	3.25	2.41	2.41	2.41	2.41
Raccoon Grove Nature Preserve		0.50		0.50	0.50			0.50	0.50	0.50	0.50	0.50	0.5
Thorn Creek Nature Center		4.08		3.52	3.52			2.92	2.92	1.56		1.56	1.56
Goodenow Grove Nature Preserve			2.10		1.50		1.50	1.50	1.50	1.39	1.39	1.39	1.39
Aerial Count													
Preserve & Unit	2002	2005	2006	2007	2008	2009	2010/2011	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018
Romeoville Prairie Area			54		28		27	33	8	47	37	31	34
Lockport Prairie Nature Preserve			29		24		27	14	21	25	21	18	27
McKinley Woods Preserve				180	122		137	123	93	65	65	64	35
Hickory Creek Preserve			155		200		147	248	205	175	132	95	93
Raccoon Grove Nature Preserve		58		52	0			32	59	20	22	29	34
Thorn Creek Nature Center		327		373	99			200	30	73		59	56
Goodenow Grove Nature Preserve			169		110		98	94	76	59	52	38	70
Densities (per square mile)													
Preserve & Unit	2002	2005	2006	2007	2008	2009	2010/2011	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018
Romeoville Prairie Area			60		31		30	35	9	52	41	34	38
Lockport Prairie Nature Preserve			52		56		63	33	49	56	43	37	54
McKinley Woods Preserve				214	110		123	111	84	74	74	73	43
Hickory Creek Preserve			48		62		45	76	63	73	55	39	39
Raccoon Grove Nature Preserve		116		104	0			64	118	40	44	58	68
Thorn Creek Nature Center		80		106	28			68	10	47		39	36
Goodenow Grove Nature Preserve			80		73		65	63	51	42	37	28	50

*-The actual area flown/counted differs from the official preserve size

Appendix B								
2017								
	% Browse Native Vines	% Browse Native Trees	% Browse Native shrubs	% Browse Native Forbes	% Browse Plants C- value 0-3	% Browse Plants C- value 4-6	% Browse Plants C-value 7+	Total % Deer Browse
RPN	na	na	60%	53%	61%	45%	58%	55%
LPN	na	100%	56%	30%	40%	25%	81%	33%
MWP	57%	83%	75%	56%	61%	56%	44%	57%
HCP	100%	88%	60%	60%	66%	58%	71%	63%
RGN	na	69%	65%	46%	54%	46%	63%	51%
TCN	na	na	82%	62%	64%	62%	68%	63%
PBP	78%	85%	48%	54%	52%	66%	100%	54%
2018								
	% Browse Native Vines	% Browse Native Trees	% Browse Native shrubs	% Browse Native Forbes	% Browse Plants C- value 0-3	% Browse Plants C- value 4-6	% Browse Plants C-value 7+	Total % Deer Browse
RPN	na	na	76%	72%	93%	95%	71%	85%
LPN	na	na	100%	51%	44%	53%	54%	52%
MWP	60%	82%	63%	72%	76%	55%	71%	72%
HCP	na	69%	57%	62%	63%	65%	55%	63%
RGN	na	50%	73%	64%	67%	57%	69%	64%
TCN	na	82%	75%	61%	80%	66%	50%	74%
GGN	75%	78%	77%	68%	78%	70%	73%	72%