



Bringing People and Nature Together

Forest Preserve District

OF WILL COUNTY

17540 W. Laraway Road / Joliet, IL 60433
815.727.8700 / fax 815.722.3608
ReconnectWithNature.org

SUZANNE HART, President
ANNETTE PARKER, Vice President
JUDY OGALLA, Secretary
JAMES G. MOUSTIS, Treasurer

2017-2018 Deer Management Recommendations October, 2017

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. Although the overall deer management program was approved, each year Staff provides specific recommendations on the number of deer to be removed from select forest preserves.

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.

2017 – 2018 Fall-Winter Deer Management Recommendations

Preserve Locations and Deer Removal Number

Aerial deer population surveys were completed in winter of 2016-17. Appendix A lists the properties that are proposed for deer management based on that survey data, as well as the estimated deer density and area counted as part of each 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 2017-18 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; Prairie Bluff Preserve, and the Kankakee Geologic Area complex. The total number of deer proposed for removal during the 2017-18 management season is 162 (see Appendix B).

The deer removal goals at some preserves in the recommendations for the 2017-18 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 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 Appendix A 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.

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 2017-18 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 DPCP application, and are summarized in Appendix C.

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 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

The attached maps show the proposed positions of bait/shooting stations within each preserve (Attachment 1). The Bait station/shooting locations are based upon conversations with the sharpshooting personnel and are equivalent to the official bait station locations from the 2016/2017 season at Romeoville Prairie Nature Preserve, Lockport Prairie Nature Preserve, McKinley Woods Preserve, Hickory Creek Preserve, and Raccoon Grove Nature Preserve. The shooting locations at Thorn Creek Woods Nature Preserve, and Prairie Bluff Preserve will need to be approved of by the Illinois Department of Natural Resources. Additionally, there will be bait stations at KGA 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 DesPlaines 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.

The Isle a la Cache occupies 96 acres on an island in the DesPlaines River south of 135th Street. While the Isle a la Cache museum and associated amenities occur 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.

Vegetation sampling from these two preserves documented that 55% of all native plants sampled exhibited some degree of deer browse and 58% of highly conservative plants, those with a coefficient of conservatism value (C-value) of 7 or higher were browsed. Up to three (3) bait station/shooting locations are proposed and staff intends to use elevated stands. The recommended 2017-18 removal target for the Romeoville Nature Preserve Area is 8 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 DesPlaines 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 DesPlaines River valley along Route 53. Up to two (2) bait stations/shooting stations are proposed and staff intends to use elevated stands.

Vegetation sampling from these areas documented that 33% of all native plants and 81% of highly conservative plant species with a C value of seven or higher exhibited deer browse within the plots evaluated. Woody vegetation throughout this preserve is continuing to experience excessive browse pressure. The recommended 2017-18 removal target for Lockport Prairie Nature Preserve is 8 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 three (3) 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 DesPlaines 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.

Vegetation sampling from these areas documented that 57% of all native plants and 44% of highly conservative plant species with a C value of seven or higher exhibited deer browse. Woody vegetation throughout this complex of preserves is continuing to experience excessive browse pressure. Data shows that native shrubs and trees within the plots are being browsed at a rate of 75% and 83% respectively. The recommended 2017-18 removal target for the McKinley Woods and Four Rivers Environmental Education Center area is 30 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 five (5) bait stations/shooting stations are proposed in this preserve.

Vegetation sampling at HCP documented that within the browse plots, 63% of native plants and 71% of highly conservative plants with a C-value of 7 or more currently exhibit some degree of deer browse damage. 58% of moderately conservative plants had deer browse damage. The recommended removal target for this preserve during the 2017-18 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 three (3) bait stations/shooting stations are proposed in this preserve.

Recent vegetation sampling confirms the existing deer population is causing excessive damage to the native vegetation. Overall, 51% of all native plants sampled were browsed. Additionally, very high levels of browse were evident in native shrubs and trees (65% and 69% respectively) and highly conservative species with a C-value of 7 or more are being preferentially selected (63%). The recommended removal target for this preserve is 19 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 three (3) bait stations.

Vegetation sampling documented that 63% of all native plants within the browse plots exhibited some degree of deer browse damage. All types of plants within the plots are experiencing significant levels of deer browse, particularly native shrubs which exhibited a browse rate of 82%. The recommended removal target for this preserve during the winter of 2017-18 is 19 deer.

Prairie Bluff Preserve (PBP)

Prairie Bluff Preserve was created in 2006 to allow restoration and hydrological management activities to promote groundwater recharge to support the ecosystems at Lockport Prairie Nature Preserve, including the seeps that are home to the Hine's Emerald Dragonfly. The preserve is comprised of 680 acres of property that is being restored or will be restored to native dominant species, and is targeted for major restoration activities over the next few years. Additionally, the site is likely supporting animals that are immigrating into the adjacent Lockport Prairie Nature

Preserve, offsetting deer management efforts at that site. Up to two (2) bait stations/shooting stations are proposed in this preserve.

Vegetation sampling documented that 54% of all native plants included in the browse plots exhibited some degree of deer browse damage. All types of plants are experiencing significant levels of deer browse, particularly native trees which exhibited a browse rate of 85%, detracting from restoration efforts. The recommended removal target for this preserve during the winter of 2017-18 is 13 deer.

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 and is communicable through fluids, and may remain viable for years in moist organic soils. Three instances of CWD have been confirmed in the Kankakee Sands Geologic Area complex (KGA) in the last 3 years. KGA includes Kankakee Sands Preserve, Sand Ridge Savanna Preserve, and Braidwood Dunes and Savanna properties (see Attachment 1). 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 132 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.

2017 – 2018 Schedule of Tasks

The attached schedule of tasks (Table 1) 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.

Deer management activities will likely be completed by the end of February 2018, 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 IDNR has issued permits to allow the Forest Preserve District of Will County to remove 162 deer from eight (8) forest preserve areas during the 2017-2018 fall-winter season. Removal will be conducted by certified sharpshooters including both Forest Preserve Police Officers and volunteers under the direction of the Police Department in accordance with approved program guidelines and as authorized by the Illinois Department of Natural Resources.

If you have any questions, please feel free to contact me.

Appendices

Appendix A

Area Counted (square miles)*												
Preserve & Unit	2002	2005	2006	2007	2008	2009	2010/2011	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017
Romeoville Prairie Area			0.90		0.90		0.90	0.95	0.90	0.90	0.90	0.90
Lockport Prairie Nature Preserve			0.56		0.43		0.43	0.43	0.43	0.45	0.49	0.49
McKinley Woods Preserve				0.84	1.11		1.11	1.11	1.11	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
Raccoon Grove Nature Preserve		0.50		0.50	0.50			0.50	0.50	0.50	0.50	0.50
Thorn Creek Nature Center		4.08		3.52	3.52			2.92	2.92	1.56		1.56
Prairie Bluff Preserve							0.98	0.98	0.98	1.06	1.06	1.06
Aerial Count												
Preserve & Unit	2002	2005	2006	2007	2008	2009	2010/2011	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017
Romeoville Prairie Area			54		28		27	33	8	47	37	31
Lockport Prairie Nature Preserve			29		24		27	14	21	25	21	18
McKinley Woods Preserve				180	122		137	123	93	65	65	64
Hickory Creek Preserve			155		200		147	248	205	175	132	95
Raccoon Grove Nature Preserve		58		52	0			32	59	20	22	29
Thorn Creek Nature Center		327		373	99			200	30	73		59
Prairie Bluff Preserve							33	8	19	12	63	43
Densities (per square mile)												
Preserve & Unit	2002	2005	2006	2007	2008	2009	2010/2011	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017
Romeoville Prairie Area			60		31		30	35	9	52	41	34
Lockport Prairie Nature Preserve			52		56		63	33	49	56	43	37
McKinley Woods Preserve				214	110		123	111	84	74	74	73
Hickory Creek Preserve			48		62		45	76	63	73	55	39
Raccoon Grove Nature Preserve		116		104	0			64	118	40	44	58
Thorn Creek Nature Center		80		106	28			68	10	47		39
Prairie Bluff Preserve							34	8	19	11	59	41

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

Appendix B

	Current Population Size	Target Population Size	Current Density (Deer per square mile)	2017-18 Removal Target	Estimated Density after 2017-18 Removal Target Completed (Deer per square mile)
Romeoville Prairie Area	31	23	34	8	26
Lockport Prairie Nature Preserve	18	10	37	8	20
McKinley Woods and Four Rivers Environmental Education Center	64	30	73	30	39
Hickory Creek Preserve	95	60	39	35	25
Raccoon Grove Preserve	29	10	58	19	20
Thorn Creek Nature Preserve	59	40	39	19	26
Prairie Bluff Preserve	43	30	41	13	28
The Sands: Sand Ridge Preserve, Kankakee Sands Preserve, Braidwood Dunes and Savanna Nature Preserve				30*	
Total Deer to Remove				162	

*IDNR Requested deer removal

Appendix C

Combined % Browse All Plants At All Preserves

2016

	% 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	59%	93%	52%	60%	48%	72%	57%
LPN	na	100%	95%	70%	95%	61%	67%	79%
MWP	na	67%	64%	61%	59%	66%	67%	61%
LPE	na	100%	90%	65%	60%	77%	76%	72%
GGN	na	67%	87%	63%	63%	72%	na	67%
HCP	75%	93%	81%	57%	74%	76%	42%	69%
RGN	na	86%	85%	68%	77%	66%	76%	71%
TCN	68%	80%	98%	97%	97%	95%	63%	96%
PBP	na	100%	85%	77%	74%	93%	79%	81%

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%

Tables

Attachments

Sharpshooting Zones

Romeoville Prairie Nature Preserve Area



-  Preserve Boundaries
-  Proposed Bait Stations
-  300ft. Safety Buffer

0 475 950 1,900 Feet



W RENWICK RD

Sharpshooting Zones

Lockport Prairie Nature Preserve



Sharpshooting Zones

McKinley Woods Preserve



CE

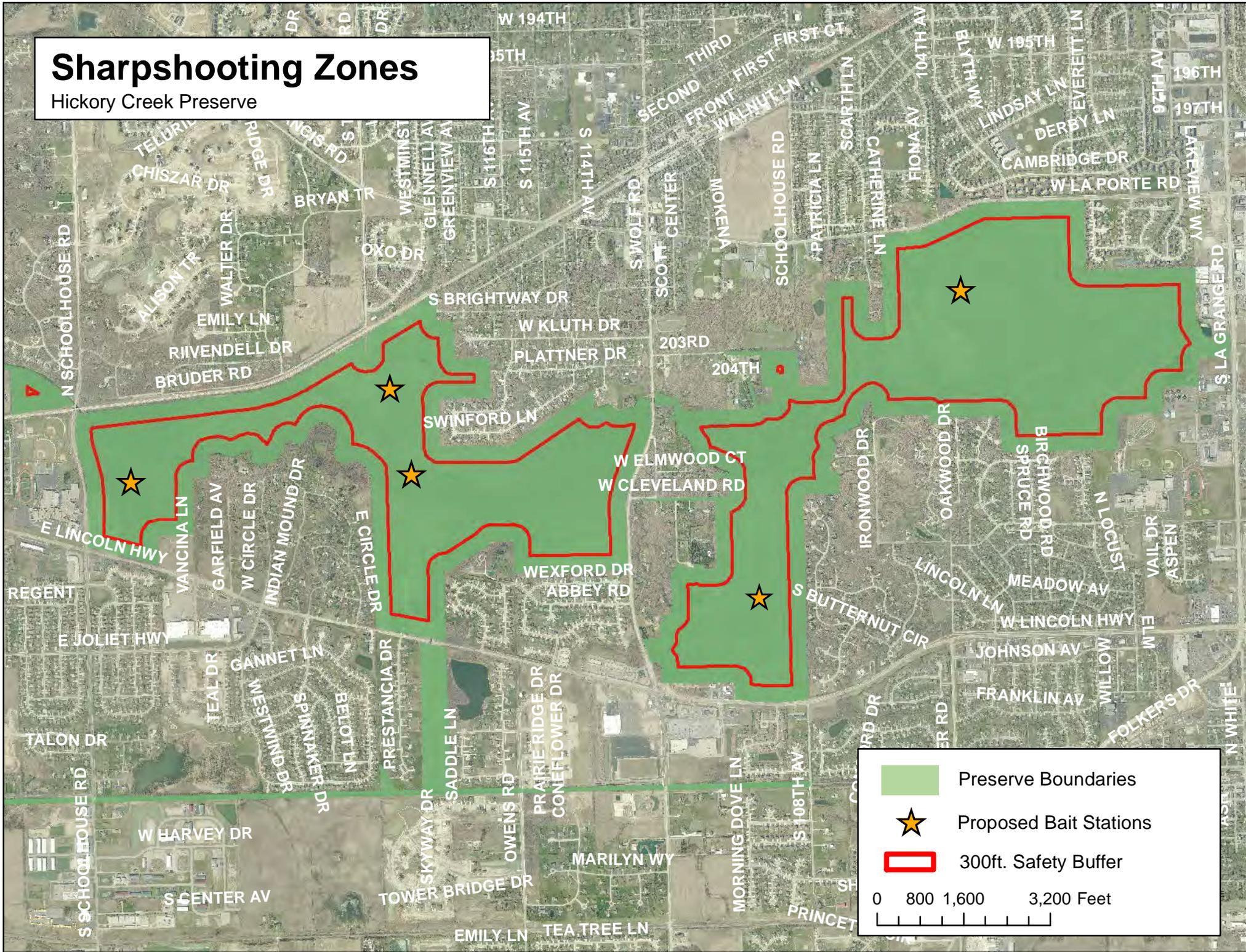
E

- Preserve Boundaries
- Proposed Bait Stations
- 300ft. Safety Buffer

0 625 1,250 2,500 Feet

Sharpshooting Zones

Hickory Creek Preserve



Preserve Boundaries

Proposed Bait Stations

300ft. Safety Buffer

0 800 1,600 3,200 Feet



Sharpshooting Zones

Raccoon Grove Nature Preserve



W PAULING RD

W OAKBROOK RD

W TIMBERLANE RD

W TIMBERLANE RD

S TIMBERLANE RD

S EGYPTIAN TR

SRT 50

Preserve Boundaries

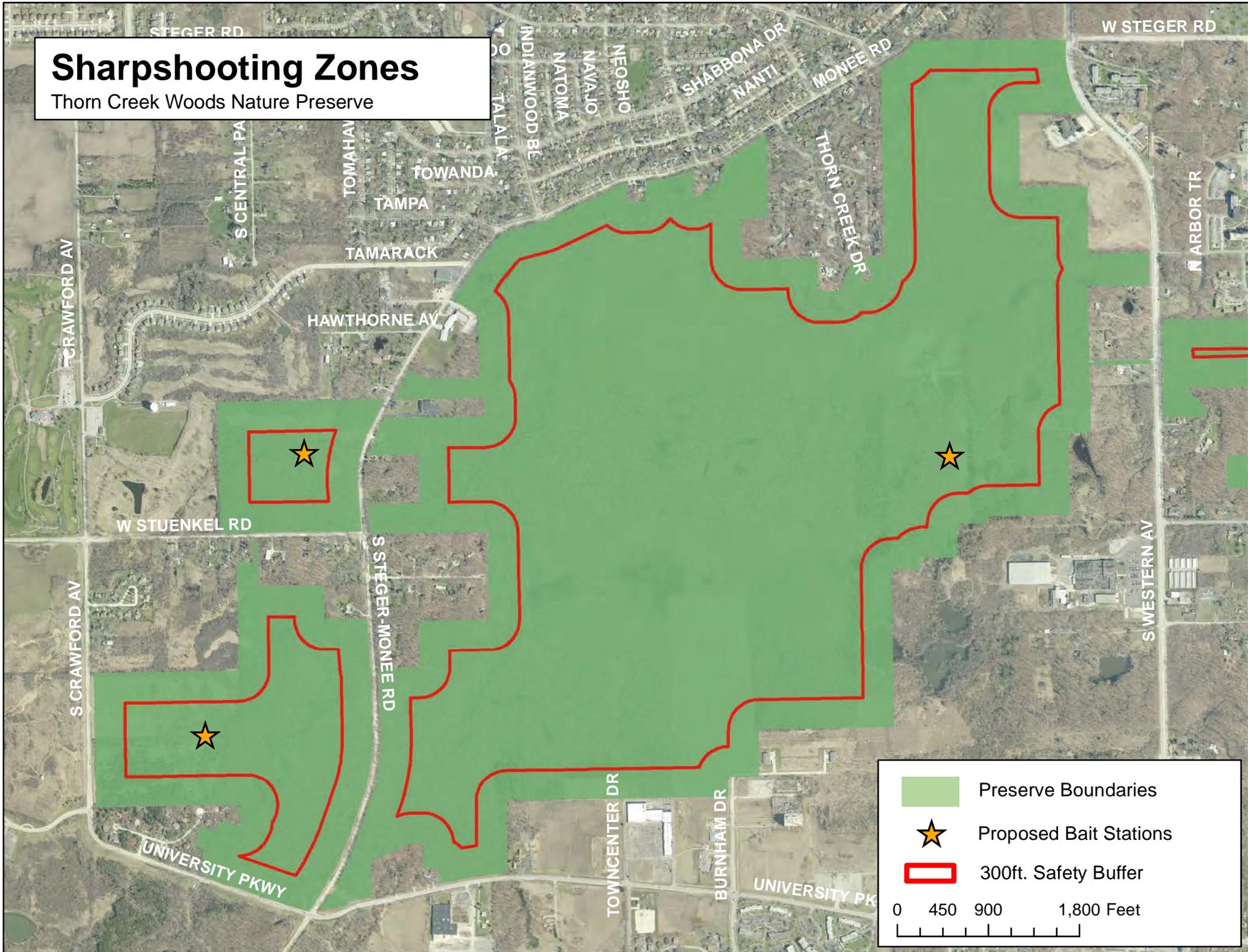
Proposed Bait Stations

300ft. Safety Buffer

0 260 520 1,040 Feet

Sharpshooting Zones

Thorn Creek Woods Nature Preserve



Sharpshooting Zones

Prairie Bluff Preserve



Legend:

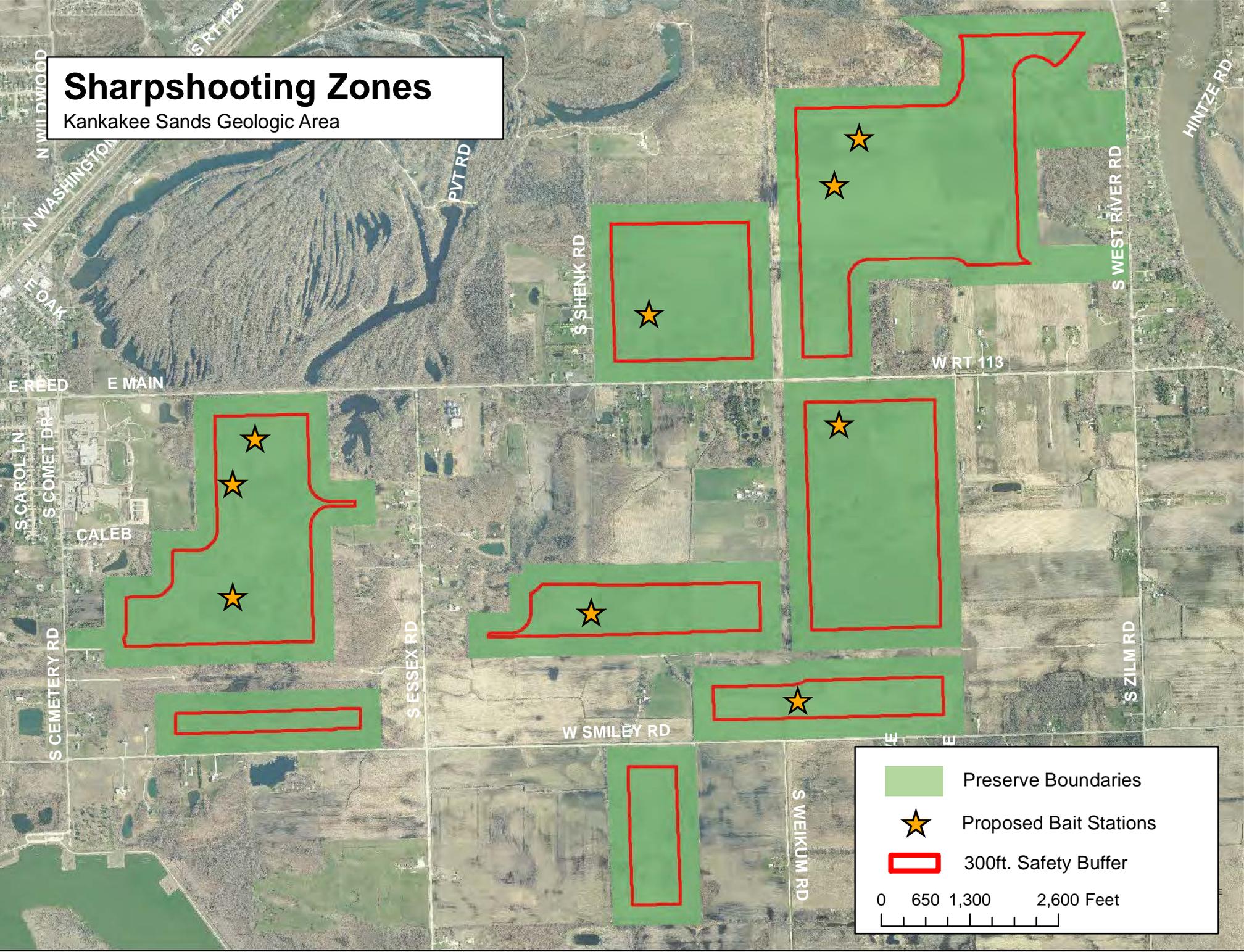
-  Preserve Boundaries
-  Proposed Bait Stations
-  300ft. Safety Buffer

0 465 930 1,860 Feet



Sharpshooting Zones

Kankakee Sands Geologic Area



- Preserve Boundaries
- Proposed Bait Stations
- 300ft. Safety Buffer

0 650 1,300 2,600 Feet