

Town of Okotoks 2015 Deer Count



Okotoks 2015 Deer Count

Background & Purpose

In recent years the subject of urban deer has come up more frequently, as more citizens express concern over property damage and safety concerns over potential human-deer conflict. To better understand citizen's attitudes towards deer, a resident survey regarding urban deer was conducted in the spring of 2015. The overall results of the survey found that the large majority of respondents shared the view that "We share the Town with the deer and they are here to stay, we all need to make compromises to share the Town with them." However, there were concerns from about 10% of respondents with respect to aggression, damage to yards and gardens, vehicle/deer conflicts, predators, and health concerns (related to Lyme disease and fecal matter). As a follow-up to the survey, Administrative would proceed with a deer count to find out how many deer are in the community and establish baseline population data within the Town of Okotoks.

Methods

The count was intentionally conducted in the fall when bucks and does could easily be distinguished. The specific date of Tuesday, September 15, 2015 was selected due to a large corporation contributing 53 volunteers for that day. A call out to the community brought in another 11 volunteers. An additional five parks staff assisted in the count. Volunteers were required to be over 18 and no dogs were permitted.

The Okotoks census map was used as the baseline route map for the count. Parks, natural areas, private golf courses, the river valley, and outside of Town boundary zones were added into the census map. Authorization was obtained from private golf courses to include those lands in the count. The entire map was split into a total of 33 areas, including five boundary zones. The area of the Town footprint is 4841 acres and the boundary zones were an additional 2436 acres approximately. Some areas were quite large requiring two or more volunteers. Volunteers determined their own routes through their assigned areas. Most volunteers wanted to partner with someone.

The start-up meeting commenced at approximately 10am at the parking lot of Tourmaline/Conrad parking lot with an introduction and basic training on deer identification and safety to volunteers by wildlife expert, Dr. Judith Samson-French and the Town of Okotoks Parks Manager. Volunteers signed in and added their route assignments to the sign in sheet so we could later track which volunteers had not yet returned. Volunteers were encouraged to drive (if they had a vehicle) through developed portions of their areas (less than 20km/hr with flashers on) and walk the open spaces in their areas recording deer they observe on their data collection sheets.

Data requested to be collected was location; quantity; doe, fawn, or buck; number of points on bucks; species (mule or whitetail); and activity. Volunteers were encouraged to photograph deer they observe and email the photos in after the event. Volunteers

began to head out about 10:30am and it took approximately 45 minutes for all volunteers to depart to their areas, due to time to assign routes. Assignments were given out in block areas so as to minimize time for migration of animals during the count. Volunteers utilized approximately one hour to return to the start-up location. One area, the southeast boundary zone, was particularly difficult to traverse or the volunteers were more thorough in their inspection and took approximately 2 hours to complete. Upon return, volunteers transferred location data to the large census map and handed in their data collection sheets and area maps.

Volunteers were not audited on how thorough they inspected their count areas.

There was discussion of marking 6-10 deer by paintball in the days prior the count to see how many “paint-balled” deer show up in the count. This would help statistically with confidence in total count numbers. If for example only 2 of 10 paint-balled deer were to show up in the count, then we might be missing a large portion of the population. However, paint-balling deer is considered harassment of wildlife and would require a special permit through AESRD. Due to time delay to obtain permits, this was not completed. Even if this was completed, a heavy rainfall event in the day or two prior the event may have washed off paint from marked deer, negating this effort.

Results

A total of 66 mule deer were counted during the event. The summary of data is presented in Table 1.

Table 1 Summary of Deer Count Data

Route	Route Description	Location Description	#Does	#Fawns	#Bucks	# Points (buck)	Activity/Comments
1	Air Ranch		0	0	0		
2	Crystal Green		0	0	0		
3	Crystal Shores		0	0	0		
4	Suntree/ Tower Hill		0	0	0		
5	Mountainview	Natural Area	2	2	0		Grazing
6	Sandstone/ Rosemont	Manicured Area	2	4	0		Grazing crabapples
7	Central Heights	Residential	4	0	0		Lying down
8	Downey/ Crystalridge	Natural Area	1	1	0		Lying down; grazing
9	Drake Landing	Natural Area	1	0	0		
10	Business Park	Natural Area	3	3	0		Within ravine

11	Downtown East	Residential	3	1	0		Travelling; grazing
12	Downtown West	Manicured Area	1	0	0		Lying down
13	Sheep River/Hunters		0	0	0		
14	Woodhaven		0	0	0		
15	Westridge	Manicured Area	1	0	0		Lying down
16	Westmount	Natural Area	1	0	0		Grazing
17	Cimarron A		0	0	0		
18	Cimarron B		0	0	0		
19	Cimarron C		0	0	0		
20	Cimarron D		0	0	0		
21	Cimarron E	River Valley	1	1	0		walking
22	Cimarron F		0	0	0		
23	Southbank		0	0	0		
24	Darcy Ranch	Manicured Area	1	0	0		Edge of golf course, travelling
25	River Valley East	River Valley	3	0	0		grazing
26	River Valley Central	River Valley	3	2	0		grazing
27	River Valley West	River Valley	2	2	0		grazing; running
28	NW Okotoks boundary	Outside Town	2	1	0		fawn was alone, calling for mom
29	N Okotoks boundary		0	0	0		
30	E Okotoks boundary		0	0	0		
31	SE Okotoks boundary	Outside Town	4	0	6	four 2 pointers, two 4 pointers	grazing; lying down
32	S Okotoks boundary	Outside Town	2	0	0		In field
33	SW Okotoks boundary	Outside Town	5	1	0		grazing; lying down
Total			42	18	6		66

Specifically 42 does (64%); 18 fawns (27%); and 6 bucks (9%). No whitetail deer were counted. See figure 1.

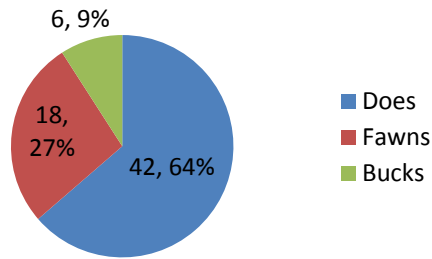


Figure 1: Distribution of mule deer (does, fawns, and bucks) counted

At the time of observation, deer counted were classified as being located in a residential area (8,12%), manicured park area (9, 14%), natural area (14, 21%), river valley (14, 21%), or outside of Town boundary (21, 32%). See figure 2.

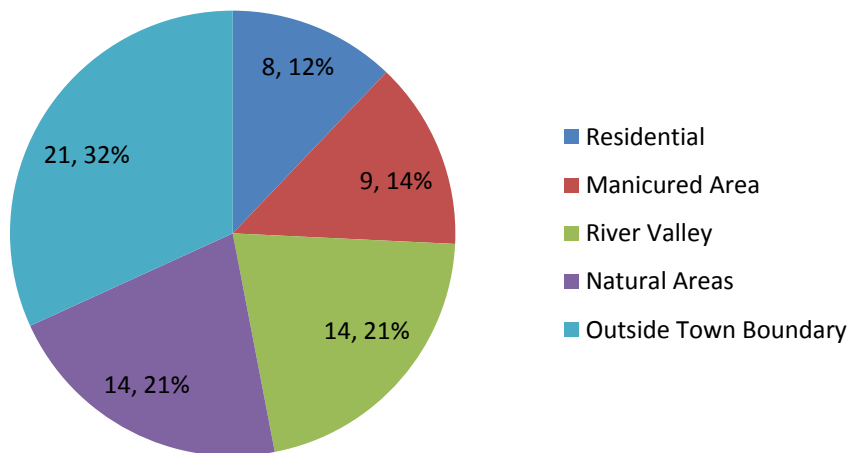


Figure 2: Location distribution of counted deer

Of particular mention, all bucks counted were located in one area, outside the Town limits in the southeast boundary zone in the river valley.

The most common activities observed were grazing and lying down. Other less frequent activities observed were walking and running.

The total number of deer counted within the Town footprint (areas numbered 1-27) of 4841 acres was 51 for a density of 1 deer per 95 acres. The total number of deer counted in the 2436 acres of boundary zone areas (numbered 28 through 33) was 15 for a density of 1 deer per 162 acres.

The total number of households in Okotoks at the present time is approximately 7800, indicating there are 153 households per each deer counted.

Independent of the count data, a total of 16 landfill trips for the waste type “dead animals” occurred by Town staff in 2015. The majority, if not all, would represent dead deer as smaller animals do not typically receive dedicated trips.

Conclusions

Deer counts may be best performed by aerial surveys, however, due to expense, volunteer ground efforts were utilized. As deer move, a count is best performed by a large number of people over a short duration. There was some efficiency to be gained to shorten the registration and route assignment process to facilitate volunteers being able to depart to their count areas simultaneously. However, due to quality of data obtained (location, quantity, doe/fawn/buck), double accounting of deer is not thought to be a significant source of error in this count.

There are differing opinions from wildlife experts on the best time of year and time of day to perform a count. However, there are logistical constraints that limit options such as number of volunteers, temperature/weather/daylight conditions for volunteers, and canopy cover need to be considered. More importantly, future counts will be most comparable to previous counts if similar date/time parameters are used.

As there were no fawns spotted outside Town boundaries, there is indication that mule deer does may use Town as a “nursery” or safe haven for rearing fawns. It was curious why there were no bucks found inside Town boundaries.

The count is simply an observation at a single point in time and does not reflect the routes individual animals travel throughout the day or during various seasons. Although there were few animals observed in residential areas, there is evidence through grazing and tree defoliation patterns, that deer do frequent many residential areas regularly. Crab apples are abundant in the community providing a valuable food source for deer. Although the Town has implemented a restriction to developers on planting fruit trees to not more than 3% of new trees planted since 2008, there are many fruit trees in the public urban forest from before that time. As fruit trees provide attractive ornamental displays, they are still commonly planted on residential property.

The topic of hidden deer will inevitably be raised. For future counts it is recommended that a pre-count deer marking exercise be conducted to help answer the question: How many deer may have been missed in the count?

How many deer is tolerable within Okotoks Town limits is debatable. There is no specific data available to compare Okotoks deer count densities to other municipalities or regions. There are too many variables in habitat and ecological carrying capacity, geography, etc., to make reasonable comparisons. The real purpose of conducting this first deer count was to establish baseline data to compare against future counts.

Perhaps more importantly, the location descriptions of where deer were counted can impact citizens' tolerance levels. With 49 of 66 deer (or 74%) being counted in one of River Valley, Natural Areas, or Outside of Town Boundary, it is reasonable that citizens' tolerance of deer is expected to be high.

Recommendations

A list of recommendations is provided to prevent or reduce human-deer conflict:

1. Strictly enforce “no feeding” of deer. Amend or create bylaws and fines if necessary.
2. Prevent/reduce human-deer conflict by educating residents on how to avoid incidents of deer aggression.
3. Phase out fruit trees such as crab apples on public lands and encourage residents do the same.
4. Reduce property damage from grazing by educating residents on deer deterrent strategies for yards and gardens.
5. Continue to collect landfill data, preferably more detailed data including location, to get a better understanding of deer mortality.
6. Reduce speed limit on roadways where deer-vehicle collisions are highest.
7. Continue to place out location-based signage warning citizens of aggressive animal encounters, including deer.
8. Plan additional counts. To help monitor the Okotoks deer population over time, further counts are recommended. Utilization of deer marking is important for statistical purposes. It may be interesting to see seasonal patterns of deer populations, but if resources are limited, performing a count the same time of year and time of day should be the minimum requirement for the purposes of identifying population trends year after year. The more frequent the counts, the better the data, however, sufficient volunteer resources to conduct a count may be harder to obtain if citizens' tolerance of deer is high. Involve citizens and other stakeholders in the deer count so they understand the process and quality of data.
9. Where hunting is authorized by wildlife authorities outside of Town limits, encourage the issuance of antlerless “doe” hunting tags instead of (or in addition to) bucks as hunting of bucks will not reduce reproduction by does.