

# **URBAN DEER TASK FORCE FINAL REPORT AND RECOMMENDATIONS**

**May 10, 2021**



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## EXECUTIVE SUMMARY

Mule deer have lived in the Sheep River valley and adjacent area for thousands of years and continue to move back and forth as part of their life processes. Mule deer are, and will continue to be, part of the natural landscape in this part of Alberta and in Okotoks.. The goal is for humans and deer to co-exist in relative harmony.

The Town established the Urban Deer Task Force (refer to Terms of Reference in Appendices) to examine the issues surrounding mule deer and develop recommendations for Okotoks Town Council's (Council) consideration. Task Force members were recruited and approved by Council.

Various sources of information were reviewed and analyzed. Interviews were conducted with persons experienced with Canadian urban wildlife management. The Task Force identified several issues and developed options to solve them based on the information gathered and from input provided by Task Force members.

The main issues include lack of scientific data, habituation, intentional and unintentional feeding, access to foraging/feeding areas and the number of deer.

The Task Force's key recommendation is the development of an Urban Deer Management Strategy to minimize or solve the issues identified in the report. The Urban Deer Management Strategy is the umbrella recommendation to manage deer in Okotoks and within it are recommended options for:

- I. Fencing
- II. Prohibiting intentional/unintentional feeding
- III. Education
- IV. Hazing
- V. Speed zone changes
- VI. Scientific Investigation
- VII. Wildlife Act changes

There must be a balance struck to recognize and conserve the intrinsic value of deer and nature in Okotoks while significantly reducing negative human/deer interactions. Injuries to pets or potentially humans and damage to private and public property must be reduced.

This will not occur overnight and may take one to two years to see measurable results.

The Management Strategy and options within it were selected based on the best chance for success, ease of implementation, acceptance by a majority of residents and cost effectiveness for residents and the Town.

Doing nothing could result in a continual increase in deer population. The pressure from deer population on the river valley ecosystem and community could result in overgrazing, long-term

natural habitat destruction, increased private and public property damage and increased negative human/deer interactions.

The key to implementation of any option must be based on sound data. This has been historically lacking. Deer population numbers, complaints, and residents' perceptions have been subjectively measured; this data needs more rigourously examined for the Town to make appropriate decisions for the medium and long-term.



## DEFINITIONS.....

In this report the following definitions apply:

*‘Biological Carrying Capacity’* means the number of animals an area of habitat can support;

*‘culling’* means reduction of a wild animal population by selective slaughter;

*‘exurban’* means an area outside a denser suburban area that has an economic and commuting connection to the suburban area;

*‘Deer aversion techniques’* means techniques and options used by residents to deter deer from entering their property and or eating their plants;

*‘feeding’* means deer eating food that is deliberately set out for them by residents but does not include vegetable or flower gardens;

*‘foraging’* means deer eating flora that naturally occurs and is normally a part of a wild deer diet;

*‘Hazing’* means an organized program that safely compels wildlife, such as deer to move away from humans, sometimes through the use of deterrents;

*‘Mule Deer (Odocoileus hemionus)’* means a species of deer with large ears, and a black tipped tail. It is larger and more heavily built than the white-tailed deer.

*‘Social Carrying Capacity’* means the number of animals in an area that can co-exist with humans before conflicts become commonplace.

## INTRODUCTION AND BACKGROUND

Wildlife lives or passes through many urban municipalities in Canada. Species can range from any or all omnivores, herbivores and predators, depending on their regional occurrences.

Mule deer (*Odocoileus hemionus*) is the predominate species within Okotoks that causes damage to private and public property, occasional injuries to pets and, in some cases, displays what is termed as 'aggressive' behaviour towards humans. The mule deer population has been counted four times over the past two years and averaged roughly 90-100 deer within the town limits.

Okotoks is about 25 kilometres south of Calgary and has a population of 29,000 persons (Source: Stats Can census 2016). The exurban community adjacent to Okotoks extends to approximately 8 kms around the community and is composed of acreages, estates, ranches and farms.

The town (16.98 sq. kms Source: Stats Can 2016) lies along a portion of the north and south sides of the Sheep River. The Sheep River is part of the Bow River watershed, which begins in the mountain valleys of the Elbow-Sheep Wildland Provincial Park, flowing east to its junction with the Highwood River, approximately 8 kms east of Okotoks. The river valley forms a natural wildlife corridor for many wildlife species native to the region, which is a unique aspect of the Okotoks area. Along with the river valley, parks, pathways, golf courses and natural areas within the town limits provide ideal habitat for mule deer.

For many years, mule deer have made the portion of the corridor within and immediately adjacent to Okotoks their year-round home (Source: residents' opinions). Agricultural crops planted adjacent to the town boundaries also contribute to keeping them close to Okotoks. The species feeds, breeds, gives birth and raises its young within the town boundaries or in exurban areas near the town's outer fringes. It is reasonable to assume migration back and forth between the town and exurban areas.

Long-term residents have noticed an increase in the mule deer population over the last two decades (Source: personal communications). Conservation efforts by the provincial government have likely helped enhance deer populations in the area. This has resulted in increasing reports of human/deer interactions, including deer exhibiting what is referred to as 'aggressive behaviour' towards humans and dogs. There are vehicle/deer collisions on main thoroughfares and side streets. Deer are also feeding, damaging gardens, lawns, shrubs and trees on residents' property (and golf courses) and throughout the town in public common areas (i.e., green spaces, pathways and parks).

Council passed a bylaw prohibiting feeding of certain wildlife in public areas (Source: See Open Space Bylaw Section 13.5 in Appendices).

The Town undertook two resident surveys (see Appendices) in 2015 and 2018 to determine residents' opinions on the level of interactions with mule deer and the damage to private and public property. The range of opinions expressed by respondents varied widely from 'leave them as they are', 'no opinion either way' to 'reduce the number of deer and the damage they are causing within town limits'.

Deer counts have been coordinated by Town staff using volunteers and staff over the past few years.

The Town's website is used as a source of information to help residents minimize negative human/deer interactions and damage to their property. There are recommendations for deer resistant plants, deer deterrent sprays and how to react when deer or other wildlife are encountered.

There is a wildlife encounter reporting system on the website and when an 'aggressive' wildlife report is received, Town staff respond by placing signs in the area warning residents, as well as posting alerts using social media. In some instances, provincial conservation officers, RCMP and peace officers respond.

The encounters and damage to private and public property continue. Many residents have said deer are not deterred for very long by deer resistant plants and sprays, or by hazing (scaring) methods and devices. They are habituated to humans and human behaviour and soon return to areas where they are not wanted.

In 2019, Council passed a motion to establish the Urban Deer Task Force. Seven volunteers were selected through an application and interview process. The first meeting was held in November 2019, and members met regularly until early spring of 2020, when the COVID-19 pandemic required meetings to be temporarily suspended. Council extended the Task Force's term to May 2021 and meetings resumed via Zoom in the fall of 2020. The goal was to complete the research and provide a report, with recommendations, to Council in May 2021.

## **PART I – Deer- Human Interactions and Issues**

## **Process**

Various methods were used to identify interactions and issues. Task Force members reviewed the results from the Town's deer surveys; spoke with councillors and employees from other municipalities dealing with urban wildlife problems of varying species and degrees; examined programs to manage wildlife within other municipalities and their successes and challenges; participated in deer counts within Okotoks; met with a provincial wildlife biologist; a representative from an animal rights organization and the author of a scientific study for that organization; reviewed literature on mule deer behaviour; as well as policies, and management plans about the methods and results of various approaches to manage deer populations; met with Town staff and a number of residents.

From the information gathered, the Task Force identified a number of Human/Deer Interactions/Issues:

## **Intrinsic Value of Deer**

Mule deer have lived relatively peacefully amongst residents for many decades. A significant number of those who completed two surveys in 2016 and 2018 indicated they like having deer within town limits and have little or no issues with them. They felt it provided the community with a sense of nature and liked seeing deer as they moved about the town. These respondents and their families enjoyed the encounters with no negative interactions and thought it added something special to Okotoks that most other communities do not have or ever experience.

Visitors to Okotoks are amazed that we have this wonderful part of nature in our town. One resident said that removing the deer completely would be like changing the character of our town.

## **Deer Population and Management**

Some residents perceived that there were too many deer in town. The deer population has increased over the years. The number of deer within a certain area has a direct impact on the number of human/deer interactions and the damage the deer cause.

A percentage of respondents of the 2018 Town survey wanted something done with the deer because of foraging in gardens. This makes it almost impossible for flowers or vegetable gardens to reach maturity without fencing to keep the deer out. A portion of these respondents also felt intimidated by deer when encountering them on walkways and streets.

The Town of Kimberley found that maintaining the number of deer to approximately 100, and using other options at the same time, had a significantly positive impact in lessening damage to private and public property.

Deer moving in and out of town bring other issues such as Chronic Wasting Disease (CWD). This disease is prevalent in mule deer and is spreading from eastern Alberta. Alberta Fish and Wildlife has been following the statistics for over 20 years. Increased populations and deer movements could bring CWD closer. See the link [alberta.ca/chronic-wasting-disease-updates](http://alberta.ca/chronic-wasting-disease-updates) for further information.

### **Deer Habituation**

Many deer in Okotoks have become habituated to humans and town infrastructure. Habituation should not be confused with attraction. Attraction is the strengthening of an animal's behaviour due to positive reinforcement. Wildlife attraction is often assumed to be about food but may also apply to shelter and security (Whittaker, 1998). Habituation is when wildlife become so accustomed to humans that they lose their normal elusiveness and natural fear responses, which is undesirable. Habituation may occur if repeatedly exposed to the presence of people.

Wild animals can become habituated to humans' infrastructure (buildings, roads) and to humans themselves. Once habituated it is extremely difficult to change an animal's behaviour. Deer are a species of animal that is easily habituated to humans and human development and have adapted readily to residential areas (Westerfield, 2019).

Deer regularly forage on gardens, trees and shrubs within Okotoks. Some deer do not back off when meeting humans and stand their ground or approach in a manner that appears threatening. Residents must retreat or give the deer a wide berth. This occurs with does, with or without fawns, as well as bucks. Personal experiences reported to Task Force members include:

- A buck would not move out of the way of a vehicle leaving a garage;
- A doe challenged and approached a person walking in a parking lot and had to be chased off with another vehicle.

Instead of avoiding areas of human activity, animals choose to approach or not leave when humans are nearby. While some people may appreciate some level habituation, it typically leads to human-wildlife conflicts (Honda, 2018).

Strong habituation is detrimental to wildlife survival, and may even pose a threat to human safety (Bardy, 2010). Although it is rare to have deer act aggressively towards humans, the risk is increased if the deer are habituated to humans in an area with high human density like an urban setting. (Nielsen, 2003)

### **Pet Injuries**

Each year, a few reports are filed with the Town where dogs have been injured by deer on private property. A personal experience shared with the Task Force reported that deer were foraging or feeding in a yard and dogs were let out, unknowingly surprising the deer. The dogs were attacked and veterinary medicals bills resulted.

There have also been instances where residents and their pets were challenged while walking on pathways. In some cases, this occurred when fawns have been present and the dog is considered a threat. Pet owners have also felt threatened when the dog ran back to its owner for protection while being pursued by the deer.

### **Deer Crossing Main Traffic Arteries and Side Streets**

This occurs regularly on main routes, mainly at dawn and dusk (some areas with a 50km/hour speed limit). Deer are injured or killed and vehicles are damaged. Some deer must be euthanized, die a slow death or walk away injured; insurance claims can result from some of the collisions. Actual vehicle damage costs or estimates are unknown as there is no system in place

to gather this data. There is also a cost to dispose of deer carcasses and for deer to be euthanized. A better system of collecting data on the frequency and costs of disposing and euthanizing deer needs to be developed.

### **Residents Deliberately Feeding Deer**

The Task Force heard from residents about instances where their neighbours are deliberately feeding deer with various types of feed in their yards. The behaviour did not stop even when asked to do so or after being visited by enforcement staff to obtain voluntary compliance. Some residents wait till morning or early evening to place feed on their property (Source: personal observation by Task Force member) attracting deer on a regular basis.

Some residents keep their back yard gates open and leave feed inside the fence. The yards are adjacent to pathways and parks which are travel routes for deer and offer an open invitation to feed and perhaps bed down in the yard or nearby for the night.

Deliberate feeding attracts deer to those areas and leads to additional foraging and bedding on neighbours' properties. More deer feeding and bedding in residential areas leads to the potential for interaction with children going to school in the morning and traffic hazards during low light and heavy traffic times.

Some retail businesses within and adjacent to Okotoks sell bags of feed labelled as 'deer feed'.

Deliberate feeding causes damage to adjacent properties throughout town that could potentially reach thousands of dollars each year.

### **Deer Accessing Private Property**

Deer are now so habituated, that they access any areas that are not protected by deer-proof fences (including residential and business properties in the downtown core). This includes both front and back yards, especially those backing onto public walkways, parks and natural areas.

Current low height diamond mesh or other low fences are easily jumped by mule deer. There are no side, front or back hedges, fences or gates for many properties to limit yard access. Deer walk through many yards front to back and/or along a street from yard to yard. Fawns learn from their mothers where to go and how to do it.

### **Deer Foraging on Private Property**

Mule deer in Okotoks are totally habituated to people and urban living, meaning that they do not respond to current measures intended to keep them from foraging in yards.

Once on private property, deer eat grasses, lawns, flowers, vegetables, trees (and fruit from trees) and shrubs. It is impossible for residents to grow vegetables to maturity in areas that are unprotected from the deer incurring replacement costs.

Deer resistant plantings have minimal long-term effect according to many residents (Source: personal communication). Many of these plants are also more expensive than other flora and still get eaten.

Deterrent sprays, etc. are not satisfactory on an on-going basis as they must be re-applied. They work for a while, then become ineffective according to some residents.

The deer consume a significant number of flower and shrub species that are normally part of residential gardens. For many gardeners, the limits on gardening and landscaping options are frustrating. The local garden club has petitioned Council for changes to fencing to prevent deer access.

One resident stated that the damage from deer made them change their yard landscaping and use deer resistant plants, but damage still occurs. She estimated thousands of dollars over 10 years (Source: personal communication).

The constant loss of plants due to the deer has eroded the desire of many residents to try and improve their yards (Source: personal communication) and may result in the majority of front and many back yards being planted to grass. This may impact water use in the town.

Deer also forage at the Crystal Ridge Golf Course and reside there. They have caused damage to flora (eating flowers) and the mini golf course (urinating/defecating on the indoor/outdoor carpeting, staining the plywood beneath and ruining it). Several holes had to be redone in 2020. The manager stated he closed the mini course part way through the 2020 season due to the damage and to the deer presence (Source: personal communication).

Anecdotal evidence indicates deer have changed their diet to include plant species that they have previously avoided. Foraging behaviour means deer frequently sample flowers, or the growing points of species, that they do not normally eat. This weakens, and in some cases, may kill flora.

Mule deer eat a variety of flora. A January 2021 magazine article in *Wild Deer* states that in 99 studies of mule deer diets, evidence suggests 788 species of plants were consumed. The diets vary greatly depending on the season, geographic region, year and elevation. The plants consisted of shrubs and trees, grasses and grass-like plants and forbs (a 'forb or phorb' is an herbaceous flowering plant that is not a graminoid (grass, sedge, or rush)). The article suggests that deer adapt to whatever is available to eat.

Bucks accessing yards to feed or forage also cause damage to trees by rubbing their antlers against them, which removes the bark. This can cause access for disease or death of the tree.

Some residents have fencing around single trees to deter foraging deer but this has to be properly placed and of the right size to be a successful deterrent.

Some bird feeders are unintentionally feeding deer when excess feed spills onto the ground. Some feeders are also low enough for deer to access standing on their back legs.

In the winter in the Tucker Hill area, deer stand on snow removal piles and feed on the higher tree branches and fruit they normally cannot reach from ground level (Source: personal communication).

The losses and frustration are evident and documented in Town surveys, conversations with and emails from residents.



There is the impact of limiting landscaping options, potentially lessening residential property values and the cost of fencing (new or extensions which could cost thousands of dollars per home).

### **Deer Foraging on Public Property**

Deer are foraging on lawns, flowers, trees (and their fruit) and shrubs along public green spaces, streets and parks because they have easy access to these areas. These areas interconnect across the entire town. There are few, if any, gates or fences to deter deer from entering and using any area.

The Town replaces flora each year due to deer foraging damage in these areas. As a result, the Town is restricted in the species it can plant and is being forced to replace vulnerable species each year such as attractive flowering varieties like crab apples. Town staff also clean fruit from the ground under ornamental fruit trees to deter foraging. Removing the fallen fruit and replacing these species has an annual cost. The loss of flowering species has an impact on the esthetic quality of parks and boulevards and the town overall.

Easy access to public areas mean deer also get easy access to areas bordering private property because there are no fences or gates blocking access to the public areas from streets.

Natural areas along the river valley and coulees running into it are also impacted by deer. The natural flora species composition may be over-browsed or changing in these areas. It is fair to assume this may be a reason why deer forage in parks and yards, but only a scientific study could confirm this.

Bucks rub their antlers against trees while foraging, which removes bark, causing disease and/or die off. A resident was observed hand feeding a large buck on a public sidewalk (Source: personal observation by task force member).

Some measures (fence extensions of various materials) that residents now use to block back yard access from deer coming from public areas are well done but many are esthetically unattractive. These extensions are mainly along back paths and walkways where residents are legally required to keep fences at a low height.

### **Deer Bedding Down Within Town Boundaries**

Residents have found deer sleeping on and under their decks, in yards, between homes, and on business properties. Deer also use school yards, public parks and green space walkways and natural areas. This has occurred over decades because of easy access to these areas for foraging, as well as from deliberate feeding that has led to habituation.

### **Deer Breeding, Giving Birth and Living within Town Boundaries**

The annual rut in November and December, with bucks chasing does within town boundaries, has potential for humans to come between them and be injured. This can occur suddenly in some situations.

Fawns are born in the spring, and does protect them aggressively at times; the fawns also learn where and what to eat. Many deer likely live their entire lives in Okotoks with little or no exposure to their usual predators (wolves, cougars, bears, coyotes). Deer have found a safe, predator-free environment with ample feed. There is no reason to leave.

## **PART 2 –Identifying Options**

## Process

The Task Force reviewed the research, personal accounts, and information from other municipalities and wildlife experts to compile a comprehensive list of potential options that could be considered for deer management in Okotoks.

*Summary Table:*

Option	Potential Success	Timing
Maintain Current Local Municipal Deer Management Strategies	Unlikely to be successful	Short-term, can be implemented immediately, will require a multi-year commitment from both Town and residents
Minimize deer foraging on Private and Public Property (Fencing)	Likely to be very successful	
Deer Resistant Flora	Somewhat successful, as deer may adjust their diet to accept alternative flora	
Deer Aversion Techniques	Somewhat successful, will need to be repeated	
Expanded Public Education	Very likely to be successful combined with other options	
Reduce Habituation	Successful only if combined with other options	
Scientific Investigations	Highly successful at improving data and knowledge of urban deer situation	Medium – long-term, will require a multi-year commitment
Hazing	Somewhat successful, will need to be repeated	Medium-term, will need to be repeated over time
Relocate	Mixed success as deer will return or new deer will take their place	Medium – long-term
Limited Hunt	Unlikely to be successful	Medium – Long-term
Cull	Limited, short-term success as new deer fill the gap	Medium – long-term, will need to be repeated
Immunocontraception	Likely to be successful in the long-term	Long-term

### Maintain current, local municipal deer management mechanisms

Is there a problem that needs fixing? Although there are about 100 deer within the town limits, there are very few reported negative human/deer interactions to Town administration each year. The results of the 2018 survey indicated that only a small percentage of respondents would like to see fewer deer, and the majority reported that they are fine with the current number of deer.

All incidents reported to the Task Force, with interactions between habituated deer and people, were resolved by humans retreating or using vehicles and noise to chase the deer away. Some residents feel intimidated, and a few parents won't let children play in their yards at dusk without an adult present, but physical injuries have been limited to pets, with no fatalities.

Damage does occur to public and private property and frustrates a percentage of town residents. However, without firm data showing the actual cost of damage, it raises the question whether it is cost effective to fix a problem that may not need addressing.

#### *Steps to Implementation*

- Retain current bylaws.
- Retain the current online educational information program and adapt as needed.

- Retain the current wildlife incident reporting program and improve when needed.
- Retain the public notification program warning system where there have been negative human/deer interactions.

#### *Pros*

- Little or no increased financial resources required to operate beyond the current allocation.
- Residents who like deer and want them around would support this approach.
- Risk management may be acceptable given the low number of reported negative interactions each year with no injury to humans.

#### *Cons*

- Deer will become more habituated.
- Potential to confirm some residents' perception that the Town is doing nothing, which may result in many negative interactions being unreported.
- Does nothing to reduce the available feed and bedding areas which attract deer.
- The deer population may increase as Okotoks gets larger and their travel corridors stretch to each side of the town.
- Potential for the number of negative interactions between deer and humans and their property to increase.
- Residents will continue to lose their gardens and shrubs and trees and incur replacement costs.
- Residents may decide not to maintain their properties or plant gardens or trees; lower home values may result.
- Will become a continuing issue for Council and staff
- Risk of predators may increase.

#### *Success/Failure Projection*

Slim chance of success. It is likely that the social carrying capacity within town limits will be exceeded. The social carrying capacity represents the maximum number of deer that can peacefully co-exist with residents at acceptable levels of damage to property, injuries to pets and human/deer interactions. Future liability issues may arise with more frequent interactions.

#### **Timeframe**

- Current level of resources will need to be maintained and adjusted as needed.

#### **Minimize Deer Foraging on Private and Public Property**

Allow installation of temporary and/or permanent fencing so deer cannot access food sources.

### *Steps to Implementation*

- The Town can examine installing gate and fence barriers in strategic locations to limit and control the access to food sources in public areas, walkways and parks.
- Change fencing bylaws to allow greater flexibility for residents to erect deer protective fencing, either temporary or permanent. This is especially true for residences that back onto public area walkways, parks and natural areas, where landowners are restricted from creating higher fences. (The Task Force submitted proposed changes to the Land Use Planning bylaw review process to assess and potentially address this issue; a presentation to Council was given on April 12, 2021 and Council approved a one year pilot project to allow temporary fencing).
- Front yard and yard-to-yard access along a street must also be addressed by fencing.

### *Pros*

- Prevents deer from accessing public walkways and parks to feed and bed down.
- Prevents deer from accessing residents' yards to feed and bed down.
- Prevents deer from giving birth to fawns in public and private areas.

### *Cons*

- Cost to buy, install and maintain fences and gates.
- May impede sight lines with certain fence materials.
- Users will need to open and close gates to enter and leave pathway and park areas.
- Deer may begin to use streets and sidewalks more often to move about town.
- Residents may refuse to pay for their own fencing and gates.

### *Success/Failure Projection*

- High chance of success. Proper fence height will keep deer from yards and moving from one property to another. Front yards may need deer resistant flora or individual flora fencing.

### *Timeframe*

- Short-term to implement, until deer access other food sources outside of town.

## **Deer Resistant Flora**

Encourage the use of deer resistant flora in private and public outdoor spaces.

### *Steps to Implementation*

- Continue and expand the low water/deer resistant plant rebate program.
- Encourage retailers to stock a wider variety of low water/deer resistant flora.
- Encourage residents to purchase deer resistant flora and other deterrents.

- Increase information about deer resistant flora in key locations.

#### *Pros*

- Combined with higher fences or individual flora fencing and deterrents, residents may eventually be able to use flora other than deer resistant species.
- Encourages residents to grow and consume more locally produced garden food.
- Encourages residents to improve their yards with garden beds and trees rather than lawns which consume more water thus reducing water use.
- Improves attractiveness of yards and consequently the esthetic appearance of town streets and boulevards.

#### *Cons*

- Deer resistant flora are in some cases more expensive than other flora.
- Some deer eat resistant species.
- Some residents may not wish to change their flora and landscaping choices nor use chemical or natural deterrents.
- Deer are gradually changing their diet to make use of species that were previously ignored (some deer eat deer resistant flora). For most gardeners, the limits on landscaping and gardening options are frustrating.

#### *Success/Failure Projection*

- Fair to good chance of success. Combined with fencing this option can minimize access to food and should be successful over time (perhaps 1 year). Monitoring residents' experiences would be useful to make further recommendations.

#### *Timeframe*

- Promoted on an ongoing basis throughout the year until deer move to areas outside of town where other food is available and remain there.

### **Hazing**

Implement an organized program of hazing the deer to change their behaviour and/or their distribution. A number of different techniques and time frames could be considered. Any hazing program would have to be approved by Alberta Fish and Wildlife, and be carried out by the Town under their guidelines.

Reducing habituated behaviour of urban deer is needed. The major problem with habituated deer is that they do not fear humans nor respond to actions that would normally keep them away from people and property on a permanent basis. Hazing is one measure that could be used to make them more wary of interaction with people and reduce their access to feed.

#### *Steps to Implementation*

- Development of a hazing program by the Town including methodology and timing.
- Application for a permit for the proposed program from the Department of Wildlife.
- Implementation of the program by the Town.
- Assess the success of the program before determining whether further action is necessary.

#### *Pros*

- Potential to reduce the habituation characteristics of the deer and thereby reduce wildlife/human interactions and damage to property.
- Ability to reduce the density of deer populations in specific areas.
- Possible reduction in the total deer numbers resident in the town.

#### *Cons*

- Residents may not accept this or publically oppose it.
- There is the potential for significant cost, especially if it must be done repeatedly.
- May provide only temporary relief as deer adjust and return to former areas and habits.

#### *Success/Failure Projection*

- Experience in other jurisdictions suggests that this often results in only temporary relief and may create problems in other areas.

#### *Timeframe*

- An initial program immediately (2021) followed by an assessment before further action is undertaken.

### **Deer Aversion Techniques**

Techniques and options used by residents to deter deer from entering their property and or eating their plants. They would include a variety of tools such as movement activated water shooters, noise deterrents and chemical inhibitors.

#### *Steps to implementation*

- Develop an education program listing potential deterrents.
- Purchase and installation of devices by residents.
- Monitoring success through community surveys.

#### *Pros.*

- Immediate reduction in access and damage.
- Ability to adjust to individual needs and circumstances.
- Reduction in complaints to the Town.



### *Cons*

- Deer become habituated and the devices lose effectiveness.
- Need for constant maintenance or replacement (i.e. deer repellents)
- Cost
- Residents could become frustrated at the need to continually undertake these actions.

### *Success/failure*

- Deer aversion techniques are likely to provide temporary but not permanent relief.

### *Timeframe*

- Would need to be a regular and ongoing activity for residents; whenever deer try to access their yards.

## **Relocate**

Relocation is a non-lethal method of controlling overabundant mule deer populations. It involves live trapping or darting, immobilizing and relocating animals to an area upwards of 30 km away from the perceived problem area. Relocation is best if there is a natural barrier such as a lake or river to help keep the deer where relocated to; down the river valley a few kilometres won't work.

### *Steps to Implementation*

- Requires a permit from AEP.
- Humane protocols need to be established and adhered to.
- Specialists/experienced team need to be researched and hired.
- Community support is required to minimize interference with the program.

### *Pros*

- Immediate reduction in deer population and damage to property.
- Immobilizing darts are an effective method of subduing the animals, no need to live trap.
- Fewer negative human/deer interactions.

### *Cons*

- Costs about \$1100 per animal to relocate based on research from other municipalities.
- Relocated deer can become a problem in or near other communities where they are moved to.
- Mortality rate, after translocation, is higher than non-urban deer because of no previous encounters with predators or inability to forage in the new area.

- Clover live traps to capture deer are cheaper but have proved ineffective and prone to vandalism in other communities.
- Overall labour intensive - need trained professionals to dart, subdue, load and relocate by vehicle.
- Potential exposure to disease (e.g. CWD) in the new area and if they return may bring that with them.
- Some relocated deer return to where they were originally captured. .

#### *Success/Failure Projection*

- Successful population reduction in short to medium-term.
- Some deer will eventually return and new ones will move in.

#### *Timeframe*

- A multi-year project

### Cull

A lethal method of controlling overabundant wildlife populations which involves trapping/immobilizing and killing animals by humane euthanasia.

#### *Steps to Implementation*

- AEP permit is required.
- Experienced team must be hired and humane protocols established and used.
- Animal carcasses must be immediately processed in approved facility to be able to use at, for example, a food bank.
- Requires strong community support to succeed.

#### *Pros*

- Reduces the deer population immediately.
- Fewer negative human/deer interactions and property damage.
- May instill wariness in remaining animals.
- Financial cost to capture animals, process and distribute is less than relocation.

#### *Cons*

- Culling urban deer, for most people, is unacceptable, especially when other options like sterilization are available.
- Will require 24 hour trap monitoring to reduce animals' struggling.
- Deer struggle and may be injured or die in the trap.

- Active protests by residents may result as some see this as inhumane treatment. Not all will support this process.
- Expensive due to capturing animals, but less than a relocation project cost.
- New animals will eventually re-populate the area, so not a permanent solution, only a short-term measure.
- Other municipalities have seen traps damaged and deer released.
- Cost in dollars is high based on other municipalities' experience.

#### *Success/Failure Projection*

- Short-term success for population reduction.
- Not a popular choice by most residents.
- Would need to be an ongoing multi-year project.
- Could be used in conjunction with other options described in this report.
- Project failure in medium to long-term as new animals move in.

#### *Timeframe*

- Have an initial one-time cull and then reassess for a potential future cull

### **Limited Hunt**

Special mule deer licensed hunt established by the Province of Alberta.

#### *Steps to Implementation*

- Town petitions Alberta Fish and Wildlife to establish a hunting (likely bow) season and zone(s) within certain part(s) of the town.
- Hunting from stands in trees (shooting down towards the ground).
- Could be limited to specific dates, areas and times of day.

#### *Pros*

- Hunting community would support this project.
- Much less expensive in dollars than relocation, culling or immunocontraception.

#### *Cons*

- Hunting is not easily implemented in an urban environment (Whittaker, 1998).
- Many in community would not support hunting in town limits.
- Protests to Council and hunt interruptions may result by residents and animal rights groups.

### *Success/Failure Projection*

- This would not succeed unless the entire community supported it.

### *Timeframe*

- Once per year; reassess after first year.

### **Sterilization (Immunocontraception)**

Sterilization (neutering) is a commonly used method of population control in domesticated animals. Until the 1990s, surgical methods were the only option to sterilize an animal. Immunocontraception is non-surgical sterilization through the use of an injectable vaccine. The vaccine causes the animal's immune system to respond, creating antibodies, preventing fertilization. Current immunocontraception vaccine technology results in sterilization lasting anywhere from one to seven years depending on the species and vaccine used.

This technology has been used in a few wildlife population control projects. The first large scale use was in the feral horse population in the western United States. In eastern North America, trial studies have occurred in white tail deer populations. A study in mule deer in Elk Point on Vancouver Island, Canada has shown some success in controlling their urban deer population

All the current products are currently experimental and there is no commercial vaccine available in Canada. In wildlife research studies, urban does are trapped, tranquilized, ear tagged and injected.

### *Steps to Implementation*

- A detailed project proposal requiring special permits and approvals from the provincial government and wildlife agencies are needed.
- Professional team required to perform the work.

### *Pros*

- Immunocontraception offers a non-lethal solution of controlling overabundant wildlife without the cost of relocation.
- Combined with other options (education, higher fencing, prohibiting feeding and speed limits) both damage by deer and numbers of deer will decrease.
- Combining immunocontraception with research by colleges and/or university partners to determine program success, movements (range of urban deer), parasites, diseases etc., will result in sharing of costs.
- Sterilization, unlike culling or relocation, will be a more socially acceptable method of population control.
- Because sterilization is something new and non-lethal, does in Okotoks will be identifiable by their ear tags.

- Using sterilization instead of culling or relocation may give Okotoks' residents something to be proud of and unite as a town.
- The community will perceive Council and the Town as taking action to reduce deer numbers and human/deer encounters and damage.

#### *Cons*

- Cost maybe prohibitive depending on how the deer are vaccinated.
- Involves the disruption of the deer's normal biology.
- Currently requires special permits and is experimental.
- Like most vaccines, the effectiveness would not be one hundred percent. Some does may have to be reinjected if they continue to reproduce.
- This method of population control will take a few years to produce clear results.
- Does that are treated by this method may go into estrus (heat) longer or more often.

#### *Success/Failure Projection*

- Good chance of success over 3-5 years as an alternative to culling or relocation.
- Combine with other management options to see quicker results.

#### *Timeframe*

- Annual until all local does are sterilized, then perhaps needed again if does reproductive activity returns or when numbers of does increases.

#### **Expanded Public Education Program**

- Design information that includes deer behaviours, time of year when bucks are in rut, time of year when does are having fawns, behaviours to watch for when a deer might be afraid or feel threatened.
- Information on the dangers of feeding and antagonizing deer, which can lead to habituation or human/pet injury. Unintentional feeding is as large a problem. It may be a birdfeeder that the deer can eat from, fruit trees in the fall where ripened fruited are hanging on the tree or have fallen to the ground.
- Inform residents on the temporary fencing initiative the Town has now implemented. Include what types of fencing are appropriate to use in a permanent and temporary basis.
- Educate residents on what types of flora to plant that are deer resistant and which ones to avoid, how to protect gardens and yards with fencing (temporary/permanent), deterrents to keep deer away from gardens.
- Information surrounding proper forms of hazing that residents can use on private property such as motion sensor water sprinklers, Predator Pee and children's water spray guns.

### *Steps to Implementation*

- Review and develop educational materials in a variety of formats including print, videos, online.
- Encourage garden supply businesses to stock more deer resistant flora and spray deterrents.
- Encourage businesses not to sell products that are advertised as, or can be used as, deer food.
- Widely circulate education information on bylaw change to prohibit feeding wildlife.
- Partner with schools to provide deer information to students.

### *Pros*

- Children and adults become aware of possible deer problems.
- Children share information learned at school with parents.
- More frequent information for the public means increased awareness and potentially fewer deer interactions.
- New ideas will help keep gardens in good shape by removing deer food sources.

### *Cons*

- Problems with consistently getting the public to comply.
- Public resistance to implement changes that may require additional cost.
- Public may be resistant to changing their habits.
- Challenge with distributing the information widely enough.

### *Success/Failure Projection*

- There will be mix of successes and some challenges. Any encounter avoided or less damage to property will be a success.
- All education is a benefit to the public.
- Fencing costs and public attitudes towards implementing changes in their habits will be main challenges.

### *Timeframe*

- Ongoing because of the need to adapt information programs (perhaps quarterly or semi-annually) to the results after implementation.

## Reduce Habituation

Reduce habituation by limiting access to local food sources. Wild animals can become habituated to human infrastructure (buildings, roads) and to humans themselves. Deer is a species of animal that is easily habituated to humans, and human development, and have adapted readily to residential areas (Westerfield, 2019)

### *Steps to Implementation*

- Increase education so residents know the benefits of reducing habituation.
- Ban feeding of deer through bylaw change.
- Enforce feeding prohibitions.
- Encourage deer resistant flora plantings.
- Remove access to forage and other attractants by fencing bylaw change.
- Remove attractants such as bedding areas and easy access to travel corridors in town.
- Implement a humane hazing program with clear protocols to prevent foraging on private and public areas.
- Bylaw enforcement is required early but should be less as residents comply.

### *Pros*

- Some deer may go back to their wild nature and leave the town limits as feed is reduced within town.
- Potential for fewer incidents of negative human/deer interactions and injury.
- Reduced damage to public and private property.
- Fewer deer bedding down in town.

### *Cons*

- Some residents prefer deer in town and see no problem and would object.
- Some residents would ignore the bylaw and keep feeding deer; enforcement will be difficult.
- Enforcement may become a challenge for Council.
- Financial resources will be required for public education expansion and enforcement.

### *Success/Failure Projection*

- It is not a fix by itself. A multi-year commitment is required combined with other options noted in this report.

### *Timeframe*

- Multi-year commitment by residents to comply and consistent enforcement by the Town.

### Scientific Investigations

Gather quantitative and qualitative data on the following activities to determine the level of success, public perception, identify potential improvements and determine the long-term viability for continuing with some programs. Partner with universities, colleges, NGOs such as Animal Alliance, and Alberta Fish and Game Association to complete this research.

1. Focused survey of residents in high deer concentration areas to determine what they would like done about the deer; determine if there is a serious deer localized issue that requires action.
2. Deer count after hazing drives in a section(s) of town where deer are concentrated.
3. Survey residents about the perceived success of the fencing project to determine if deer are deterred with higher fences and/or various materials.
4. Establish biological carrying capacity of habitat within Okotoks.
5. Feasibility study on immunocontraception.

#### *Steps to Implementation:*

- Identify 3 year population count study requirements from this report.
- Contract a biologist to prepare the study process to meet the requirements.
- Contract an expert on immunocontraception to complete an assessment.
- Ensure dedicated staff resources (i.e. a part-time contract position) to monitor the strategy and implement the public education program.
- Implement the study.
- Monitor, collect and analyze data.

#### *Pros*

- Will provide current deer count and zones of concentrations as the years progress to determine impact of other options that are implemented.
- Provide updated account of residents' opinions on deer (last survey 2018) within Okotoks.

#### *Cons*

- Will be a multi-year financial cost to design, implement, monitor and analyze the data collected.
- Potentially a low response from the public surveys will not adequately represent the majority of opinions about deer.

#### *Success/Failure Projection*

- Success projected - determining effects of options within the overall strategy and need to adapt current or adopt new options. The success of the resident surveys will depend on whether a statistically viable number of people complete them.



### *Timeframe*

- Resident survey of deer – complete the first survey in 2021 to establish a baseline and then annually after the recommendations are implemented to determine if there is any change in perception.
- Hazing assessment – within 3-6 months of any hazing activity to determine the level of success in reducing the deer population.
- Fencing project – survey participating residents and specific interest groups (e.g. Okotoks Community Garden Club) during and following the initial pilot project to determine level of success and identify areas for improvement.
- Biological/social carrying capacity – begin the project in 2022.
- Immunocontraception assessment – to take place in 2022.

### **Changes to Provincial Wildlife Act**

Municipalities are limited in the options they can use to effectively manage urban deer as this is regulated at the provincial level. Changes in provincial regulations are needed in order to make it possible for Okotoks to have more control over the decisions around how to manage urban deer within town boundaries

### *Steps to Implementation*

- lobby the Provincial Government to amend the provincial Wildlife Act to include a section dealing with the management of urban wildlife to give more authority to urban municipalities to manage wildlife issues within their jurisdiction, and
- lobby other urban municipalities and the Alberta Urban Municipalities Association (AUMA) to support amendments to the provincial Wildlife Act to give more authority to urban municipalities to manage wildlife issues within their jurisdiction.

### *Pros*

- Municipalities will have more flexibility over the options used to manage deer.

### *Cons*

- May increase responsibilities, resources and cost to manage urban deer.

### *Success/Failure Projection*

- If regulations are changed, this could be very successful at providing greater options that municipalities can use.

### *Timeframe*

- Changes to legislation will take a long time with changes that may take up to 3 years.

**PART 4**  
**TASK FORCE RECOMMENDATIONS**

## **Establish An Urban Deer Management Strategy**

The Task Force recommends establishing an overall Okotoks Urban Deer Management Strategy. This Strategy is fundamental to successfully manage deer interactions with residents over the long-term. Annual Action Plans can be developed and adapted based on the options selected for implementation. It must remain a high Town priority to achieve long-term success so residents and deer can live in relative harmony.

In general, the Strategy must address:

- 1) concerns and safety of residents and promote positive interactions
- 2) studies on current and future deer populations, behaviour and natural habitat impact
- 3) continual adaptations to address changing community urban deer issues
- 4) options for short, medium and long-term implementation
- 5) consistent data collection and analysis from scientific investigations and
- 6) improved residents' awareness of their role

## **Recommended Options within the Management Strategy**

Timelines indicate how quickly the recommendation could be implemented and the priority the Task Force has identified for implementation:

- **Short-term:** within 6 months
- **Medium-term:** 6 months to 2 years
- **Long-term:** 2 years onwards

### *1. Minimize Deer Foraging on Private and Public Property (short-term)*

Implement both temporary and permanent deer resistant fencing options to protect gardens and limit deer access to artificial food sources.

#### Temporary Fencing

- Extend the 2021 pilot project into an annual fencing option.
- Update approved temporary fencing options based on results from the pilot project.

In 2021, Council approved the Task Force's initial recommendation for a pilot project from April, 2021 to April 2022 to address the issue of damage to gardens but also to research different fencing options that could be included in any long-term management strategy.

#### Permanent Fencing

- The Town either annul the current restrictive covenants on fencing or explore methods to override them, including the potential for a Ministerial Order.
- That no restrictive covenants on fencing be included in new residential subdivisions.

- That the Land Use Bylaw be amended to allow fencing of up to 2.3 metres around back yards.
- That the Town incorporate considerations for permitted deer proof fencing into the Land Use Bylaw. These provisions would delineate the circumstances and type of deer proofing that would be permitted and would cover front yards and fences adjacent to open areas and parks. The types and uses of fencing allowed under the new provisions would be based on the effectiveness and acceptance of the temporary measures allowed during the pilot project

Addressing the issue of allowing effective deer deterrent fencing is a key element of any management regime dealing with the deer in Okotoks. Not only is the ability to create effective deer proof fencing uncontroversial and financially viable, but it also achieves two important objectives. It creates the opportunity for gardeners to protect their property from damage created by the deer. Equally important is the fact that by reducing the available artificial food supply for the town deer, it creates an effective long-term population management tool.

Experience from the Town of Kimberly has shown that reducing access to artificial as opposed to natural food supplies has been effective in creating a non-controversial, long-term limit on total deer numbers. Current bylaws and restrictive covenants on fences bordering open spaces and parks in Okotoks do not permit the use of effective deer proofing around yards. Resolving the deer proof fencing issue would alleviate much of the controversy in the town about the future of the deer.

## *2. Reduce Habituation (short-term)*

- Amend Bylaw 22-12 to prohibit feeding of fur bearing wildlife on private as well as public property within Okotoks (see Appendix IV). Regulate a minimum off-ground height for bird feeders to prevent deer from accessing them. Mandatory bird seed and fallen tree fruit clean up within a reasonable time. These are preventative measures against habituation.
- Implement consistent enforcement for non-compliance.
- Review Canmore feeding bylaw for more specific actions and concepts

## *3. Increased Public Education (short-term)*

- Education is key to implementing a successful urban deer strategy. Ensuring that comprehensive educational information is readily available to the public will increase the awareness of residents on what they can do to help reduce habituation and keep human/deer interactions to a minimum. Education materials should include information on decreasing habituation, fencing options, permitted hazing on private property, deer resistant flora, and restrictions on feeding deer.
- Increase resident awareness of their responsibility to ensure these strategies are successful. The public needs to take ownership of the initiatives presented to see lasting results. With the help of the Town in creating the proper resources, a lasting impact on preventing deer habituation within Okotoks can be achieved.
- Partner with schools to develop an education program to increase students' awareness of how to co-exist with urban deer.

4. *Deer Resistant Flora (short-term)*

- Continue and expand the low water/deer resistant plant rebate program.
- Encourage retailers to stock a wider variety of low water/deer resistant flora.
- Encourage residents to purchase deer resistant flora and other deterrents.
- Increase information about deer resistant flora in key locations.

5. *Deer Aversion Techniques (short-term)*

- Develop an education program listing potential deterrents that residents can use to keep deer out of their yards.
- Monitor success through community surveys.

6. *Hazing (medium-long term)*

- The Town to develop and implement a hazing program including methodology and timing.
- Assess the success of the initial program before determining whether further action is necessary.

7. *Speed Zone Changes (short-term)*

- Examine reducing speed zones in high deer occurrence areas (near bridges over the river valley). Add deer warning signage in these areas.

8. *Scientific Investigations (medium-long term)*

Deer population and movements within Okotoks:

- Contract a biologist to design and implement a scientifically based urban deer study to accurately measure and determine the social carrying capacity of deer within Okotoks.
- A few deer counts have been done in town limits, but a multi-year study is required. Maximums and minimums at certain times and certain parts of town can be obtained through the deer counts but do not provide a complete picture. Partner with a community college/university to complete this study year over year to better identify trends.

Establish biological carrying capacity of habitat within Okotoks:

- Analyze the natural habitat within Okotoks to determine if it is sufficient to support a mule deer population and what number that may be.
- Habitat assessment in natural areas in town to determine biological carrying capacity (without deer accessing residents' gardens and yards and public green spaces).

Re-survey attitudes of Okotoks' residents:

- Surveys of resident's opinions were done twice - 2015 and 2018. Determine whether opinions about deer have changed or remained the same. The number of deer in a specific urban area can lead to increased human/deer interactions. Identify through number of complaints when the level of interaction with residents intensifies which can trigger additional action to manage deer populations.
- Social carrying capacity study to determine residents' opinions on the optimal number of deer in Okotoks that can live in peaceful coexistence.

- Improve the system for officially reporting and analyzing when wildlife are injured or killed by vehicles or disposed of by all law enforcement personnel.

#### 9. *Changes to the Provincial Wildlife Act (medium-term)*

That Council:

- lobby the Provincial Government to amend the provincial Wildlife Act to include a section dealing with the management of urban wildlife to give more authority to urban municipalities to manage wildlife issues within their jurisdiction, and incorporating urban wildlife management (mule deer) in provincial wildlife species management plans. The mule deer species plan is currently under development-needs to be **followed up quickly** as a separate submission to Alberta Fish and Wildlife or through its public consultation process
- lobby other urban municipalities and the Alberta Urban Municipalities Association (AUMA) to support amendments to the provincial Wildlife Act to give more authority to urban municipalities to manage wildlife issues within their jurisdiction, and incorporating urban wildlife management (mule deer) in provincial wildlife species management plans. The mule deer species plan is currently under development-needs to be **followed up quickly** as a separate submission to Alberta Fish and Wildlife or through its public consultation process.

#### 10. *Budget*

- Recommend that Council budget approximately \$25,000 for the first year of implementation to cover the costs for specialized contractors, study implementation, and analysis, staff resources and public education programs. Budget approximately \$20,000 in subsequent years to support ongoing studies and programs.

#### **Options Not Currently Recommended for Implementation**

The previous recommendations are more acceptable to residents and are less expensive methods to reduce human/deer encounters and damage to public and private property. They also allow residents to take an active role in helping to manage the deer population and access to their property.

The Task Force does not recommend implementing the following options at this time:

- 1) Immunocontraception
  - 2) Relocation
  - 3) Culling
  - 4) Hunting
- They are all short to medium-term population reduction methods, some of which can be perceived by residents as cruel or unsafe.
  - They have limited long-term success as other municipalities have found that new animals move into the area to replace those removed.
  - Immunocontraception, relocation and culling are expensive to undertake and may be required for many years to reduce deer populations to an acceptable social carrying capacity.

- There may be a need to remove a few animals which are repeat offenders showing 'aggressive behaviour' or which have, in rare circumstances, injured or killed people or pets. These situations can be addressed individually in consultation with the provincial agency responsible for wildlife management to remove the animal(s).

## **PART 5**

### **ACKNOWLEDGEMENTS**

The Task Force members thank all those who contributed to this study and report.

Thanks you to the Okotoks Town Council for its support and the trust placed in our findings.

- Brett Boukall – Senior Wildlife Biologist, Environment and Parks
- John Herasemluk – Town of Pincher Creek
- Liz White, Animal Alliance of Canada
- Wayne P. McCrory, RPBio.
- Councillor Darryl Oakley, City of Kimberley
- Deer Count volunteers
- Christa Michailuck, Town of Okotoks Parks Manager
- Colin Gainer, Town of Okotoks Senior Planner
- Gordon White, Town of Okotoks Parks Technician, Urban Forest
- Joan Botkin, Town of Okotoks Community Engagement Manager
- Patty Huber, Town of Okotoks Legislative Services Administrator



## **PART 6**

### **APPENDICES**

## **APPENDIX I - Urban Deer Task Force Terms of Reference**

<b>Committee Type</b>	Task Force
<b>Purpose</b>	To provide advice, information, ideas/models/tools, and other needed support to the Town of Okotoks in preparing an Urban Deer Strategy and Action Plan, and to support communication and engagement efforts to ensure the resulting Strategy and Action Plan is effectively implemented.
<b>Membership</b>	<p>The Task Force will be comprised of:</p> <ul style="list-style-type: none"><li>• up to a maximum of seven (7) community members who meet some or all of the following criteria:<ul style="list-style-type: none"><li>• specific experience, education, knowledge and/or networks relevant to wildlife and conservation issues;</li><li>• are drawn from the general public, in order to provide a “sounding board” as well as local knowledge and experience;</li><li>• provincial wildlife or Fish &amp; Game Association representative;</li></ul></li><li>• one (1) Town staff liaison.</li></ul> <p>The Chair and Vice Chair for the Task Force will be elected by members.</p>
<b>Authority</b>	<p>The UDTF will report to Council once every three months.</p> <p>This Council-appointed Task Force’s overarching responsibility is to assist the Town in researching all aspects of urban deer management and developing recommendations for an Urban Deer Strategy and Action Plan that reflect best practices and align with provincial regulations.</p> <p>This Task Force will have a one-year term with clearly defined roles and responsibilities and a specific focus on the topic area.</p> <p>The Task Force will establish a schedule for meeting days and times.</p> <p>The following timeline of actions is to be utilized as a guideline for the Task Force:</p>

Timeline	Actions
3 months	<p>Review the current status of urban deer in Okotoks including: deer population, public survey data, and number/type of complaints.</p> <p>Undertake inter-municipal research to explore strategies and tactics used by other municipalities to manage urban deer.</p> <p>Develop an inventory of deer management strategies and alternative options that align with provincial regulations.</p>
6 months	<p>Identify challenges and issues with current public perception of Okotoks' urban deer and provide recommendations on potential solutions.</p> <p>Review Okotoks' public education materials (printed and electronic) regarding urban deer and methods of sharing information; identify gaps/opportunities to improve effectiveness of public outreach.</p> <p>Review Okotoks bylaws and policies related to wildlife/deer, identify potential gaps or opportunities.</p>
9 months	<p>Identify potential public participation strategies that involve the general public or other stakeholders on urban deer management.</p> <p>Provide guidance and support for the Town's public participation activities.</p> <p>Attend public participation events.</p>
12 months	<p>Provide recommendations to Council that will be considered for inclusion in an Okotoks Urban Deer Strategy and Action Plan. The recommendations must include a clear timeline or logical sequence for</p>

	implementing any actions, bylaws or activities, as well as an assessment of associated costs (if any).
<b>Term</b>	Unless extended through Council resolution, this Task Force's term expires on or before May 31, 2021. <b>(Motion 20.C.262)</b>
<b>Meeting Frequency</b>	As needed and determined by the UDTF.
<b>Funding</b>	Minimal expenses to cover expert speaker travel costs and other meeting expenses drawn from existing budget.
<p style="text-align: center;"><b>Urban Deer Task Force (UDTF)</b>  <b>(As amended by Motion 20.C.262)</b></p>	

### **APPENDIX III – Urban Deer Task Force Member Selection Process**

Advertisements were placed in various media in the Town requesting persons interested in being a member of the Urban Deer Task Force to apply to the Town. Applicants were individually interviewed by Town administration. Seven members were selected and approved by a Council motion.

**APPENDIX IV - Excerpt from Bylaw 22-12: A Bylaw to Regulate  
the Use of Open Spaces and Recreation Facilities**

2.10 Fur-bearing animal shall have the same meaning as defined in the Wildlife Act, R.S.A. 2000, Chapter W-10 as amended or replaced from time to time, but for the purpose of the Bylaw shall only include the following animals:

- a) Bear;
- b) Moose;
- c) Coyotes;
- d) Foxes;
- e) All species of Elk (Wapiti);
- f) Mule Deer; and
- g) Whitetail Deer

13.5 No person shall touch or feed fur-bearing animals in an open space or entice furbearing animals in an open space to approach, by holding out or setting out decoys or any such devices, food stuffs or bait of any kind.

13.6 No person shall harass, worry, attempt to capture, capture, injure or kill any wildlife in an open space unless that person is authorized to do so by the Town or has authority to do so under the authority of the Wildlife Act. BYLAW 22-12 ADMINIST

**APPENDIX IV: Annual Town Costs**

**TOWN OF OKOTOKS-PUBLIC PROPERTY DAMAGE, DEER DISPOSAL AND  
SIGNAGE COSTS  
CALENDAR YEAR 2020**

<b>DAMAGE / ACTION (#/year)</b>	<b>AVERAGE COST (\$/year)</b>	<b>APPROXIMATE LABOUR COSTS (\$/year)</b>
Disposing Dead Deer (18)	200.00	1,440.00
Trees Rubbed or Eaten (5)	5000.00	300.00
Flowers Eaten	600.00	0
Tree Protection Fencing	3000.00	8,000.00
Crabapple Clean-up	6200.00	240.00
Warning Signs Placement	N/A	1,440.00
<b>TOTAL</b>	<b>15,000.00</b>	<b>11,420.00</b>

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