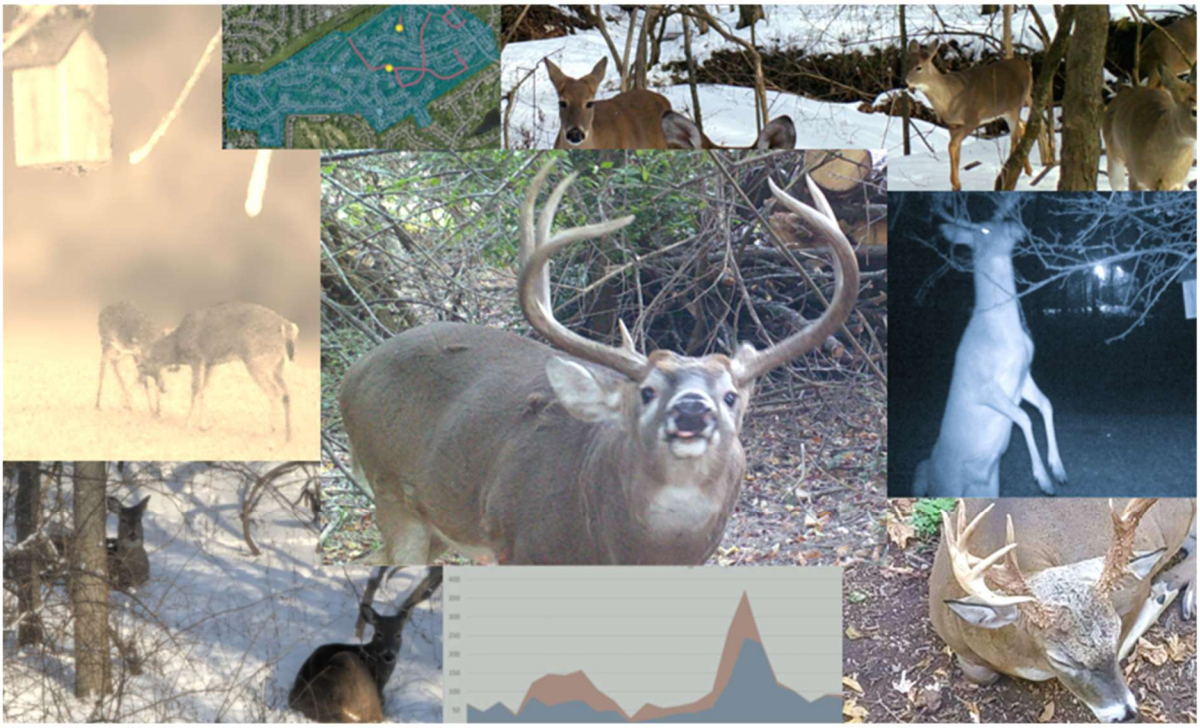


2024/25 Deer Assessment Survey

PREPARED FOR MEADOWBROOK FARM / CLARKSON ESTATES

Darcy Capstick & John Thompson, Study Managers | April 24, 2025

Table of Contents

Introduction

For the purpose of this report, a **sighting** is defined to mean a person or camera capturing the presence of one or more deer. A statistical **observation** is the collection of data that describe a sighting (defined by this study as the date/time, location, number of deer by type, activity, and optional observer's comments). Each observation is held in a line of data in a spreadsheet, which is also called a data **record**. While technically different, the terms sighting, observation and record will be used loosely and interchangeably henceforth.

Deer types were categorized as buck, doe, fawn, or unidentified. Typically, a **buck**, or male deer, is identified as a deer having antlers, which can be anywhere from small nubs to full racks. **Fawns** are not classified by sex, but are identified by their small size and the dappled white spots on their flanks. If a deer has no antlers and no dappling, it is typically identified as a **doe**, or female. On occasion, sightings may not be clear enough to tell whether trait markers exist or not, in which case the deer is classified as **unidentified**. It should be noted that these common definitions were not shared with study participants (an error, in hindsight), and individual judgment probably impacted classification data, as discussed below.

In the analysis below, the reporting sources are divided into continuous and non-continuous classifications. **Continuous** sources are those using security cameras and trail cameras that capture information 24/7. All other sources are **non-continuous** because gaps occur naturally due to participant work and social schedules and (presumably) overnight sleep. The analysis which follows considers data variability due to possible differences between continuous and non-continuous sources.

I. Purpose

Because of deer issues brought to the Board of Trustees of Meadowbrook Farm/Claymont Estates (MF/CE), and the removal of three dead deer from the subdivision in 2024, a deer assessment survey was approved by the Board. As the result of observing deer from 10/20/24 – 2/1/25 in the subdivision of MF/CE, we provide the summary of our findings. Our summary's purpose is to assess how many deer we have in relationship to the common ground acreage. Many suggestions are made as to how to do this. Our state of Missouri has 1.4 million deer (Internet Sources). To support one deer throughout the year, sources suggest, it takes approximately 25.6 acres of natural habitat. Other sources suggest .03 - .05 deer per acre which equates to 20 – 33 acres per deer. One deer needs 25 acres of native woods or 5 acres of open/regrowth acreage to survive. Town & Country wants < 30 deer per square mile (West Newsmagazine 12/18/24) which is about 21 deer/acre. It is noteworthy to indicate that the cities of Chesterfield (47 deer taken in '24 – '25), Town & Country, and Wildwood (300 in '23 – '24 have been taken, '24 – '25 ~355 deer will be taken – West Newsmagazine 10/2/24), and the neighboring subdivision with whom we share common ground, Claymont Woods (with a culled deer total included in the Chesterfield total of 47 deer this winter season) have been and will continue to provide for proper culling of deer impacting our subdivision and deer population. The Missouri Department of Conservation (MDOC) has also commented during our assessment period about the declining numbers of deer this hunting season as hunters have expressed their disappointment.

II. Background

To help our residents learn more about what deer like to eat, or not, will be a part of this deer assessment report. Homeowner participants were recruited via flyers delivered to all Meadowbrook Farm homeowners. In addition, follow-up emails were sent to all homeowners on the subdivision's email list. Interested residents were asked to fill out a recruitment survey, which was completed by 23 respondents. A 24th participant joined the study late, and only reported data for the last four weeks of the collection period.

It is important to know that while the Internet, as a source, provides deer-resistant plants to use in your yards, when deer are hungry as they are with invasive bush honeysuckle "taking over the wilds" everywhere, they will eat what they can get: bird feeder seed, immature plants native or not, white pine, invasive bush honeysuckle, forsythia, roses, cups plants, day lilies, hostas, etc. (see IV. Conclusions/Recommendations). Further, without our native pollinators, native florae cannot reproduce, make seed, and replant the forests, plains, hills and valleys. To bolster native ecology should be part of a plan to help the common ground and even our own yard spaces.

It is important for all of us to realize that all in nature is connected, and to have healthy ecosystems where varied species thrive is what helps us to thrive as well. All pollinators, birds, mammals, reptiles, amphibians, and so on, are vital parts of that whole.

However, when native ecology changes as ours has especially with invasive bush honeysuckle, an invasive species from Korea, and climate factors, deer begin to eat this honeysuckle which is not nourishing for them. Chronic wasting disease is still a factor for deer in Missouri, as are other serious diseases, e.g., Bovine TB, Epizootic Hemorrhagic Disease, Screwworms, and other parasites, brain abscesses, Brucellosis, Lyme Disease, Adenovirus Hemorrhagic diseases. And, it is against the law to feed deer in Chesterfield. Eliminating invasive bush honeysuckle from the common ground areas, which MF/CE is doing, is helpful for all of ecology, including deer. Replacing non-native invasive bush honeysuckle with recommended native florae is beneficial for the future (see IV. Conclusions/Recommendations).

Deer culling in Chesterfield in the 2024-5 bow hunting season saw the culling of 47 deer. Wildwood has used White Buffalo, Inc., for at least 2 years in 2023 and 2024 and has culled several hundreds of deer. The Claymont Woods subdivision next to us which shares our common ground had a nominal culled deer count which was included in the Chesterfield count. Town & Country will be using White Buffalo, Inc., this next deer hunting season. White Buffalo, Inc., is a leading expert in population control of white-tailed deer in highly sensitive areas such as suburban communities and its parks. These actions impact our city and our subdivision.

III. Method

We have prepared summary maps and graphs of our subdivision to show numbers of deer, their sexes, time flow and directions traveled which suggest deer pathways. No open acreage was monitored. The common ground acreage that was observed was wooded or semi-wooded.

We thank the residents of our subdivision: Jim Stoeppler, Janie and Rob Timme, Lindsey Blum, Shannon Dean, James Frick, Steve Orlich, Mary Ann Marjamaa, and the helpful comments and photos of John Dye, Joe Ackerman, Elizabeth Caspari, Matt Feldmeier, Carol Fine, David Paul, Bruce Young, Kathleen Brawley, Whitney Hatfield, Sharon Haseltine, Austin Peppin, John Darby, Paul Jaycox, Ed Hall, Lynne Dauve, and David Spurlock, who have taken part in this endeavor which will help to suggest to us what we have deer-wise as well as what we may need to do in order to improve quality nature overall and on common grounds, and to protect our properties. If we have overlooked any participants, please accept our thanks and know your contributions were appreciated. We give an extra thank you to those of you who took photos. We give a special thanks to Mary Ann Marjamaa who shared many photos and was a diligent observer.

Data were collected for the 15-week period of October 20th, 2024, to February 1, 2025. Participants were asked to report the following key information for each sighting:

- Date and time
- Location (street address, latitude/longitude, or GPS coordinates)
- Number of deer, classified as bucks, does, fawns, and/or unknown
- Nature of activity (eating in common ground, eating in yard, resting or traveling); if traveling, what direction

Three methods of recording a sighting were provided: by narrative email, by preformatted spreadsheet, or by using the iNaturalist online app. Respondents were asked to submit reports on a weekly basis via email; if no deer sightings were made in the week, they were instructed to still submit an email indicating as much. Reminder emails were sent to encourage response.

Common ground trail cameras were configured to take photographs, not videos. All trail cam photos were processed solely by the two Study Managers. All photos were periodically offloaded and reviewed. Pictures showing deer were then documented and recorded in a central spreadsheet formatted like the participants' spreadsheets.

The 23 recruited participants' addresses were mapped to determine geographic representation. On this basis, five trail cameras were positioned within the subdivisions' wooded common grounds so as to augment participant reporting and maximize coverage. (For respondent and trail camera locations, see Map 1 in appendices.)

The following comments from those who participated are of interest:

- *A buck sleeps under my porch*
- *Deer cross between Silverwood and Thistlebriar Court*
- *Four deer were here on 11/8/24 on Baycrown Court*
- *Photos of a doe and a fawn and five deer were provided off Thistlebriar Court*

- *Saw two bucks on 11/6 at 0900 on common ground behind Parasol Drive*
- *The Common Ground is a deer highway off Country Ridge Drive*
- *On 11/6/24 a 6-point buck was pursuing a doe at Baycrown Court*
- *Lots of activity with 6 – 7 deer 1/20/25 at Long Castle Forest Court*
- *Eleven deer on 1/24 on Thistlebriar*
- *Four does on Country Field Drive*
- *Nine does crossed my yard on Baxter Road on 1/17/25*

Camera locations:

- #1, facing SE, 2043 Winterhaven Court [precise location, 38.62566° N, 90.56520° W]
- #2, facing N, 15419 Country Ridge Drive [38.62795° N, 90.56073° W]
- #3, facing SW, 15308 Country Ridge Drive (lost battery power 1/26 – 2/1/25) [38.62734° N, 90.55798° W]
- #4, facing W, 2023 Long Gate Drive [38.63089° N, 90.55509° W]
- #5, facing E, 15230 Kempwood Drive [38.62763° N, 90.55129° W]

Observations recorded on iNaturalist included latitude and longitude data and photographs. We did receive photos of turkeys, sparrows, raccoons, and squirrels. Some people and an unleashed dog were photographed by trail cameras as well.

All data were merged into a standard format in a single Excel workbook. For data downloaded from iNaturalist, this required review and manual entry of the columns for reporting "deer by type" and "activity." All data were reviewed and cleaned by the Study Managers. Dates and times were standardized (and where necessary cleaned) to satisfy Excel's date/time format. All locations were standardized to latitude/longitude. Where date/time and location were not fully provided, Study Managers used their discretion in cleaning or excluding a record. Also, one iNaturalist observation deemed just outside the subdivision's boundaries was excluded. And as a summative comment, there were 68 deer observations reported on iNaturalist from our assessment in our time period. There were 122 deer sightings from St. Louis County made on iNaturalist during our observation period.

Data on deer activity proved difficult to clean; ultimately it was decided not to reject sightings/observations where activity was un- or incompletely reported. In retrospect, the quality of these data is weakened by several factors:

- Categorizing activities may be too problematic – the effort to simplify reporting to simple yes/no responses does not conform well with actual behavior;
- Activities chosen were ambiguous – for example, is a deer walking in an apparently random area looking for food 'eating' or 'traveling', and how do you assign a direction? Is a deer 'standing' or 'resting'?
- Non-reporting – whether from oversight or difficulty caused by the previous issues, some sightings/observations included no report of activity.

Any future studies should reconsider how data on deer activity is collected.

Eight of the data sources were identified as "continuous;" these were the five study trail cameras positioned in wooded common grounds with one respondent whose reports came from a personal trail camera in their backyard and a second respondent with 2 security cameras. These sources were non-stop, thorough coverage throughout the 15 weeks, with the following logistical exceptions:

- Trail Camera #1 – initially misconfigured; not functioning until week 3
- Trail Camera #3 – batteries died on 1/26/2025; not functioning for the last six days of the study
- Trail Camera #4 – initially misconfigured; not functioning until week 3
- Participant Trail Camera – "malfunction" reported; not functioning 12/15/2024 – 12/22/2025
- Resident with Two Security Cameras – only provided sightings from 1/10/2025 – 2/1/2025.

The participant with the backyard trail camera proved to be an experienced observer who gave detailed commentary with their reports. The quantity and quality and completeness of their data justified including it with the observations making up the "continuous" category.

After data cleaning and review and in the end, 1,886 usable sightings/observations were obtained; these constitute the data on which the analysis following was conducted.

IV. Conclusions/Recommendations

The following sources can help provide information to families about what plants to grow which will either encourage, or not, deer to eat what we plant in our yards. Anyone can phone them or use their websites. Also, deer "repellant" sprays can be purchased to prevent deer from eating yard plants. However, when native ecology changes as ours has especially with invasive bush honeysuckle (an invasive species from Korea) and climate factors, deer begin to eat this honeysuckle which is not nourishing for them. Chronic wasting disease is still a factor for deer in Missouri, as are other serious diseases as mentioned. We also note the changes in the appearance of deer scat through the winter months of the assessment period; it had more woody fibers in it. A snow/ice mix impacted this assessment during the week of 1/5 – 11/2025. During this study, two does were observed with hind legs injured and another with a lower neck growth near the front legs.

RESOURCES, WEBSITES AND CONTACT INFORMATION

1. St. Louis Chapter of Wild Ones which has a speaker's bureau. Sue Leahy has provided Outreach to Chesterfield at phone: 314-803-1215. Website: https://stlwildones.org.
2. Missouri Prairie Foundation phone: 636-808-7007. Website: https://moprairie.org. Grow Native is a part of Missouri Prairie Foundation. Website: https://grownative.org.
3. Missouri Wildflowers Nursery phone: 573-496-3492. Email: mowldflrs@socket.net. They have native florae seed mixes. Website: https://mowildflowers.net.
4. Missouri Department of Conservation phone; St. Louis Regional Office: 636-441-4554. Email: stlouis@mdc.mo.gov.
5. West Newsmagazine, April 23, 2025, p. 30, "Local experts weigh in on what it takes to repel West County deer." Website: https://www.westnewsmagazine.com – look for e-edition.

As far as what scholarly reviews tell us of white-tailed deer, there are approximately 3 does to every 1 buck and one has to know the age structure of the herd, including fawns. And, there are continual deaths, injuries, diseases, and accidents including car accidents which impact the numbers of deer, as well as new births. Further, since groups/herds of white-tailed deer are continually on the move for feeding purposes, one can only guesstimate what the total numbers are of deer, as well as their relationship to common ground which includes forested acres vs. miles and open fields in acres vs. miles. There are no estimates for suburban acreages.

We here have observed there are at least 4 bucks to 6 does, a total of 11 animals at any one time. As previously noted, professionals suggest about 25 acres/deer. Deer are continually on the move for the best food sources and can and do travel up to 6 miles a day. Males and females live separately for the majority of the year; male and female herds have 3 -5 animals. Female herds are stable; male herds change on a regular basis. These herds break up during the mating season. Fawns are born in the Spring.

MF/CE has 275 acres in total. About 68 acres (25%) of those acres is large-area common ground, and the rest (207 acres or 75%), is made up of streets, residential property, and small bits of common ground, e.g., circles at the end of cul-de-sacs. The 68 large-area "common ground acres"

is comprised of 56 acres of woodlands (82%) and 12 acres (18%) of grassy open fields and small parks.

Hunting professionals tell us that 1 deer can be sustained in 10-acre fields, although 25 acres per deer is desirable. With 1 deer per 12 – 15 acres of fields means deer will have adequate forage for good health.

Our non-continuous volunteer "eyes" counted 840 animals: 119 bucks, 453 does, 175 fawns, and 93 unknown. Our continuous cameras 'saw' 1, 892 animals: 674 bucks, 947 does, 5 fawns, and 266 unknown.

The first consideration was whether "casual" observation or "convenient" sightings caught deer at a representative level throughout the day, that is, whether continuous and non-continuous sources were capturing sightings in a similar hourly pattern. Graphs 1 and 2 (see appendices) show the number of observations by hour of day, broken out between continuous and non-continuous sources. The general shape of the two lines is reasonably similar, with peak sightings in the dawn and dusk hours when the deer are expected to be most active. When drawing conclusions about the quantity and locations of deer, it seems reasonable to aggregate the continuous and non-continuous records without distinction.

The pattern of deer types was also compared between the continuous and non-continuous sources. Here, noticeable differences were found. This suggests that non-continuous sources may not have categorized the same way as continuous, and that any conclusions should be made with consideration of this factor. (See Graphs 3 and 4.)

The Study Managers used all data to help them guesstimate the ratio of bucks to does which includes unknowns and fawns. We considered:

1. The multiple photos of the same animals taken on the same day within minutes of each other from continuous and non-continuous observations,
2. The surrounding common ground areas and electrical right-of-way which give our subdivision deer entry and exit paths, and
3. The surrounding common ground areas and electrical right-of-way which serve as entrances and exit paths for the subdivisions' deer.

The foregoing was considered in the guesstimates of deer in MF/CE. Applying the forementioned ratio of 3 does, unknowns and fawns to every 1 buck (see above, this section), we estimate the total number of deer in the subdivision on a typical day to be 16, with 4 bucks and 12 does/unknowns/fawns. We further estimate that the actual, correct number could range from 5.5 to 19.5. For details, see Graph 5.

As noted previously, deer maintain a "base range" area that is typically about 65 acres; this is the area they require for their maintenance. Given the porous nature of our subdivision boundaries and deer's general disregard of human distinctions in land ownership, it is reasonable to assume that animal who include MF/CE land in their base range also include land outside the subdivision. Map 2 (see appendices) demonstrates this concept. Our experience leads us to estimate that – on average – MF/CE-traversing deer rely on the subdivision for about 25% of their base range requirement (i.e., about 16 MF/CE acres per animal).

From all these estimates of deer and population and acreage needs, we conclude that there is sufficient acreage in Meadowbrook Farm / Clarkson Estates' common ground to provide adequate resources for the current deer population. (For more details, please see Graphs 6 and 7 in the appendices.) Efforts to optimize relations between the human and deer populations should center on Land Management decisions – both by the HOA and homeowners – that encourage foraging in common ground (by the deer, not the humans ☺).

Activities are not equally shared throughout MF/CE's area. Two high-activity, high-congregating areas were identified. These areas also appear to be thoroughfares to neighboring common grounds and subdivisions. Homeowners around these areas likely experience higher density of deer, and may find it especially valuable to pursue our homeowner recommendations below. (The locations of these thoroughfares and high-activity areas are shown on Map 3 in the appendices.)

Therefore, we recommend to the MF/CE Board the following points:

RECOMMENDATIONS TO BOARD

1. Manage common grounds
    a. Plantings
    b. Invasive Bush Honeysuckle eradications
2. Educate homeowners
    a. For resources
    b. Subdivision actions
    c. Fence rules
3. Monitor deer through future studies
    a. For herd changes
    b. Diseases
    c. Malnutrition
4. Inform residents about hunting in our area

And, we recommend for Homeowners, the following:

RECOMMENDATIONS TO HOMEOWNERS

1. Expect deer to eat your yard plantings.
2. Educate yourself on plants that deer won't eat as well as those they will.
3. Develop deterrents with neighbors to dissuade deer from eating your yard plants.
4. Train deer with your yard deterrents so they learn what not to eat in your yard; consider proper fencing for special plantings by contacting the Trustees for fencing rules of the subdivision.

Appendices

OBSERVATIONS SHARED BY "CONTINUOUS" OBSERVER

The following report was provided by Mary Anne Marjamaa. Ms. Marjamaa is an experienced amateur nature observer who remained highly engaged throughout the study:

Observations of the Common Ground near 2063 Country Field Dr. Meadowbrook Farm.

Part of the Meadowbrook Farm Common Ground complex joins my property. There are no fences on my property so the wild life comes and goes without restriction. I have seen deer, coyote, fox, raccoon, opossum, skunk, and turkey and owls, hawks and eagles using this patch of common ground as a cut through or fly over.

Part of the common ground runs along Golden Rain, and a small access point is located on Baycrown and all the wildlife use all these points of access to enter the common ground. Additionally, there is a creek. It is really a culvert that allows rain to run off the street to the larger creek at the lower end of Country Field Dr. There is always some water in the creek at all times of the year. The creek attracts mammals, birds and other wildlife.

It is not uncommon to see small groups deer (up to 10) relaxing or grazing in the common ground but it is seasonal and mostly in the fall and winter.

While not common, Does have deposited their fawns in my yard - usually in the shade of the plum tree or near my small retaining wall. I try not to ever disturb the deer, but they don't seem to be bothered by me, and mostly ignore me if I am a safe distance away.

There is a medium sized American Plum tree. This is not a commercial tree, but a native. It produces thousands of small inch + sized fruit. The fruit ripens after the first frost and this is a source of food for many throughout the fall and winter months. This tree is a haven for the nesting birds all year but the deer especially eat the fruit after it ripens. All the wildlife eat the wild plums. But there are many sources of the food in the common ground including elderberry, hackberry, black walnut, hickory, and oaks. There are persimmon trees on the other side of the creek. It is understandable why the animals are attracted to this patch of common ground.

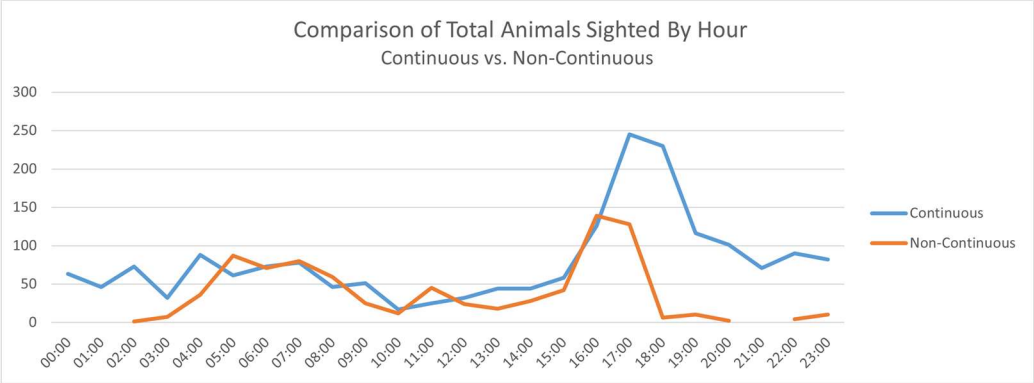
There are well worn animal tracts coming off Golden Rain and Baycrown. If you walk back there you can see the ruts. Additionally, the deer groups will often be on both sides of the creek at the same time. Obviously they can go around the creek which is easier, but I have seen them in the creek too. They also travel down both sides of the runoff creek to the larger creek near Country Field and Baxter. But the deer are opportunists and will walk down my driveway or side yard to get to the common ground off of Country Field Court. Cars often have to slow down when the deer cross Country Field, and there is never just one deer, usually a group of 3 or 4.

I have walked on both sides of our runoff creek and there is deer signs everywhere. They have plenty of great space in our common ground woods and the big field on Baxter. I have seen deer in the woods between the big field and our creek. The common ground is their world.

I have given up planting anything that deer like because they will eat it. I have limited my bird feeding because they like sunflower seeds and have no qualms about bashing my bird feeder until the seed is on the ground where they can eat it.

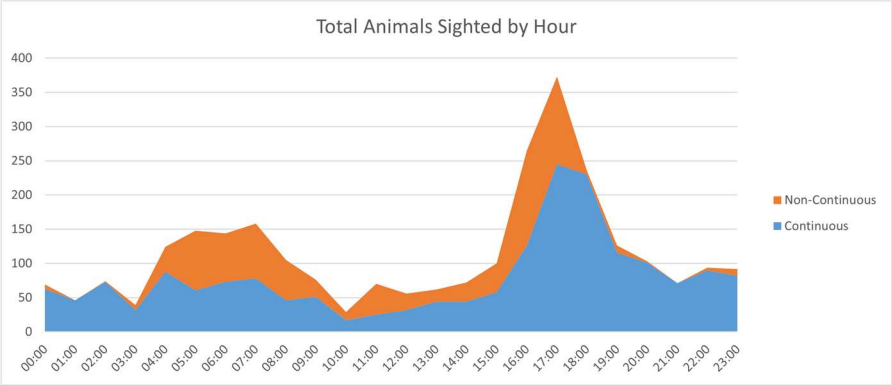
GRAPHS

The following graphs support the conclusions in the written report.



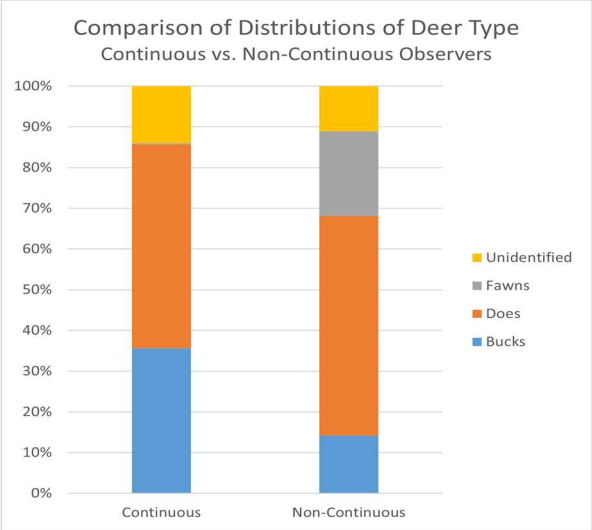
Graph 1. Hourly Deer Sightings, Continuous vs. Non-Continuous

Note that the general pattern of high and low observation counts is similar. This suggests that it is reasonable to combine both sources when evaluating periods of high deer activity/visibility.



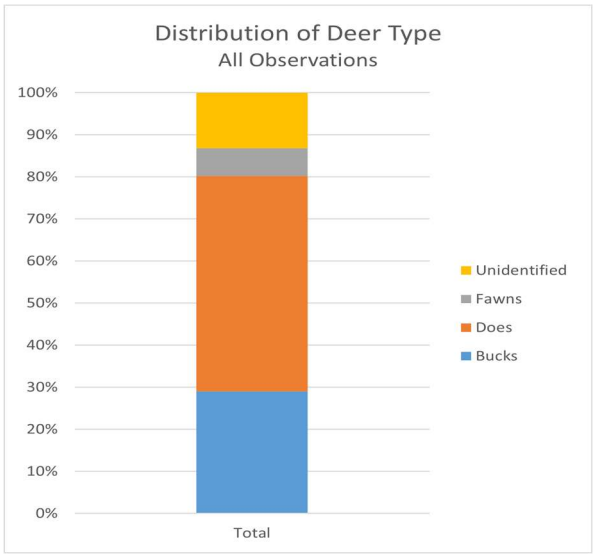
Graph 2. Animals Sighted by Hour

The "dawn and dusk" high activity periods reflected here are consistent with known deer behavior patterns.



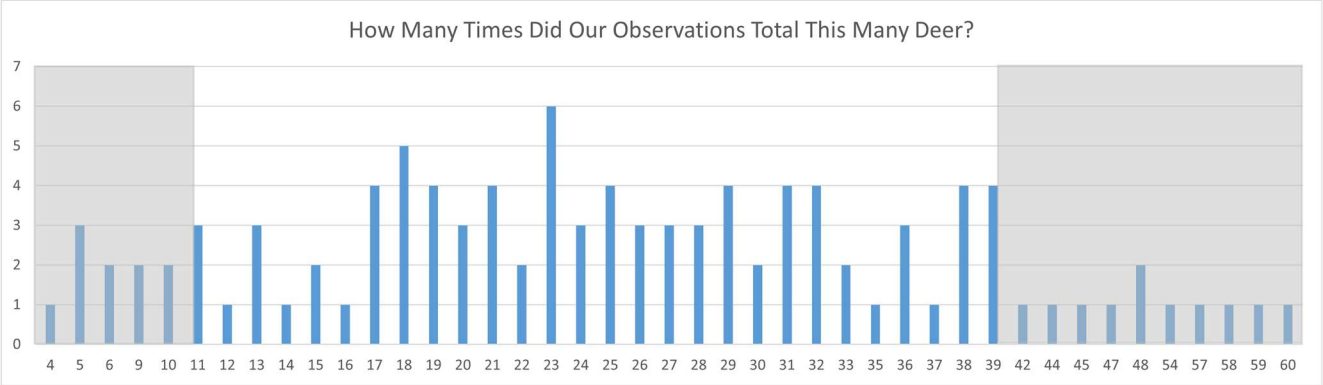
Graph 3. Deer Type Distribution by Observer Category

All Continuous observations were classified by participants with experience sighting and identifying species in nature; Non-Continuous observers have unknown expertise and were given limited guidance in deer identification.



Graph 4. Overall Distribution of Deer by Type

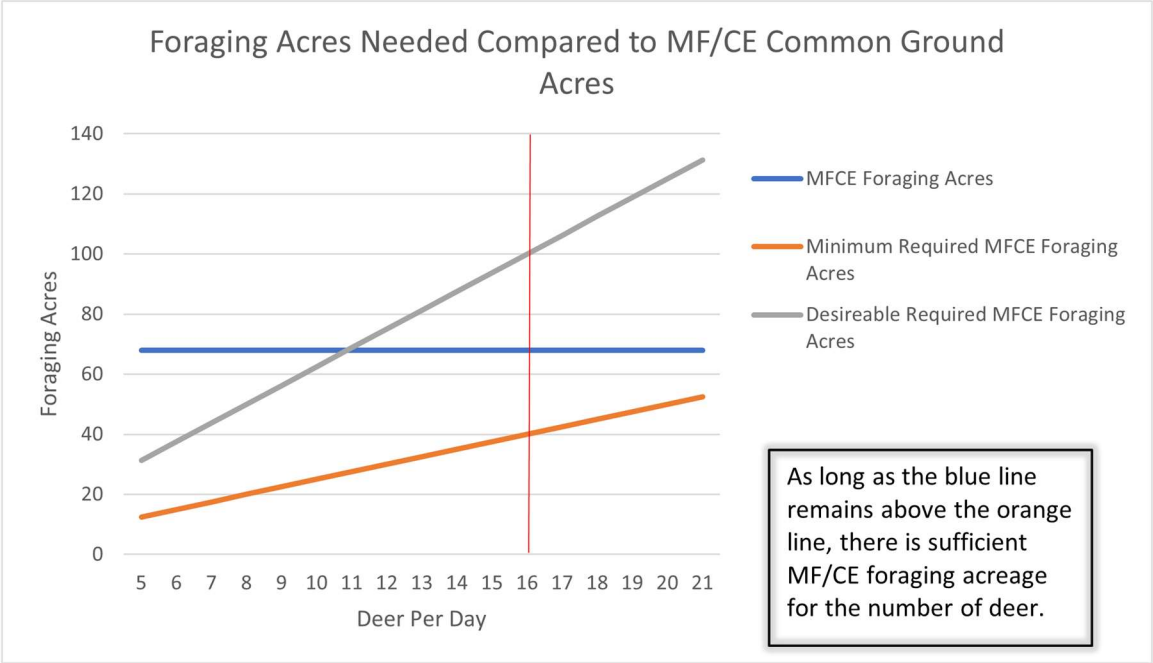
Ignoring the consideration that bucks are unusually active during the time of year covered by the study (and hence more likely to be recorded in observations), this graph suggests that about 28% of MF/CE deer are bucks; this results in a ratio of 1 buck for every 2.6 non-bucks, consistent with the typical 1-to-3 ratio which we choose to adopt.



Graph 5. Distribution of Deer Observation Count Per Day

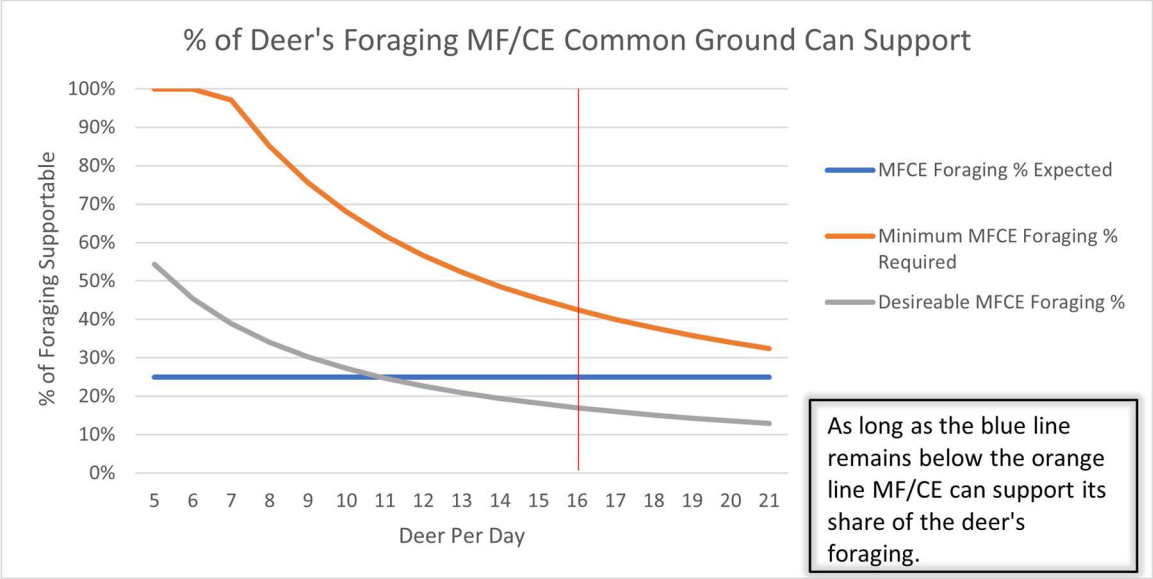
The lowest number of observations on a day was 4, which happened once; the largest number of observations on a day was 60, which also happened once. We assume that – on average – an individual deer would be sighted twice on a day. Hence, the X axis values represent twice the number of animals.

Ignoring the 10th and 90th percentiles of the distribution (the gray shaded areas) gives minimum and maximums of 11 and 39; again, dividing these by 2 to convert # of observations to # of deer yields our min and max estimates of 5.5 and 19.5. The red line denotes our estimate of 16 (32 on the axis) as the most representative number of deer.



Graph 6. Foraging Acres Needed Within MF/CE

Assumptions behind this graph are that 1) each deer needs 65 acres of base range; 2) 25% of this is within MF/CE and 75% is outside; 3) the 68 MF/CE common ground acres are the only acres we wish to make available to the deer (an unrealistic, conservative assumption). For a daily deer population between our 5.5 – 19.5 range (with median 12 noted) the 68 acres available within MF/CE common grounds exceeds the minimum required need. At our estimated 16 deer, those 68 acres are sufficient.

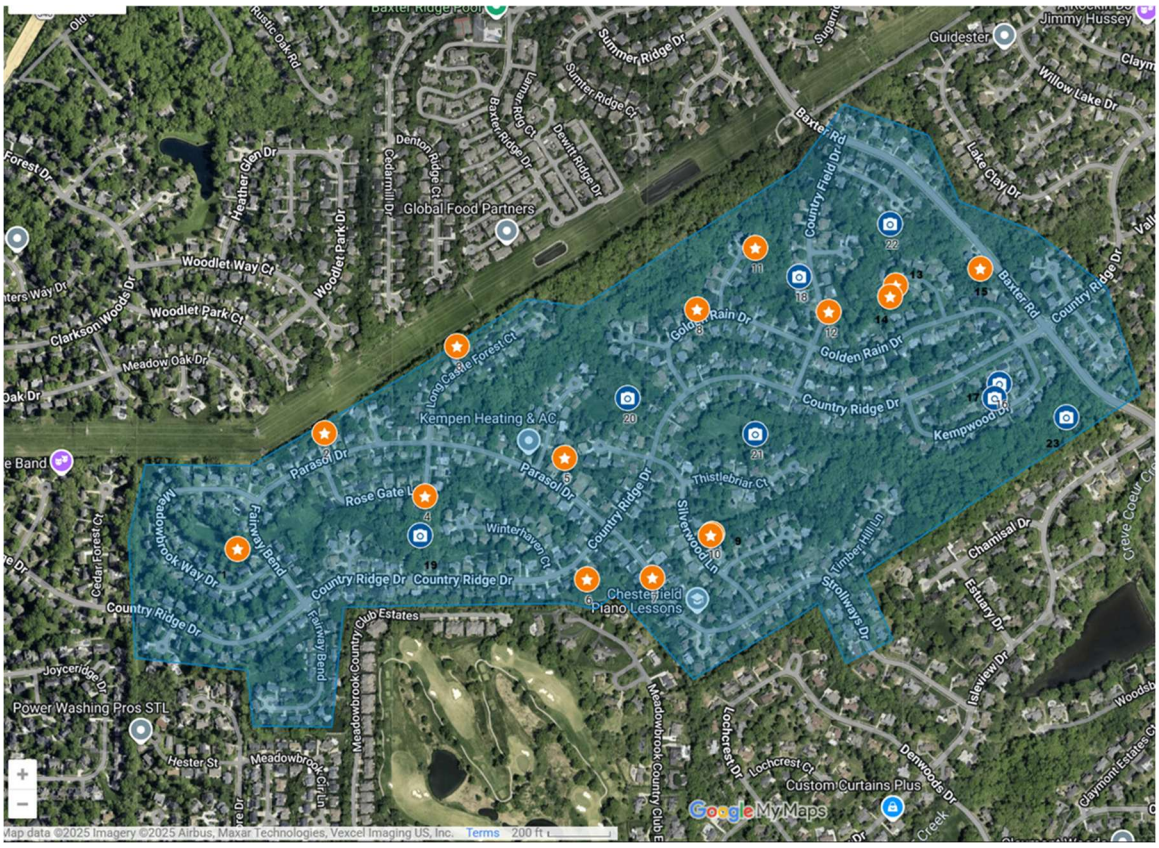


Graph 7. Percent of Foraging Acres MF/CE Can Support

Previous conclusions rely on our estimate that MF/CE contributes only 25% of the area that makes up its deer's "base range." Our 25% is represented by the blue line. At 16 deer, the actual amount could slightly exceed 40% and there would still be adequate MF/CE common ground acreage to support the population. Support of higher-end populations would be vulnerable to error if our 25% estimate is low.

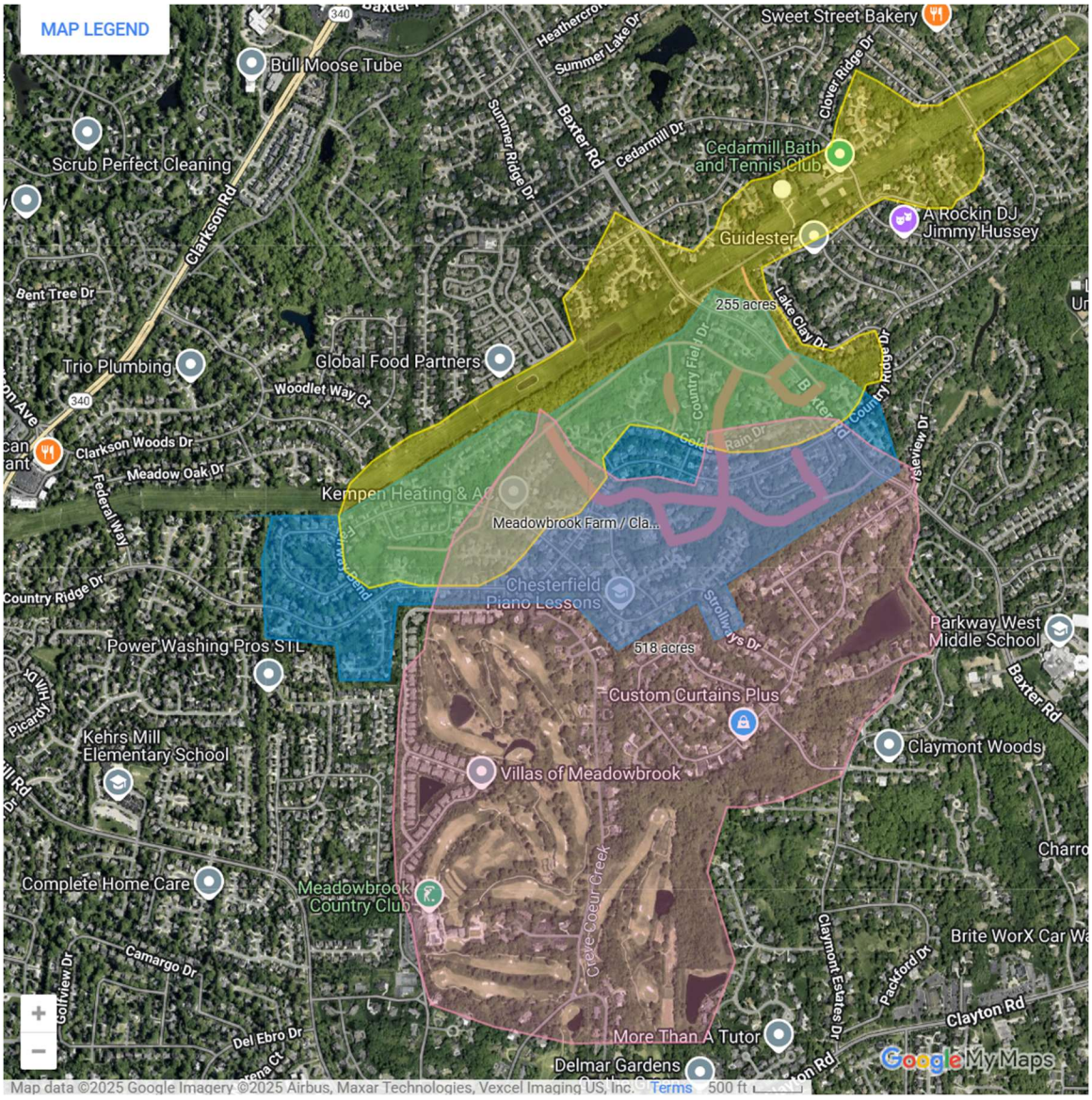
MAPS

Primary Study Maps



Map 1. Locations of Study Observers.

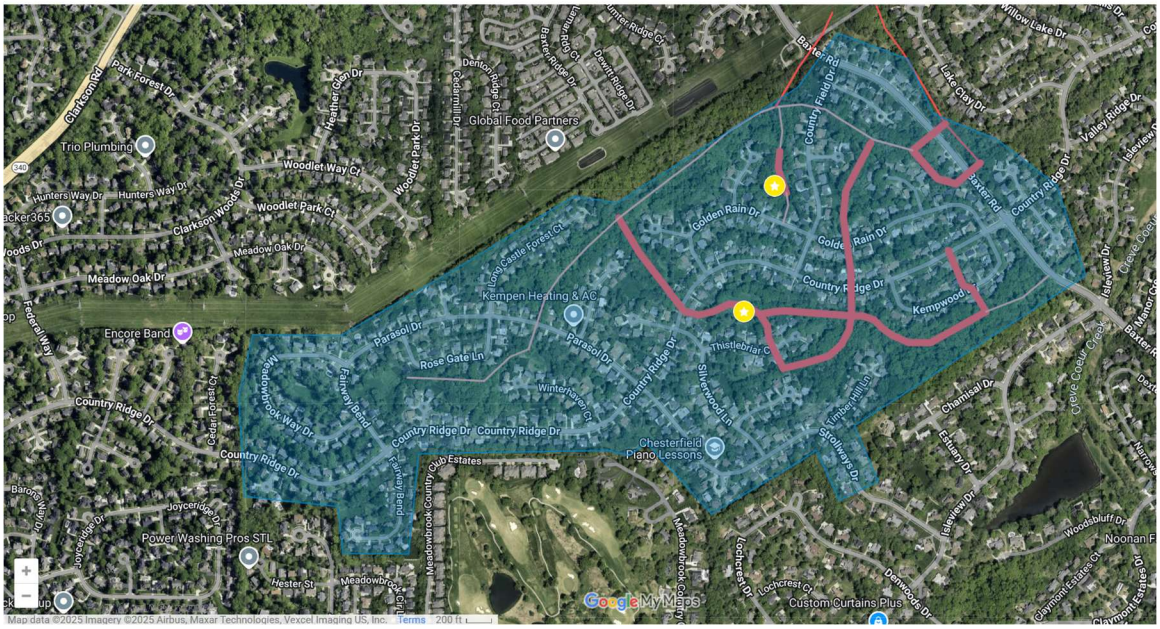
Blue camera icons identify Continuous observation points (study trail cameras and participants with 24/7 security or trail cameras). Orange stars identify Non-Continuous observers. One Non-Continuous participant is not included here because their sightings were not primarily concentrated at one core location.



Map 2. Hypothetical Foraging Range Map.

This map is for demonstration purposes only. Meadowbrook Farms is shaded blue. Two hypothetical deer "base ranges" are marked in yellow and red. The deer in the "Yellow Family" maintain a 255-acre base range, with a bit over half of their range ranging in the electrical right-of-way and subdivisions other than MF/CE. The "Red Family" deer have a 518-acre "base range" with most of it in other subdivisions and the MF/CE-adjacent golf course.

When assessing herd size sustainability, it is important to remember that MF/CE only provides a fraction of a deer's base range.



Map 3. Primary Deer Paths and High-Activity, High-Congregating Areas.

Paths marked with thick red lines are deduced from actual observations. Thinner lines mark paths that are likely but not derived from observation data. Yellow star icons identify two "high activity" areas that were observed.

It should come as no surprise that the deer stick primarily to wooded areas and open fields (i.e., common grounds) as their primary area for movement and foraging. The marked trails are not precise, and deer will stray from these paths, especially to increase foraging in homeowners' property as they move between common grounds.

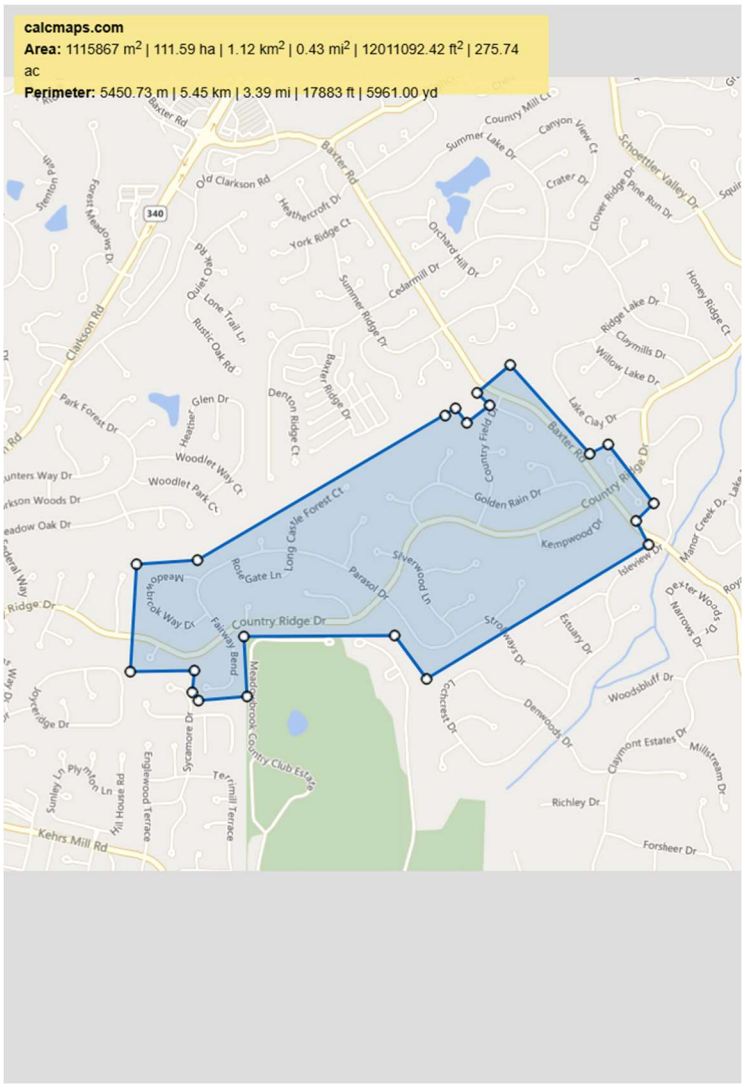
There may be other paths and high-activity areas not identified in this study. Homeowners who live near non-common ground paths and high-activity trails are likely more prone to experience foraging in their garden plants.

Common Ground Measurement and Classification Maps

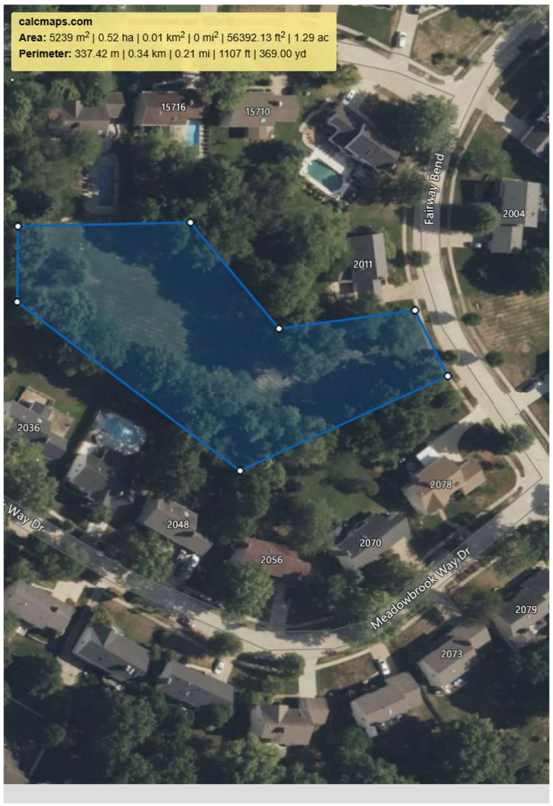
The following maps were generated in order to measure Meadow Brook Farm / Clarkson Estates acreage, and to estimate acreage of wooded and grassy common ground that would appropriate land for deer to use for traveling and foraging. The website CalcMaps.com was used to generate maps that would generate acreage estimates for polygons drawn on the maps. Common ground was broken into multiple polygons, each of which could be classified either as "wooded" or "grassy" land. The acreage from these maps was then summarized in the following table:

Common Ground Section	Common Ground Area (ac)	% of Common Ground	MF/CE Total Area (ac)	% of MF/CE Total
Grassy	**12.32**	**18.10%**		**4.47%**
5.1	1.29	1.90%		0.47%
5.2	1.46	2.14%		0.53%
5.3	0.83	1.22%		0.30%
5.4	1.74	2.56%		0.63%
5.5	0.49	0.72%		0.18%
5.6	0.66	0.97%		0.24%
5.7	1.43	2.10%		0.52%
5.8	0.41	0.60%		0.15%
5.9	0.27	0.40%		0.10%
5.10	2.27	3.33%		0.82%
5.11	0.85	1.25%		0.31%
5.12	0.23	0.34%		0.08%
5.13	0.23	0.34%		0.08%
5.14	0.16	0.24%		0.06%
Wooded	**55.75**	**81.90%**		**20.22%**
5.15	3.39	4.98%		1.23%
5.16	11.97	17.58%		4.34%
5.17	11.25	16.53%		4.08%
5.18	5.06	7.43%		1.84%
5.19	4.51	6.63%		1.64%
5.20	12.35	18.14%		4.48%
5.21	5.18	7.61%		1.88%
5.22	2.04	3.00%		0.74%
4. MF/CE All Land		**0.00%**	**275.74**	
		0.00%	275.74	
Grand Total	**68.07**	**100.00%**	**275.74**	**24.69%**

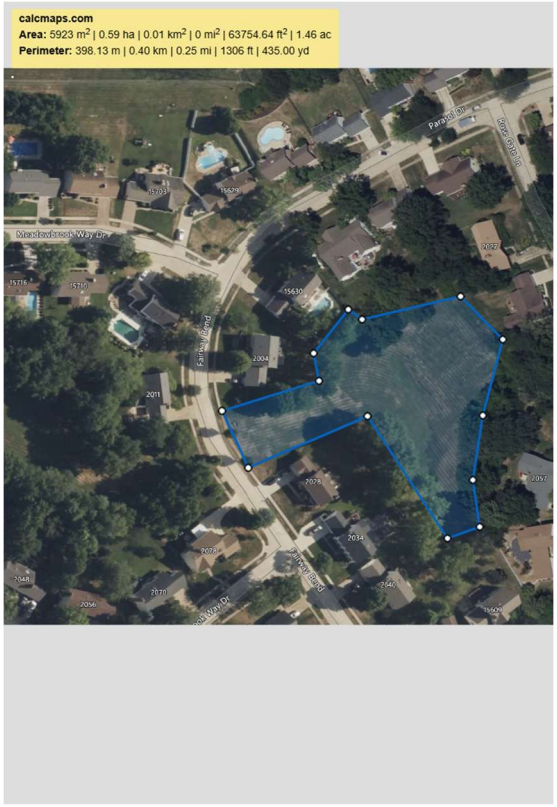
The individual maps are included here for completeness. Map 4 is the map of the entire subdivision; maps 5.1 through 5.22 show the common ground segments.



Map 4. Entire subdivision

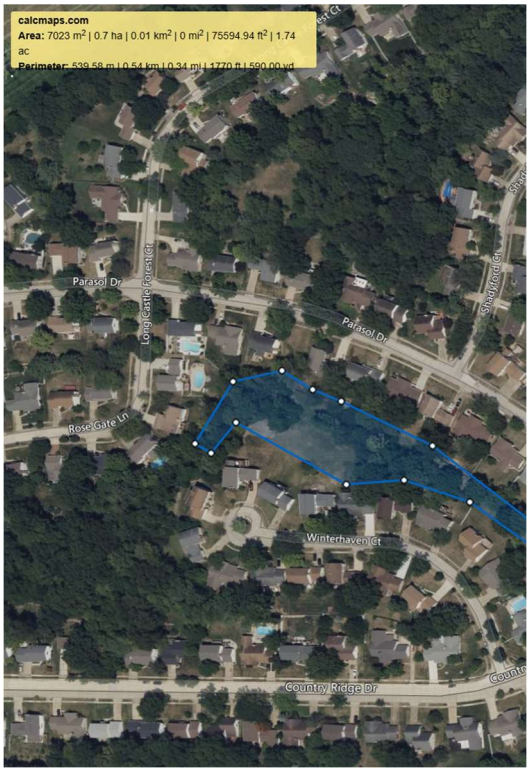


Map 5.1. Grassy common ground

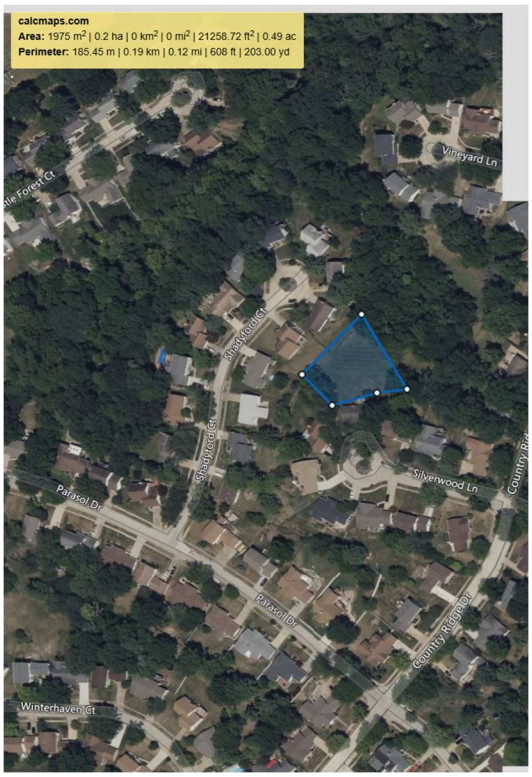


Map 5.2. Grassy common ground

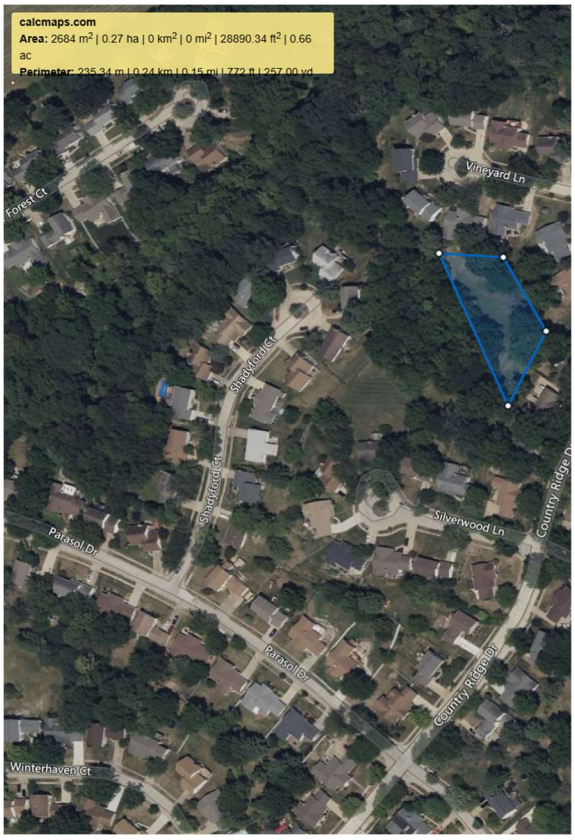
Map 5.3. Grassy common ground



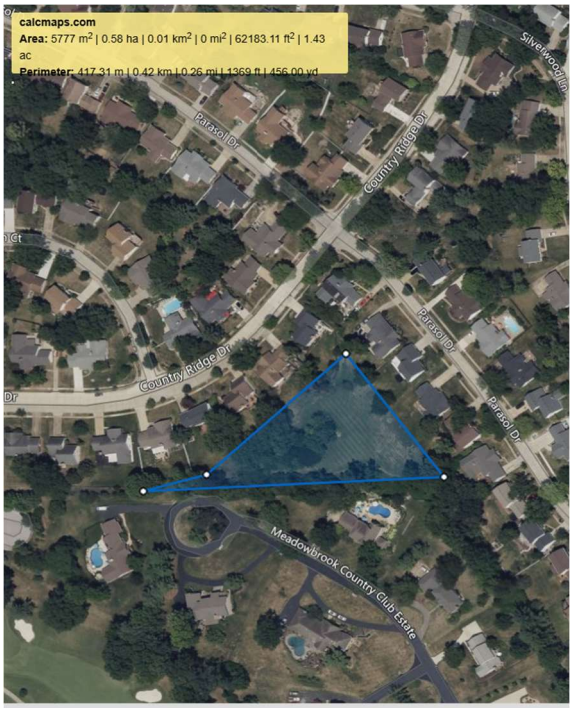
Map 5.4. Grassy common ground



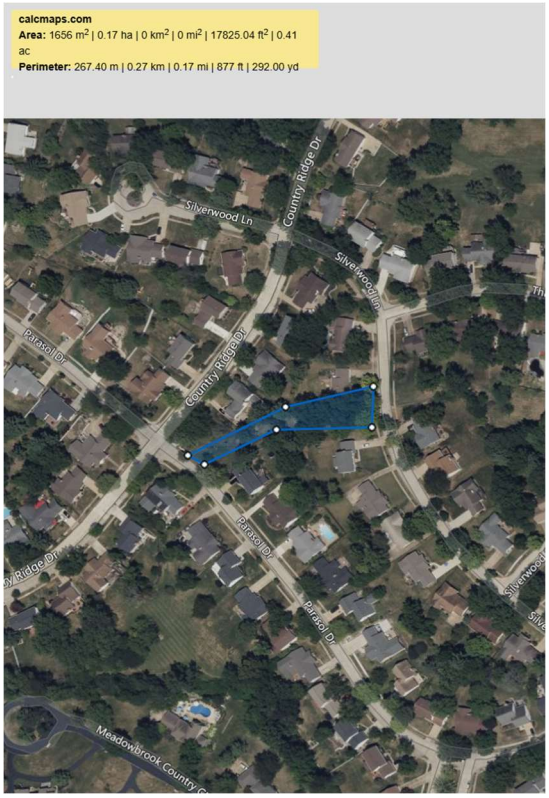
Map 5.5. Grassy common ground



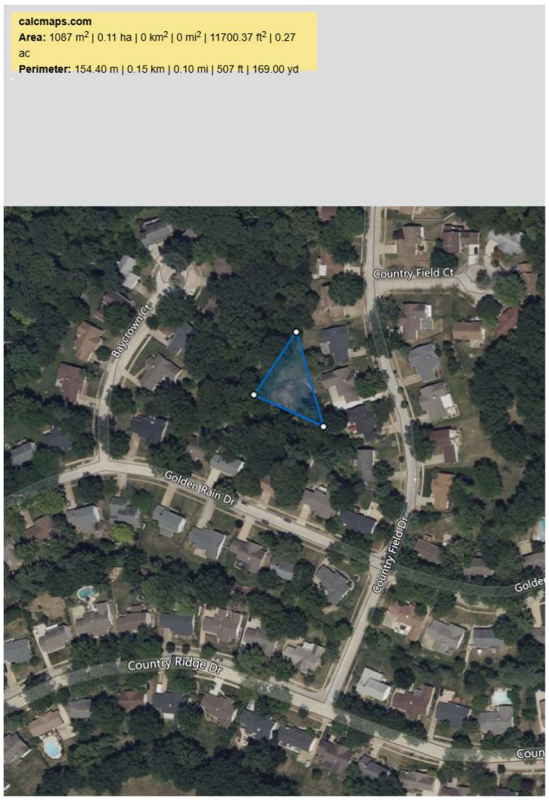
Map 5.6. Grassy common ground



Map 5.7. Grassy common ground

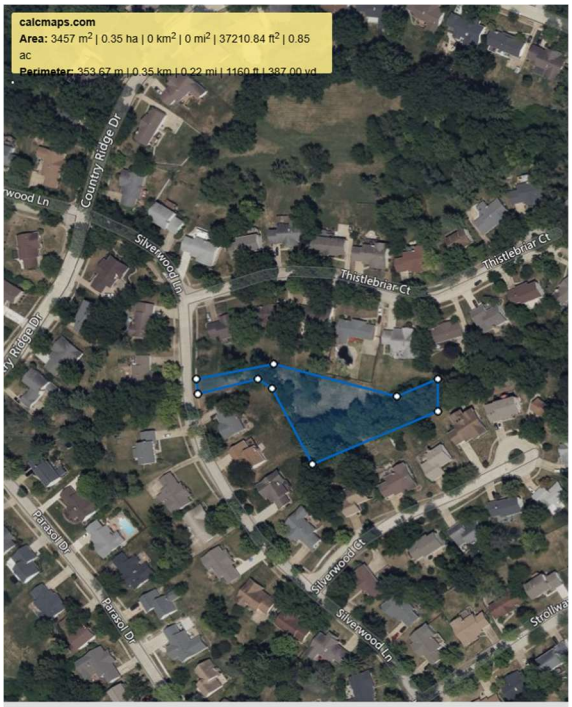


Map 5.8. Grassy common ground

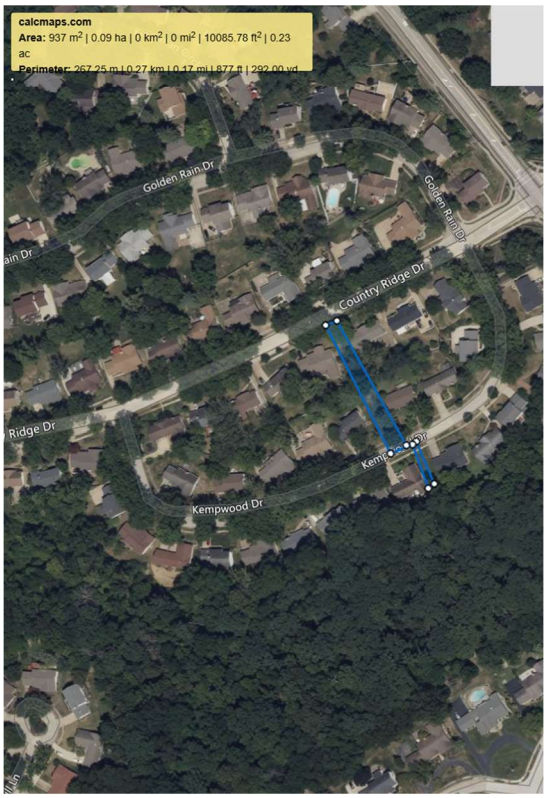


Map 5.9. Grassy common ground

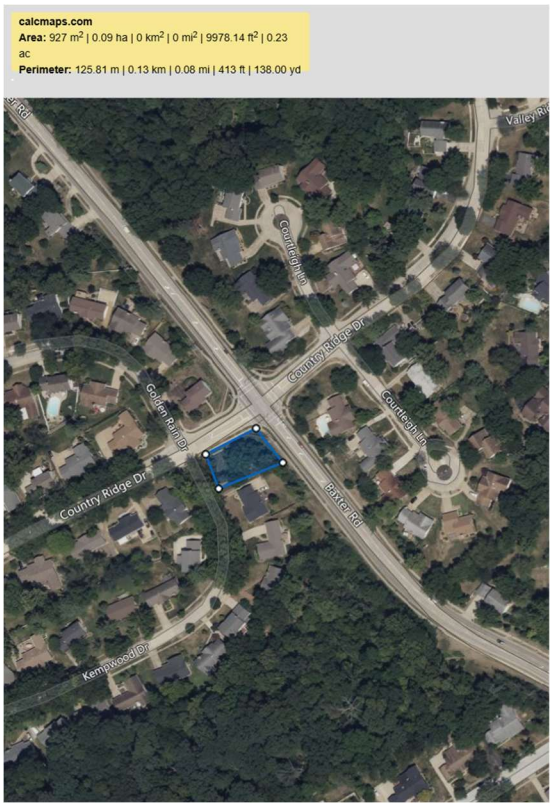
Map 5.10. Grassy common ground



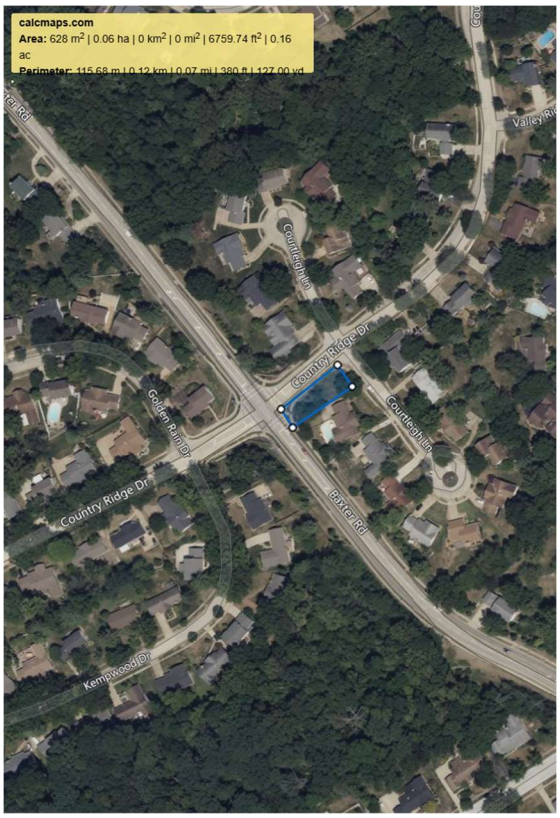
Map 5.11. Grassy common ground



Map 5.12. Grassy common ground

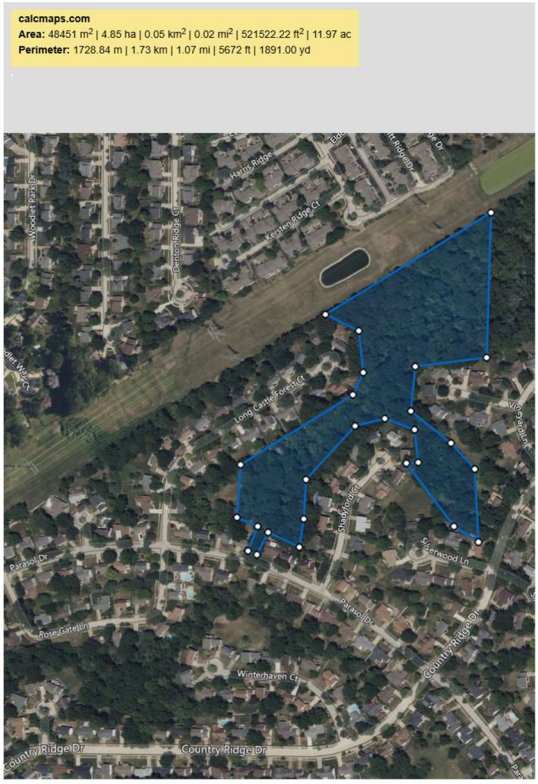


Map 5.13. Grassy common ground

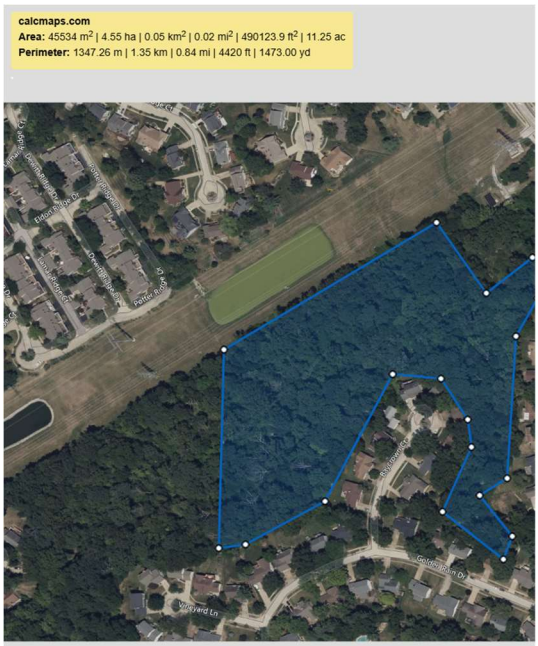


Map 5.14. Grassy common ground

Map 5.15. Wooded common ground

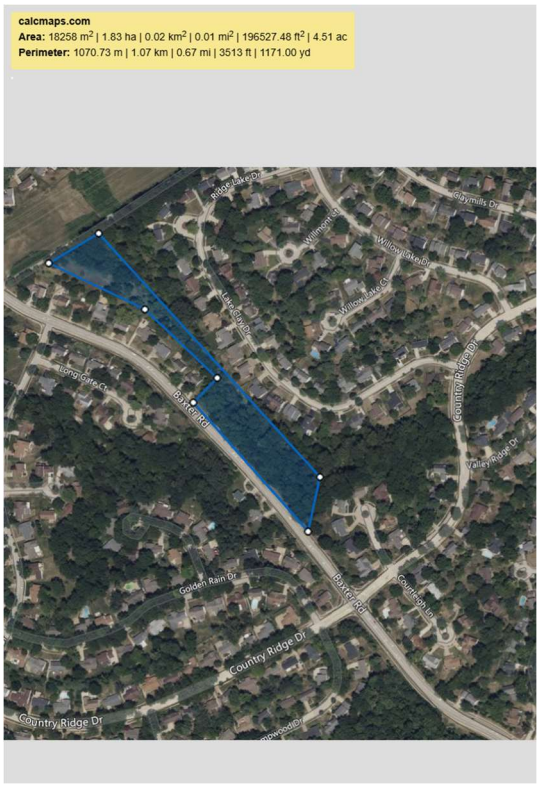


Map 5.16. Wooded common ground

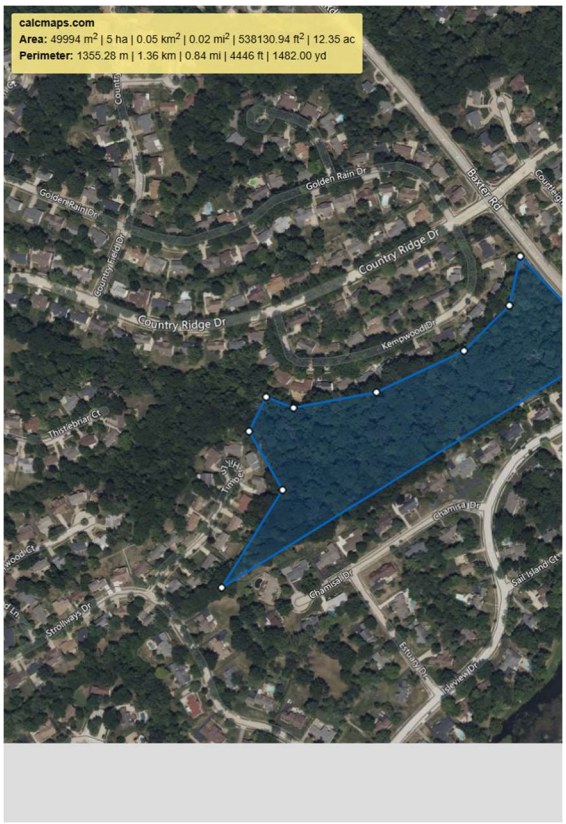


Map 5.17. Wooded common ground

Map 5.18. Wooded common ground

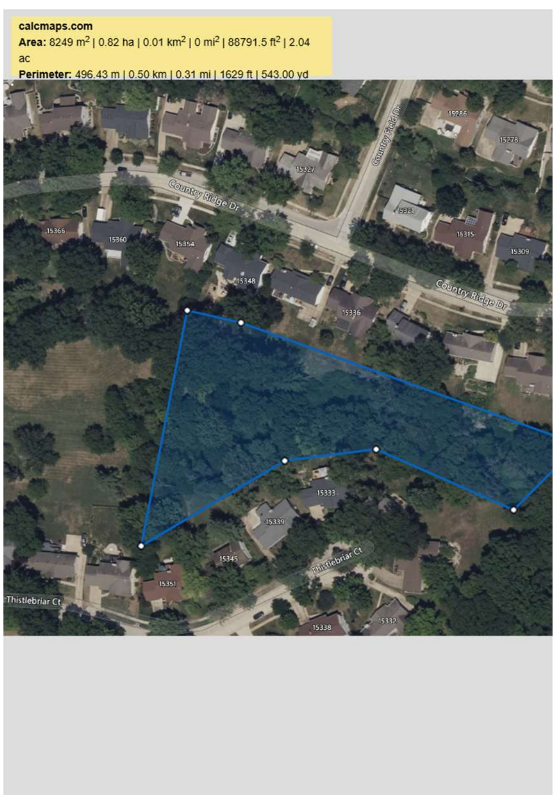


Map 5.19. Wooded common ground



Map 5.20. Wooded common ground

Map 5.21. Wooded common ground



Map 5.22. Wooded common ground