

FOREST PRESERVE DISTRICT OF WILL COUNTY
DEER MANAGEMENT PROGRAM
August 24, 2010
Final Draft

Introduction

The goal of the Forest Preserve District of Will County's (District) deer management program 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.

Toward this end, the District proposes to utilize sharpshooting to achieve an initial target density of between 20 and 30 deer per square mile.

Public safety is the top priority as the District develops and implements deer management. To ensure a safe sharpshooting program, the risk management guidelines set forth by PDRMA will guide programmatic parameters. In addition, through public meetings and over the public comment period, the District has received a significant amount of public input concerning aspects of deer culling programs (culling references all methods that have been considered to date to decrease deer numbers). This operational plan attempts to address the identified issues and concerns regarding program design for sharpshooting as well as public safety.

Once approved, the Operational Plan will become part of the District's overall deer assessment as outlined in the report, *Population Management Program for White Tailed Deer* (dated February 22, 2010).

Deer Management Program Guidelines

The following parameters are being established to ensure that the District's deer management program moves toward a sustainable relationship between deer populations, biological diversity and habitat structure.

1. Removal of female deer (Does) is the most effective means of reducing and maintaining deer population size. Therefore, the sharpshooters will target females only.
2. In the program's inaugural year, the District will target preserves with the highest deer densities and/or preserves with populations of threatened or endangered plant species which are highly vulnerable to excessive deer browse and that are undergoing active restoration and management.

Targeted Preserves

As presented in the District's report *Population Management Program for White Tailed Deer*, Staff completed a suitability analysis to determine which preserves would be most suitable for a deer management program. For sharpshooting, all existing forest preserves were evaluated based on six

criteria; ownership, compatible use, annexation status, acreage, suitable adjacent land use buffer and deer density, defined as follows.

Ownership: Potential management sites must be fully or partially owned by the District. Some preserves have small portions that are leased or managed which will require additional agreements with owners or restrictions on deer management

Annexation Status: Although most Will County municipalities have restrictions on the discharge of fire arms by the public within their jurisdictions, they do allow removal of deer associated with a nuisance wildlife program. Preserves entirely within a municipality will need to be managed through a District-administered sharpshooting program. Preserves with a majority of acreage within a municipality or where un-annexed portions are not easily accessible will be included in the culling program as well.

Size: Properties greater than 30 acres are included in this category

Configuration: Properties require a minimum 100 yard interior property boundary to protect adjacent property owners from being impacted by deer management activities and to provide a visual screen to adjacent owners or roadways.

Deer Density & Impacts – Properties where deer impacts have been observed and recorded or deer density exceeds the District’s established target of 10-20 deer per square mile based on aerial census data. (Note this is the ideal sustainable target density, not the initial target density of 20-30 deer per square mile established in this plan).

Active Management – Properties that the District is actively engaged in management or restoration of natural resources included wetland, prairie, savanna and woodland management or restoration sites.

Using these criteria, sixteen (16) preserves or portions of preserves were found to be suitable for a sharpshooting program. Any preserve which did not meet all six criteria was considered ineligible for sharpshooting. It is important to note that as more information becomes available or the status of preserve management, ownership or resource management goals change, the criteria and/or the list of potentially eligible sites may change. Preserves suitable for a sharpshooting program are:

1. Braidwood Dunes Nature Preserve
2. Goodenow Grove Nature Preserve
3. Hickory Creek Preserve
4. Isle a la Cache Preserve (part)
5. Kankakee Sands Preserve
6. Keepataw Preserve
7. McKinley Woods
8. Messenger Marsh
9. Messenger Woods Nature Preserve
10. Plum Valley Preserve
11. Plum Valley Ravines
12. Raccoon Grove Nature Preserve
13. Romeoville Prairie Nature Preserve (part)

- 14. Sand Ridge Savanna Nature Preserve
- 15. Thorn Creek Woods Nature Preserve (part)
- 16. Thorn Grove Preserve (part)

Based on the current level of staff and budget resources, it is expected that sharpshooting can be effectively employed at up to five preserves. From the pool of 16 suitable sites, Staff selected five preserves for deer population reduction in the fall/winter of 2010-2011: Goodenow Grove Nature Preserve/Plum Valley Preserve; Sandridge Savanna Nature Preserve/Kankakee Sands Preserve; McKinley Woods Preserve; Lockport Prairie Nature Preserve; and Messenger Woods Nature Preserve/Messenger Marsh Preserve. Table 1 describes why a given preserve was selected and the number of deer proposed for removal to achieve the target density. The total number of deer targeted for removal ranges from 332-406.

Table 1. Forest Preserves Selected for Deer Culling Through Sharpshooting

Preserve	Justification	Average Population Counts*	Target Number of Deer to be Removed**
Goodenow Grove/Plum Valley	Very high deer density, documented impacts to rare natural plant communities and vulnerable plant populations	421	109 – 137
Sandridge Savanna/Kankakee Sands	High deer density, documented impacts to rare natural plant communities and vulnerable plant populations	87	32 – 50
McKinley Woods	Very high deer densities and threat to natural community restoration activities	131	113 – 114
Lockport Prairie	High deer density and documented impacts to rare natural plant communities and vulnerable plant populations	94	17 – 22
Messenger Woods/Messenger Marsh	High deer density and documented impacts to rare natural plant communities, vulnerable plant populations and natural community restoration activities	138	61 – 83
TOTAL:			332 – 406

*Average of last 3 aerial surveys (actual counts, not density), taken from *Draft Population Management Program for White-Tailed Deer, February 22, 2010*.

** Range reflects number of deer to be culled to reach 20 – 30 deer/square mile.

Proposed Sharpshooting Program

A sharpshooting program involves the systematic culling of deer by skilled marksmen who are highly trained professionals or other individuals who satisfy the marksmen standards as certified through the Illinois Department of Natural Resources (IDNR). Because of the long season (90 days) allowed under the IDNR permit, sharpshooting is an effective management strategy to achieve deer management program goals and targets. Several local Forest Preserve and Conservation Districts effectively manage white-tailed deer populations using sharpshooting including Cook, DuPage, Lake, McHenry, JoDaviess, Piatt and Winnebago Counties.

The District's sharpshooting program would utilize District Police personnel as sharpshooters, field dressers and transportation for the carcasses to a meat processing facility. Utilizing qualified and approved volunteers at various stages in this process will lower the overall removal cost per deer.

Sharpshooting Program Goals

The District's goal is to decrease the deer population in the preserves by only removing female deer (Does) to achieve the target of 20-30 deer per square mile. The program would use District Police Officers, who are skilled in shooting, or qualifying volunteers to decrease the deer population.

1. Safety is the primary priority of the sharpshooting program. The highest standards of safety are demanded from all participants and staff involved in the program. Safety will not be compromised.
2. Only deer populations determined to be overabundant and on sites that are being actively managed or that harbor protected (state or federal listed) are in the scope of the program. Overabundant populations are determined through regular population surveys and assessment of browse impacts to a site's vegetation community.
3. The activities of the sharpshooting program will be tailored to prevent significant changes to the District-established pattern of public use on its sites. Sites suitable for accommodating sharpshooting activities are identified through a preserve suitability analysis which examines factors such as size and configuration, restrictions of local firearm discharge ordinances, and ownership status.

Terminology

Deer Population Control Permit (DPCP) – DPCPs are issued by IDNR to agencies, organizations, associations and municipalities, not to individual landowners. These permits authorize the reduction or control of deer numbers by non-traditional or non-hunting methods.

Sharpshooter – a person skilled in shooting especially with a rifle. A rating below expert and above marksman, assigned to one who has qualified with a specific score in rifle marksmanship. A person who has achieved such a rating.

Sharpshooting – High proficiency in shooting firearms.

United States Department of Agriculture (USDA) – the department of the U.S. federal government that institutes and administers all federal programs dealing with agriculture.

Weapon – DPCPs will not authorize the use of archery equipment, handguns, muzzle-loading rifles, etc. Only modern rifles or shotguns will be permitted for sharpshooting programs. Illinois DPCPs are not issued for experimental techniques (e.g. sterilization or immunocontraception) or for the live-capture and translocation of deer.

Deer Sharpshooting Season

To implement a sharpshooting program, the District must apply for a Deer Population Control Permit (DPCP) from IDNR. The IDNR regulates white-tailed deer populations by non-traditional methods (those other than hunting) through the issuance of DPCP's to agencies, organizations, associations and municipalities, not to individual landowners. DPCP permits are issued separately from annual individual hunting season permits.

The application process for DPCPs requires submission of a deer management proposal documenting the need for deer herd reduction by nontraditional means such as sharpshooting. Reasons for requesting DPCPs generally fall into one or more of the following categories: excessive deer damage to native plant communities and ecosystem restoration projects, excessive numbers of deer-vehicle accidents on area roadways or active taxiways/runways, or numerous deer damage complaints from residents. The District's deer research as presented in the District's report *Population Management Program for White Tailed Deer* (February 22, 2010), clearly demonstrates excessive damage to native plant communities and excessive numbers of deer-vehicle accidents. As part of the application process, the District must develop a deer management proposal documenting the need for deer culling by nontraditional means such as sharpshooting.

If approved, DPCPs are issued for a maximum of 90 days and time extensions are possible. There is no limit on the number of deer that can be taken, but the number proposed to be collected must be justified and documented. DPCPs will not authorize the use of archery equipment, handguns, muzzle-loading rifles, etc. Only modern rifles or shotguns will be permitted for sharpshooting programs. DPCPs are not issued for experimental techniques (e.g. sterilization or immunocontraception) or for the live-capture and translocation of deer.

All District sharpshooter candidates must be tested and seasonally-approved by IDNR prior to program implementation. There is no limit on the number of sharpshooters, but all sharpshooters must be Illinois residents and must also have a valid Illinois Firearms Owner's Identification (FOID) card. The District can elect to take deer at bait stations via sharpshooters. To insure public safety, all proposed shooting or bait sites must be viewed and approved by IDNR prior to their use.

Techniques authorized under DPCPs require that the resulting deer carcasses are suitable for human consumption. The permittee is required to have all usable deer carcasses processed at a State or Federally-licensed meat processing facility and to donate the processed venison to a bonafide charitable organization. Unusable deer carcasses must be disposed of in accordance with the Illinois Dead Animal Disposal Act. Since deer collected under DPCPs must be used for human consumption, the District's permit season would take place during the cooler late fall and winter months (November to March).

The District must return all unused tags along with a deer removal summary within 30 days after permit expiration. The removal summary must list the tag number, location, sex, age and physical condition of each animal collected; the total amount of processed venison donated; and the names of the charities receiving the donated meat. The District is responsible for all costs associated with the deer control program.

Sharpshooting Program Coordination and Administration

Sharpshooting would be coordinated by Natural Resource Management and Law Enforcement. Public Affairs' involvement would be essential in the notification process for adjacent landowners as well as preparing general information (brochures, fact sheets, postcards) about deer management activities. The following list is a preliminary identification of tasks that will serve as a framework for developing a sharpshooting program. The tasks assist in visualizing the program coordination that occurs at the staff level.

Task Identification

- Develop Informational Fact Sheets on Culling Program
- Develop Deer Management Brochure
- Print Deer Management Brochure
- Post Deer Management Program on Web Site
- Determine Scope of 2010 Culling Program
- Develop Notification Letter/Postcard for Culling Activities
- Print Postcards
- Mail Postcards
- Schedule Test and Administer Sharpshooter Qualification Test
- Develop Volunteer Job Description, Support Documents, Waivers for Volunteer Sharpshooters
- Schedule and Administer Sharpshooting Days
- Coordinate Processing of Venison and Deliver
- Prepare Program Report, Analysis and Recommendations for 2011

Sharpshooting Program Cost Analysis

Following are the preliminary costs for executing the sharpshooting program. The costs are broken down into various categories, including but not limited to personnel, ammunition, training, meat processing and transportation. Staff proposes to utilize sharpshooting teams consisting of three individuals. The analysis includes three scenarios that look at the program cost per deer when utilizing three officers/no volunteers, two officers/one volunteer and one officer/two volunteers.

Although the sharpshooting season under a DPCP is for 90 days, District staff estimates having only 65 working days to avoid paying overtime (and reduce the budgetary impact):

- 90 day permit/ 7 days a week =12.85 weeks
- 12.85 x 5 working days = 65 working days during the 90 day permit.

Below are the minimum and maximum deer needed to be removed to meet the initial target of 20-30 deer per square mile. For all calculations below, Staff used the mean number of deer.

Minimum = 332	Maximum = 406	Mean = 370
4.69 deer per night	6.24 deer per night	5.69 deer per night

Staff contacted processors and was able to secure a very reasonable price quote per deer based on the volume estimate of 370 deer. The District may be able to offset processing costs with donations and sponsorships given that the venison must be donated to a charity.

Scenario 1: Staffing the Program with District Police (3)

- Staff: Three Patrol Officers per night to obtain the goal of 5-6 deer per night.
- Between \$19.59/hr and \$22.59/hr* = Average of \$21.09/hr
 - *for Patrol Officer or Master Patrol Officer, excludes Sergeants
 - Replacement on regular shifts with Part Time Police Officers = \$19.59/hr

	No. of Officers	Permit Period	Shift	Hourly Rate	Total
Sharpshooter	3	65	8	\$21.09	\$32,900.40
Replacement	3	65	8	\$19.59	\$30,560.40
Total Personnel Costs =					\$63,460.80

Ammunition: .223 rounds, \$366/case (1,000 rounds per case) x 2 cases needed
= \$732 for ammunition

Training: Costs for training Officers as sharpshooters.

- 8 hour training course x 3 officers (\$21.09/hr)
- 3 Patrol Officers = \$506.16
- 2 Patrol Officers = \$337.44
- 1 Master Patrol Officer = \$180.72

Meat Processing: Freedom Sausage Company, Earlville, IL - \$31.00/deer
Mean of 370 deer x \$31/deer = \$11,470 for processing meat

Transporting Meat: 120 miles round trip at \$.50/mile = \$60/trip
3 hours for trip at \$19.59/hr = \$58.77
For a total of \$118.77 per trip

Approximately 65 trips needed = \$7,720.05 for transporting meat by Officers
= \$60/trip x 65 trips (mileage only)
= \$3,900 for transporting meat by volunteers

Cost summary:

Personnel	\$63,460.80
Ammunition	\$732.00
Training	\$506.16
Meat Processing	\$11,470.00
Transportation	\$7,720.05
	\$83,889.01

Total for Scenario 1: \$83,889.01 / 370 = \$226.73 or \$227 per deer

Scenario 2: Staffing the program with two Patrol Officers and one Volunteer

Staff:

	No of Officers	Permit Period	Shift	Hourly Rate	Total
Sharpshooter	2	65	8	\$21.09	\$21,933.60
Replacement	2	65	8	\$19.59	\$20,373.60
Total Personnel Costs =					\$42,307.20

Cost Summary:

Personnel	\$42,307.20
Ammunition	\$732.00
Training	\$337.44
Meat Processing	\$11,470.00
Transportation	\$3,900.00
	\$58,746.64

Total for Scenario 2: \$58,746.64 / 370 = \$158.77 or \$159 per deer

Scenario 3: Staffing the program with one Master Patrol Officer and two Volunteers

Staff:

	No of Officers	Permit Period	Shift	Hourly Rate	Total
Sharpshooter	1	65	8	\$22.59	\$11,746.80
Replacement	1	65	8	\$19.59	\$10,186.80
Total Personnel Costs =					\$21,933.60

Cost Summary:

Personnel	\$21,933.60
Ammunition	\$732.00
Training	\$180.72
Meat Processing	\$11,470.00
Transportation	\$3,900.00
	\$38,216.32

Total for Scenario 3: $\$38,216.32 / 370 = \103.29 or \$103 per deer

The District's estimated operational costs for a sharpshooting program compare favorably with other sharpshooting programs that staff has been able to document. Urban deer control programs conducted in New Jersey cost between \$200 and \$350 per deer removed. A town in Connecticut contracted a sharpshooter who removed 80 deer in 4 nights at an estimated cost to the community of \$646 per deer removed. Sharpshooting programs in Maryland have averaged \$200 - \$450 per deer removed (New England Chapter of the Wildlife Society 2008). Costs associated with DuPage County Forest Preserve District's deer management under the DPCP program have ranged from \$219 to \$282 per deer removed, including the costs for sharpshooter wages, staff time, equipment, animal processing services, and aerial helicopter surveys completed as part of the population monitoring activities.

The variability in cost is largely due to the scale or complexity of the program and differences in regional costs among professional sharpshooters. The cost difference is due in large part to the District's proposed use of staff and volunteers versus contracted professional sharpshooters.

Volunteer Assistance

Volunteers can be utilized in different aspects of the sharpshooting program. They can participate as sharpshooters, assist with field dressing and transporting the carcass to the meat processing facility.

Volunteer job descriptions will be created for the duties of sharpshooter, field dresser and/or transporter. Applicants applying for the volunteer sharpshooter must sign a waiver of liability and agree to allow District police to complete a criminal background investigation as part of the application process. Due to the increased liability, applicants with prior Law Enforcement or military experience will be given preference. Background investigations will consist of verification of possession of a valid FOID (Firearms Owners Identification) card and completion of a criminal history query (CQH). Before issuing a FOID card, the Illinois State Police determines that individuals do not have any felony convictions or weapons violations on their record and also examine the individual's mental health history. District police also complete a CQH looking for similar record occurrences since an individual's FOID card was issued. Any applicant found to have a felony conviction, weapons violation, or history of mental health should not possess a FOID card and will be denied the volunteer position. Volunteers approved for the positions of sharpshooting and field dresser will be required to complete a training course. Volunteer sharpshooters must be tested and approved by IDNR prior to deer program implementation.

Deer Population and Habitat Monitoring

The District's deer management program goal is to allow for a sustainable relationship between deer numbers and biological diversity and habitat structure. The target deer density of 20 deer per square mile is the best general scientific information that references the maximum number that an area can support without changes to the composition and structure of the vegetation from excessive browsing.

Once the deer management program has been in effect for a few years, the target deer density per square mile is expected to change as a result of the District's ongoing monitoring program that will 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.

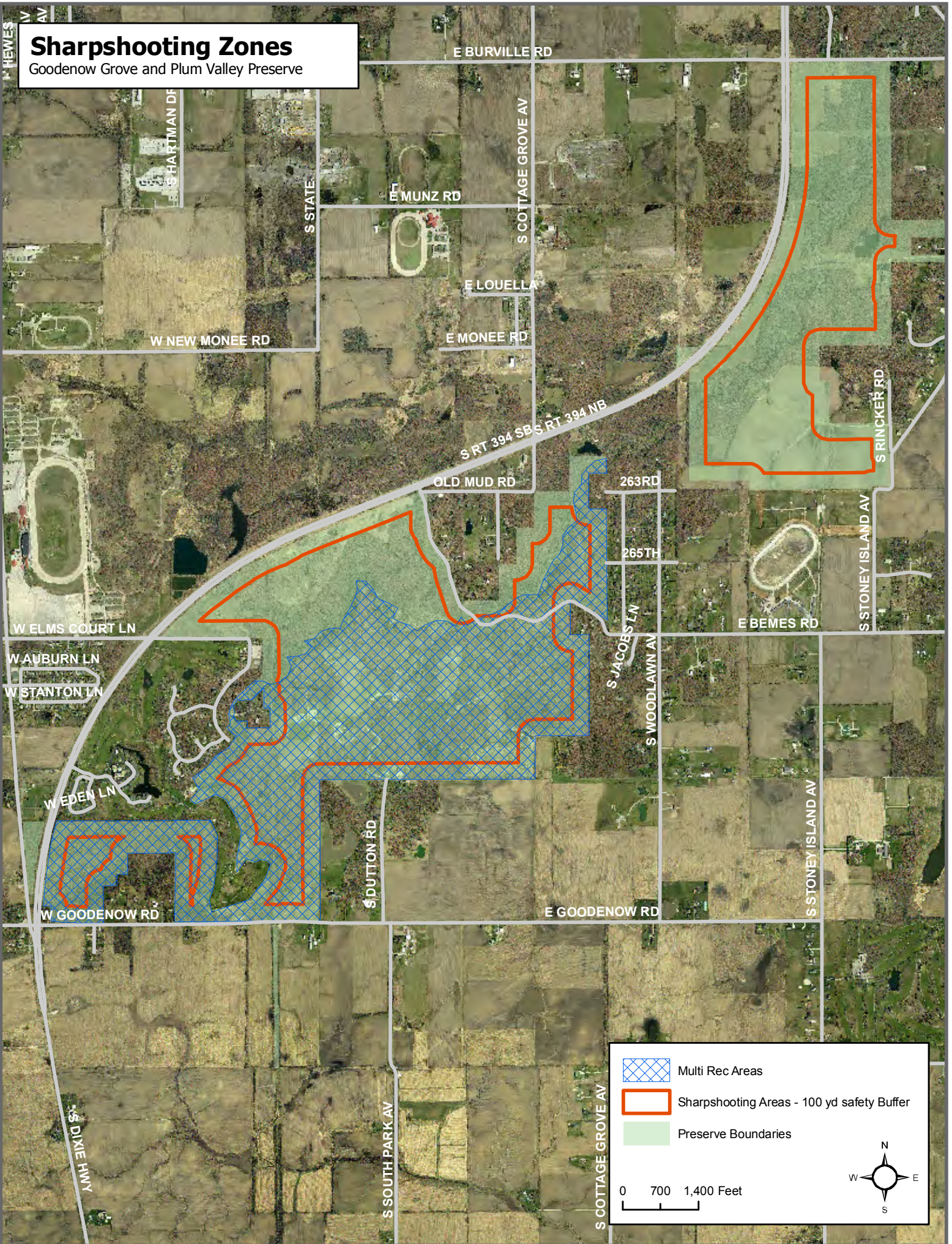
The types of monitoring the District will employ could include one or more of the following methods.

- Regular aerial surveying to track deer population levels and densities.
- Estimating deer populations by sampling deer pellets along transects.
- Floristic assessments based on vegetation sampling at a frequency of five to ten years to monitor a site for general trends, significant shifts in species diversity and other parameters at the community level.
- Annual or biennial sampling of small or confined populations of threatened or endangered plant species as appropriate.
- Sampling of deer exclosures and paired reference plots. Effective deer management should decrease the differences in browsing impacts between exclosures and reference plots to the point that there are little to no meaningful differences between them, suggesting the entire area should be capable of recovering at the same rate and to the same extent observed within exclosures.




Staff will also consider program effectiveness measured against operational expense. Staff would expect to make the necessary programmatic changes to the deer management program to maintain cost effectiveness and ensure long-term sustainability.

Sharpshooting Zones

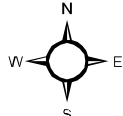
Goodenow Grove and Plum Valley Preserve



Legend:

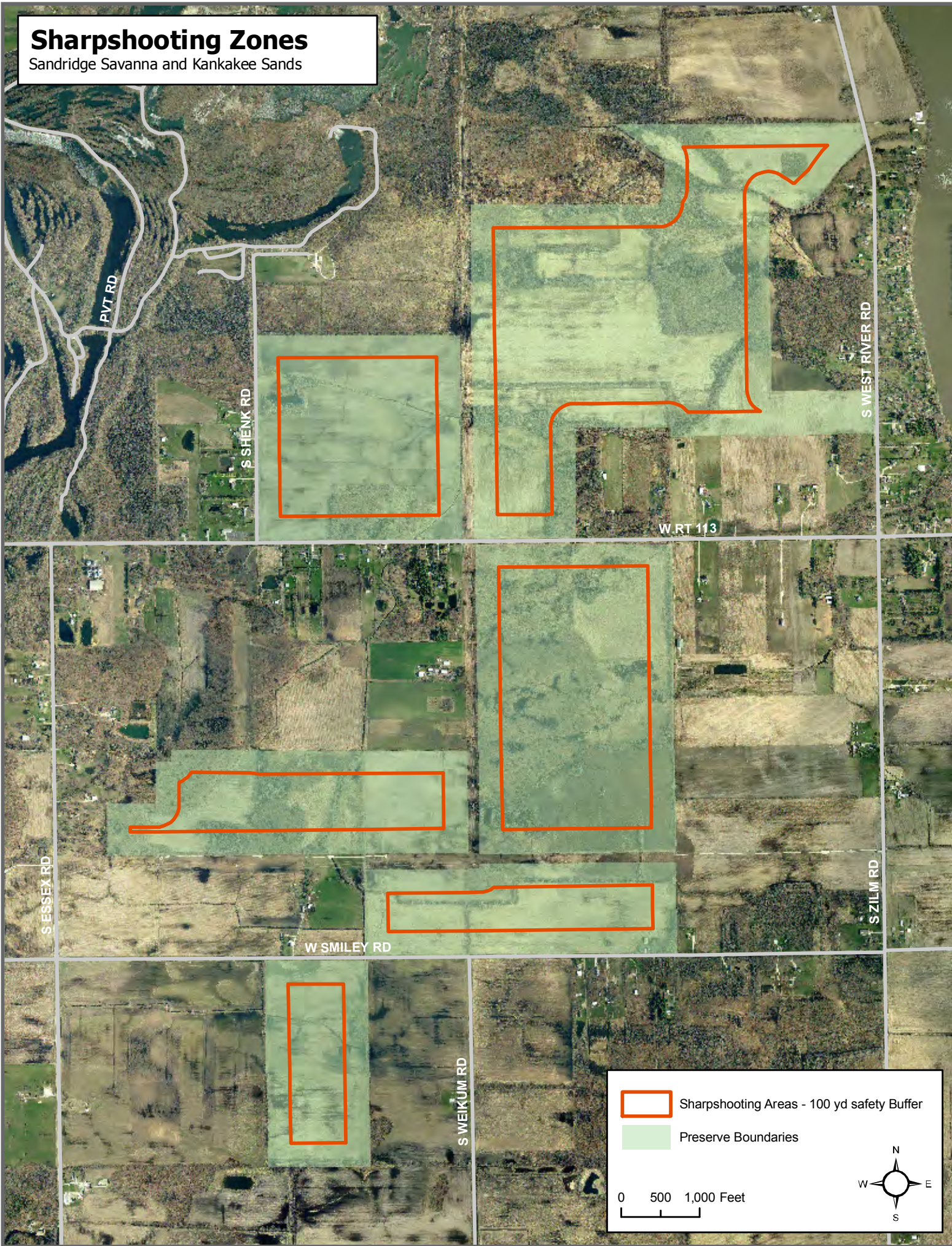
-  Multi Rec Areas
-  Sharpshooting Areas - 100 yd safety Buffer
-  Preserve Boundaries

Scale: 0 700 1,400 Feet



Sharpshooting Zones

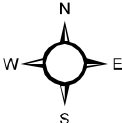
Sandridge Savanna and Kankakee Sands



Sharpshooting Areas - 100 yd safety Buffer

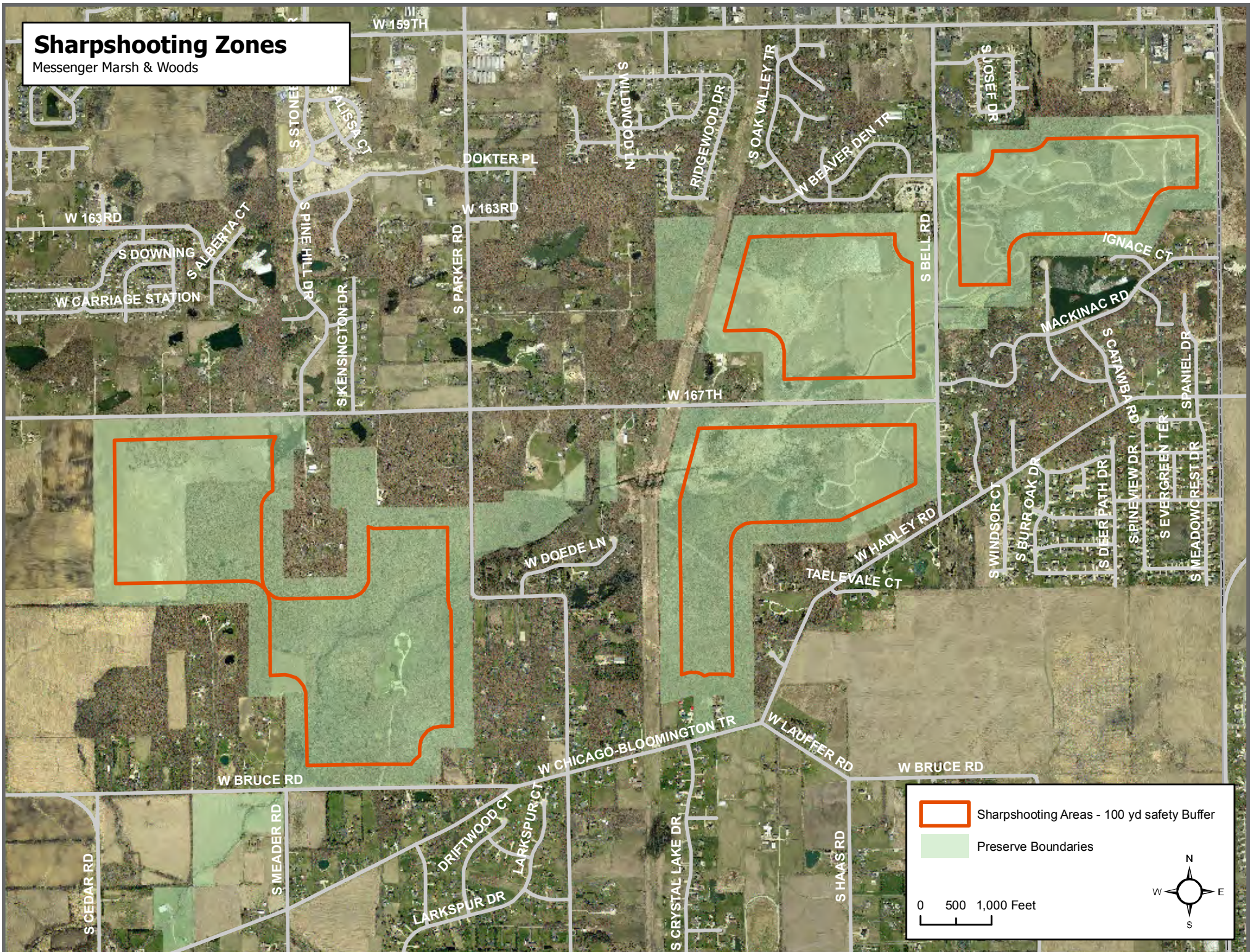
Preserve Boundaries


0 500 1,000 Feet




Sharpshooting Zones

Messenger Marsh & Woods



 Sharpshooting Areas - 100 yd safety Buffer

 Preserve Boundaries

0 500 1,000 Feet

