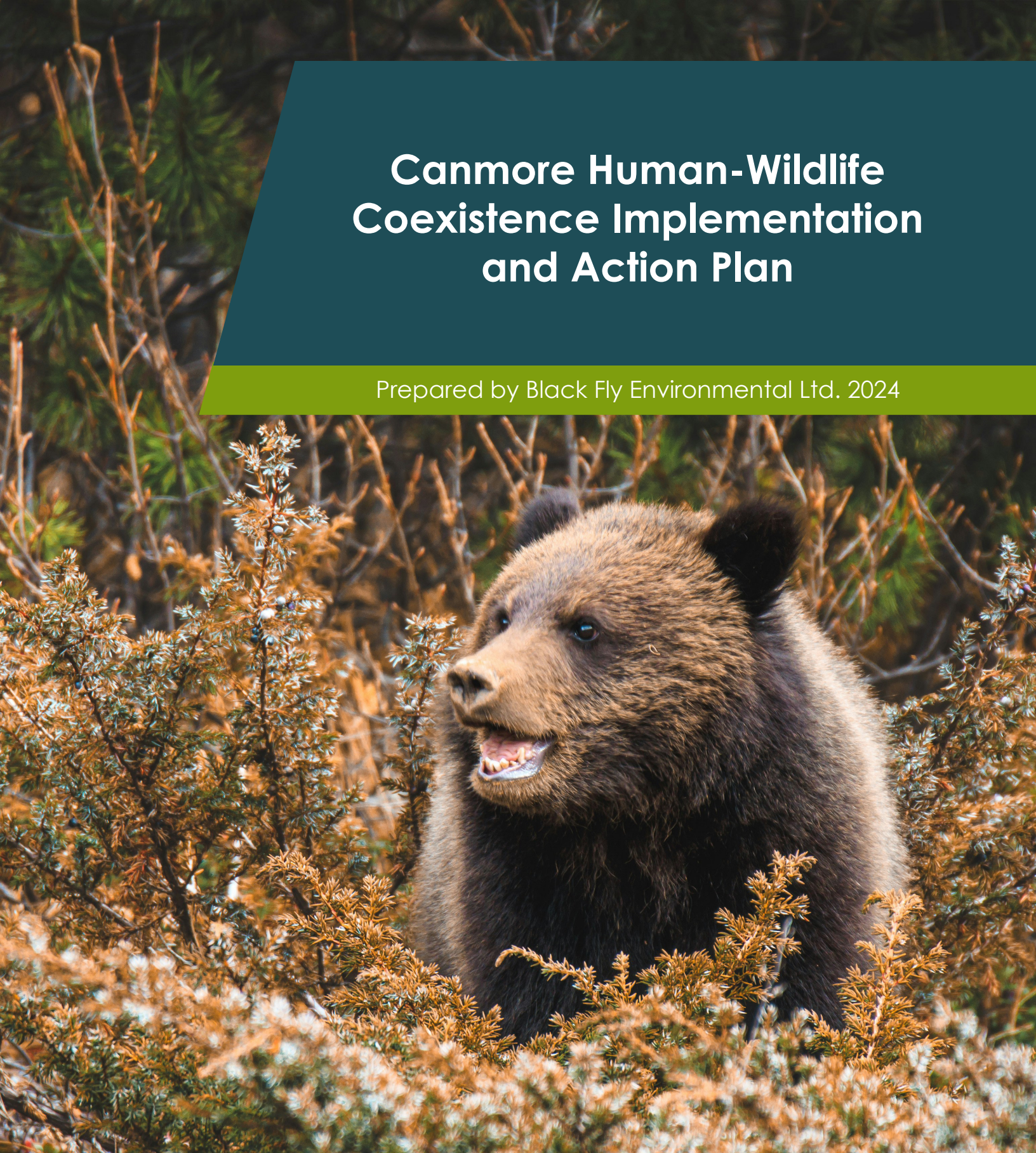


# Canmore Human-Wildlife Coexistence Implementation and Action Plan

Prepared by Black Fly Environmental Ltd. 2024



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## Executive Summary

Black Fly Environmental (Black Fly) has partnered with the Town of Canmore (Town) to develop a Human-Wildlife Coexistence Implementation and Action Plan. This initiative aims to identify practical measures to mitigate human-wildlife conflicts, considering the Town's proximity to high-quality wildlife habitats. This plan builds upon the foundational work of the 2018 "Recommendations for Improving Human-Wildlife Coexistence in the Bow Valley" report, prepared by the Bow Valley Human-Wildlife Coexistence Roundtable and Technical Working Group. The 2018 report, along with its 2019 follow-up, "Bow Valley Human-Wildlife Coexistence Status Report," highlighted six critical areas for improvement:

- Trans-Boundary Management,
- Wildlife in Developed Areas,
- Habitat Security,
- Food Conditioning and Habituation,
- People Compliance, and,
- Wildlife Management.

The current Implementation and Action Plan adapts these recommendations to the specific context of Canmore. It leverages both qualitative and quantitative data, including a comprehensive literature review, interviews with Town staff, public consultation surveys, and input from groups including Yellowstone to Yukon (Y2Y), University of Alberta, Town of Banff, MD of Bighorn, Province of Alberta (the Province), CPAWS, and the Biosphere Institute of the Bow Valley. The focus of the report mainly focuses on identifying and addressing gaps in Canmore's existing wildlife conflict management strategies. This approach is designed to create a sustainable balance between the Town's development and the region's rich wildlife, ensuring long-term coexistence. It is recommended that the Town continue focusing on addressing seven main areas relating to the coexistence of humans and wildlife:

1. Removal of fruit-bearing trees which act as food attractants for wildlife,
2. Decrease the occurrence of off leash dogs that result in conflict with wildlife,
3. Install wildlife exclusion fencing around recreational areas commonly used for grazing,
4. Advocate for the integration of FireSmart strategies into surrounding forest management practices,
5. Update the Town's Community Standards Bylaw, Engineering Design and Construction Guidelines to be in alignment with fruit-bearing tree bylaws,
6. Maintain or increase public education efforts relating to the above-mentioned projects, goals, and bylaws, and
7. Maintain or increase meaningful incorporation and collaboration with Indigenous peoples and their systems of knowledge.

The overarching goal of the Implementation and Action Plan is to safeguard the well-being of both the residents and visitors in Canmore, while ensuring that local wildlife populations are not adversely affected. Recognizing the fluid nature of such objectives, this Plan is to be considered

a living document, necessitating regular evaluations to assess its ongoing relevance and efficacy. It is advised that a comprehensive review be conducted five years post-publication to appraise the progress of action item implementation, as well as to assess the impact and effectiveness of the strategies employed in achieving the paramount aim of reducing human-wildlife conflict.

## Wildlife Habituation within Canmore

### Bow Valley Corridor

The Town, nestled within the Bow Valley Corridor, is a crucial gateway for wildlife moving along the Bow River through the Bow Valley. The Bow Valley is comprised of flat, open habitat at a relatively low elevation, fostering biodiversity and creating high value habitat for numerous wildlife species. This corridor maintains vital connectivity to the Front Ranges of the Rocky Mountains, facilitating ease of movement for carnivores with large ranges and maintains gene flow by encouraging genetic migration between distinct populations (Noss et al., 1995). The very attributes that render the Bow Valley an ideal habitat for wildlife similarly attract humans, leading to its growing popularity as both a residential and recreational hotspot.

### Urban Foraging Opportunities

Urban expansion, particularly in areas like the Bow Valley, inversely impacts the availability of natural and urban foraging opportunities. As the Town grows, enveloping the floodplain that once offered significant natural foraging opportunities, wildlife species are increasingly drawn to urban settings for food. Among these species, black bears and elk are prominent examples.

In Canmore, black bears are notably attracted to easily accessible food sources such as fruit trees and residential waste. This shift in foraging behavior has led to a higher concentration of bears in residential areas, surpassing the comfort level of many residents. The Town's natural allure for wildlife, juxtaposed with its urban development, creates a unique challenge in managing human-wildlife interactions.

Currently, the Town has a bylaw preventing the planting of new fruit bearing trees and prohibits the accumulation of fruit on existing trees. However, fruit trees within the Town continue to be a primary attractant, and regularly result in bears entering the town, causing disturbance. This too often leads to the translocation or euthanizing of bears.

Following Banff National Park's design and implementation of bear-proof garbage disposal bins in the 1980s, Canmore adopted the bins in the late 1990s. Today, bear-proof bin standards are established across the Bow Valley. As of April 2023, Canmore food service businesses with outdoor cooking oil disposal bins must have enclosed structures surrounding the bins to prevent wildlife tampering. Additionally, all food waste from businesses must be secured in a bear-proof food waste specific bin. The bylaw comes as a response to a family of bears that became habituated to the attractant in 2022, resulting in wildlife management officers having to destroy the bears. This program is widely seen as an improvement to the voluntary commercial food waste collection service that began in 2020, in which only 30% of eligible businesses enrolled.

Continued enforcement of proper waste management has and will continue to be a vital component of maintaining a healthy community and preventing unnecessary wildlife attractants within the Town.



Figure 1. Wildlife proof food waste bins in Canmore.

Elk in Canmore exhibit foraging behavior that is influenced by both the availability of cover for safety and the presence of open spaces with accessible vegetation. This results in frequent elk sightings in areas such as local recreation areas and urban parks, making elk a common sight at public spaces including school yards, baseball diamonds, golf courses, soccer fields, and residential spaces such as lawns and gardens.

The regular presence of elk in these heavily utilized urban spaces raises concerns about potential human-elk conflicts. In response, proposed mitigation strategies aim to manage and potentially reduce elk access to these areas. The Bow Valley Human-Wildlife Coexistence Roundtable's 2018 report recommends that fencing be installed around public recreation areas to prevent elk from entering green spaces with high rates of use by humans, in particular children. To date, Centennial Park has had fencing installed around its perimeter, but other green spaces and recreation areas are still easily accessible to ungulates.

### Lack of Predation Within Canmore

Urban environments, like Canmore, often serve as sanctuaries for prey species due to the absence of natural predators and hunting activities. This phenomenon is highlighted in Goldberg et al.'s 2014 study which finds that elk in the Banff Townsite used the area as a refuge from wolf predation. This study also noted a marked contrast in predation rates between elk populations within the town and those in the broader Bow Valley, with town-dwelling elk experiencing significantly less predation.

Further, a 2012 meta-analysis by Fischer et al. demonstrates that mammalian mortality rates are significantly lower in urbanized areas compared to more rural settings. Given the frequent sightings of ungulates in the green spaces of Canmore, these findings suggest that ungulate species are utilizing the town not just for foraging opportunities, but also for shelter from predatory species that display human-averse behavior such as wolves and grizzly bears.



Figure 2: Fencing outlined in red surrounding Lawrence Grassi Middle School-Centennial Park

## Species-Specific Human Wildlife Conflict in Canmore

Canmore has emerged as one of Canada's fastest-growing communities according to 2021 census data with a growth rate of 14.3%, significantly above both the provincial and national averages (Statistics Canada 2021). As a consequence of this fast pace of growth and tourism related activities, high quality wildlife habitat as well as connectivity between habitat patches has continually declined (Whittington et al. 2022). Interactions between wildlife and humans, given expanding human development encroaching onto increasingly limited habitat for wildlife, are expected to continue increasing. Considering these developments, the formulation

and implementation of effective strategies for human-wildlife coexistence in Canmore have become increasingly vital. This section delves into the current dynamics of conflicts between humans and various key wildlife species within the Canmore area, underscoring the need for proactive and sustainable coexistence strategies.



Figure 3. Town of Canmore. People enjoying activities in Canmore.

### Black Bear (*Ursus americanus*)

Sightings of black bears in and around the town are frequent, both due to the concentrated population of black bears in the Bow Valley area, as well as the overlap between resident recreation areas and black bear habitat. These factors coupled with black bears' susceptibility to habituation of human settlements through food attractants result in a high number of human-black bear interactions annually. This has presented a unique safety concern for Canmore residents and has resulted in a variety of public awareness campaigns as well as ongoing efforts to reduce food attractants within the town.

To keep the public informed on the presence of bears in or around the town, bear advisories are posted by Alberta Parks for Bow Valley Wildland Provincial Park, advising the public to avoid or use caution in areas that experience bear activity. In the town itself, fruit trees are among the most common causes of black bear presence. Because of the easily accessible and semi-reliable food source provided by fruit trees, black bears frequently enter the town to forage. This has resulted in safety concerns from residents, and while typically a last resort for wildlife managers, has resulted in capture and relocation of bears in multiple instances (Short 2021, Ellis 2022). Black bears remain among the most common species associated with human-wildlife



conflict in Canmore, and campaigns are ongoing which work toward the removal of fruit trees in the town.

### Grizzly Bear (*Ursus arctos horribilis*)

Though less frequently observed in Canmore, grizzly bears are known to occasionally forage in lower elevations depending on weather variability. Generally preferring high elevation montane habitat, grizzly bears can be driven to lower elevations when spring thawing of snowpack is delayed by cooler temperatures. Foraging opportunities along highways and other anthropogenically disturbed areas also attract grizzly bears to the town. In years where this happens, reports of grizzly bear presence in the town increase dramatically, leading to posting of advisories and signage throughout the area.

Human-bear interactions are a frequent occurrence in the area, resulting in high public awareness of the possibility of encountering a bear. Despite this, outdoor enthusiasts in the Bow Valley area were surveyed in 2018 and only 56% of respondents were found to carry bear spray with them when recreating outdoors (Bow Valley Human-Wildlife Coexistence Status Report 2019). Grizzly bear attacks, though relatively uncommon, have occurred in the area, necessitating continued efforts to improve public perception and awareness relating to bear safety.

The leading cause of mortality for grizzly bears is collisions with vehicles on highways (Alberta Environment & Parks 2019).

### Elk (*Cervus canadensis*) & Other Ungulates

Perhaps the most highly populated focus species in this report, elk are a very common sight in Canmore. Developed areas can act as spaces of refuge for elk, as predators are generally more wary of human presence. Additionally, elk typically give birth to their young in the spring and are known to exhibit unpredictable and defensive behavior during this period. When defensive elk wander into populated areas, human-elk conflict has high potential for occurring, and has historically been a problem for residents and tourists around the Canmore area (CBC 2022).

Common areas for negative interactions between humans and elk include the edges of the town where elk can receive the benefit of sanctuary from predators without fully entering the town center, as well as just outside of town boundaries, where outdoor enthusiasts recreate in frequently used elk habitat. Common public outreach relating to elk suggests that the public maintains at least 30 meters between themselves and the animals, as well as to be additionally cautious when lone female elk are spotted, as this could indicate a hidden calf nearby. As evidenced by the Technical Working Group's 2018 Round Table Report, the result of ungulates exhibiting problematic behavior in town is often translocation and in some cases animal destruction. The most effective way to prevent this undesirable outcome is to avoid animal habituation in the first place by making Canmore a less attractive refuge for wildlife.

### Cougar (*Puma concolor couguar*)

While low in population density and generally averse to human settlements, cougars are occasionally observed both on surrounding trails and in the town itself. Cougar conflicts with humans in the Canmore area have occurred as recently as April 2023 (Ellis 2023), and while they very rarely result in injury or mortality, these encounters are distressing to residents. This has necessitated continued public awareness campaigns and signage warning of the possibility of encounters with the species.

To keep the public informed about the presence of cougars in or around the town, cougar advisories are posted by Alberta Parks for Bow Valley Wildland Provincial Park, which surrounds the town. In Alberta, cougar populations are increasing, and their range is consequently expanding (Alberta Environment and Parks 2019). This will likely result in increasing overlap between cougar and human-used territory, fueling the need for continued public awareness and caution exercised toward the species.

### Coyote (*Canis latrans*)

Though direct conflict with humans is rare, observing coyotes on hiking trails or next to roads is a relatively common experience for people in the Canmore area. Despite roads being among the most common places for humans to see coyotes, studies on their behavior indicate that coyotes have relatively strong avoidance of crossing the surface of roads (Youngmann 2022). This presents a conflict between humans and coyotes through fragmentation of their habitat, making it difficult for the species to access all areas of its range.

Of more direct concern to the wellbeing of Canmore residents, however, stems from the species' ability to den in unexpected places. This sometimes situates defensive adult coyotes, and their pups close to human settlements. While local coyote attacks have occurred (CBC 2007), less aggressive defensive behavior is far more common, and has almost exclusively been directed toward dogs being walked in close proximity to hidden coyote dens. Over the past decade there have been several instances of coyotes denning underneath residential buildings, resulting in dogs and their owners being "escorted" away from dens by defensive coyote adults. While human-coyote conflict is known to occur, the relatively low safety risk posed to Canmore residents allows these conflicts to be resolved on a case-by-case basis.

### Wolf (*Canis lupus*)

Though highly avoidant of areas of human disturbance (Whittington 2022), the presence of wolves and signs leftover from wolf activity have posed concerns for residents of Canmore. Though wolves rarely pose a direct threat to humans, the species has unsettled members of the public when the animal's carnivorous nature is displayed. As recently as March 2023, remains of wolf kills have been discovered by passing outdoor enthusiasts (Global News 2023), leading to feelings of concern over the safety of the natural areas that people use for recreation.

Sighting of wolf packs have been occasionally observed around Canmore, though their low population density makes the wolf a species of relatively low concern in terms of human-wildlife conflict.



Figure 4. Wildlife species of focus for human wildlife conflict in the Town of Canmore. (From left to right: grizzly bear, elk, black bear).

## Wildlife Enforcement Jurisdictions Within the Bow Valley

The Bow Valley adopts a collaborative approach to wildlife enforcement, reflecting the diverse jurisdictions governing different areas and types of wildlife encounters. The Town itself has jurisdiction within town limits and is able to enforce wildlife and wildlife attractant related bylaws, as well as the management of wildlife attractants on Town property. Other areas of wildlife management such as wildlife-vehicle collisions are more difficult for the Town to influence and enforce as the provincial Ministry of Transportation has jurisdiction over provincial highways. Similarly, the Town does not have the jurisdiction to be able to enforce the *Wildlife Act*.

Wildlife encounters that occur beyond the boundaries of both the Town and Banff National Park fall under the jurisdiction of the Government of Alberta, specifically managed by Alberta Environment and Parks. On non-park lands, including within Canmore, the Fish and Wildlife Enforcement Branch is responsible for responding to wildlife conflict and enforcing wildlife-related laws and regulations, whereas Alberta Environment and Parks oversees such enforcement on park lands. Response to wildlife encounters and subsequent wildlife enforcement within Banff National Park is managed by Parks Canada. Due to the multiple governing agencies at play in the Bow Valley, several of the subsequent Implementation and Action Plan recommendations are for increased and continued advocacy to the Province for wildlife management strategies outside of the Town jurisdiction.

### Bylaws and Enforcement

The Town works toward ensuring that bylaws are adhered to and enforced within their jurisdiction. Restricting the buildup of wildlife attractants including food waste and fruit from fruit-bearing trees is ensured by applicable bylaws, with education provided and tickets handed out for non-compliance and repeat offenses, and increased fines applied for repeated violations. Keeping the public and wildlife safe from off-leash dogs is enforced by community peace officers who hand out tickets for allowing dogs to go off-leash outside of designated off-leash

areas. The below subsections include relevant excerpts from bylaws enacted by the Town relating to the coexistence of humans and wildlife.

### Bylaw 2022-16: Community Standards Bylaw 2023

The Town's Community Standards bylaw is a wide-ranging bylaw designed to increase public safety, reduce the impacts that humans and wildlife have on each other, and to enable enforcement officers to address issues pertaining to the bylaw when they arise. Specifically relating to the coexistence of humans with wildlife, Bylaw 2022-16 lays out the following statutes:

*"42. No Owner or Occupier of a Premises shall allow on the Premises, the accumulation of*

*b) any material likely to attract pests or animals, whether or not defined as Wildlife"*

*"44. No Owner or Occupier of a Premises shall allow the following to accumulate on the Premises in a manner that is visible to a Person viewing from outside the property:*

*f) yard waste, including grass, tree and hedge cuttings, leaves and other refuse"*

*"54. No Person or Owner, other than a Peace Officer or a Person appointed by the chief administrative officer who is acting in the course of their duties shall store, collect, handle, or dispose of Wildlife Attractants in such a way that the Wildlife Attractants are accessible to or may attract Wildlife."*

*"55. No Person shall permit a Wildlife Attractant to be placed or remain in an outdoor location where the Wildlife Attractant is accessible to Wildlife."*

*"56. Except for Fruit-Bearing Vegetation located on any premises at the time of coming into effect of this bylaw, no Owner or Occupant shall plant, install, place, or allow or cause to be planted, installed, or placed, any Fruit-Bearing Vegetation on any Premises under the ownership or occupation of the Owner or Occupier."*

*"57. No Person shall feed, attempt to feed, or permit the feeding of Wildlife."*

*"58. No Person shall feed any animal, whether domestic or wild, in a manner that is likely to attract Dangerous Wildlife."*

*"59 Notwithstanding sections 56 and 57, a Person may place or permit the placement of an outdoor bird feeder containing bird feed, seeds, suet, nectar, or any other bird attractant between the dates of December 1 and March 31, provided that*

a) the bird feeder is suspended on a cable or other device in such a manner that it is inaccessible to Wildlife other than birds, and

b) the area below any bird feeder is kept free of accumulations of any Wildlife Attractants."

"60. No Person shall place or permit the placement of outdoor bird feeders containing bird feed, seeds, suet, nectar, or any other attractant between April 1 and November 30 of each year."

"61 Notwithstanding section 58, no Person or Owner shall place, or cause to be placed, on or near the property of that Person or Owner, any material or substance which has the effect of attracting pigeons."

## Bylaw 10-2011: Animal Control Bylaw 2022

The Town's Animal Control Bylaw ensures that dogs living within Canmore are licensed, properly cared for, and do not pose a wellbeing or safety risk to other people or animals within town limits. Specifically relating to coexistence with wildlife, the bylaw sets out the following expectations:

"15. No Owner shall allow a Domestic Animal to:

a) Threaten or chase any person, Domestic Animal, Feral Animal or Wildlife;

b) Bite any Domestic Animal, Feral Animal or Wildlife"

"30. The Town may designate public property where Dogs are permitted to be off-leash, and may post signs indicating such designation. On public property where Dogs are permitted to be off-leash, an Owner of a Dog must, at all times:

a) supervise and control the Dog;

b) ensure the Dog is within range of audible commands;

c) ensure that the Dog comes when called;

d) ensure the Dog does not Threaten any person, Domestic Animal or Wildlife;

e) ensure the Dog does not Bite another Dog;

f) ensure the Dog does not Bite any person; and

g) ensure the Dog does not chase Wildlife."

## Public Engagement

Public consultation questions, crafted in partnership with the Town, aimed to deepen the understanding of public views on fruit tree removal and the issue of off-leash dogs. A town-record breaking 510 respondents submitted answers to an online survey containing 15 multiple choice questions, two short answer fields for respondents to expand on each of the two primary focus points of the survey, and one open-ended comment box for participants to submit their own ideas relating to human-wildlife coexistence. 24 human-wildlife coexistence ideas were submitted. None of the questions were mandatory to answer, resulting in differing submission totals for each question.

The report recognizes a potential bias in the survey results, as the respondents are predominantly residents already engaged with Canmore news and events. This factor suggests that survey participants might have pre-existing awareness of town-related issues. Therefore, it is recommended that future surveys and outreach initiatives specifically target residents who are not regular consumers of Town's information channels, to ensure a more diverse and representative feedback.

### Survey Responses

#### Fruit-Bearing Trees

##### *Awareness*

Within the town, public awareness of bylaws relating to fruit-bearing trees is very high, with 94.4% of responses acknowledging their awareness that it is against the law to allow fruit to accumulate on trees, bushes, or the ground, as well as that planting new fruit-bearing trees is banned within town limits. Awareness of the fruit-bearing tree removal incentive offered by the Town was also high, with 84.1% of respondents stating that they were previously aware of the incentive.

##### *Tree Removal Incentive*

When asked if owners of fruit-bearing trees would be willing to remove their tree **because** of the \$500 removal incentive offered by the Town, 81.3% of tree-owners stated in the affirmative, while 18.7% responded they were not open to the idea. Further, when owners of fruit-bearing trees were asked if they would be open to removing their tree even **without** receiving the incentive, 63.8% confirmed that they would be open to the idea, while 20.4% said they would not, and 15.8% were unsure.

##### *Fruit-bearing tree maintenance*

Participants revealed that the reasons for maintaining fruit trees on their property are varied. Of those that have a fruit tree on their property, sentimental or aesthetic value (21.6%) and fruit from the tree being a good source of food for birds (18.4%) were the highest-scoring categories. In descending order, other responses for why residents maintained their fruit tree included that they had not previously experienced a negative encounter with wildlife related to their fruit tree (18.0%), financial costs associated with tree removal were greater than the cost of maintaining

the tree (16.4%), the Town currently has fruit trees on their property (12.4%), they were not the owner of the property that they live in (10.4%), and lastly that they were not aware that the fruit tree on their property was an attractant (2.8%).

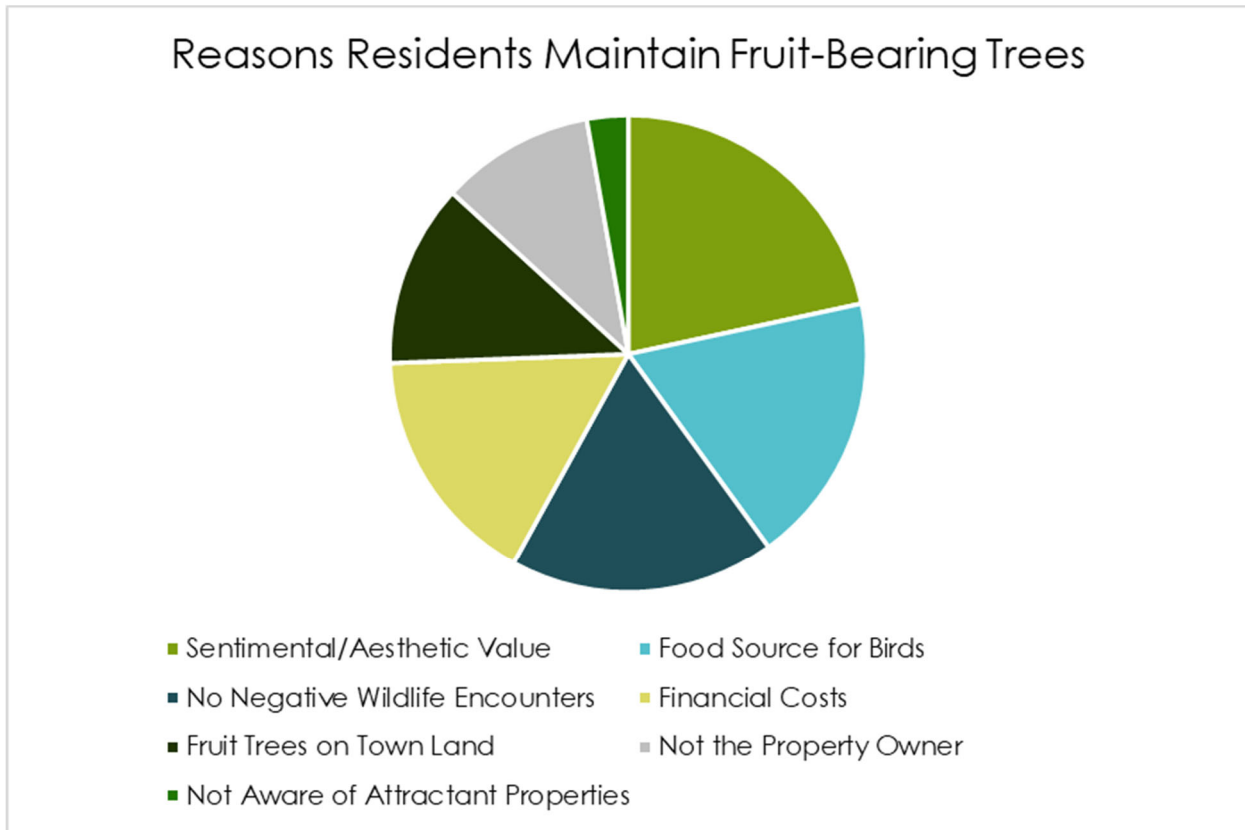


Figure 5. Reasons why residents maintain fruit-bearing trees on their properties.

To determine which factors would be most effective at encouraging fruit-bearing tree owners to have their tree removed, respondents were asked to rank five options in order of importance. An average ranking across the question's 199 responses was calculated, resulting in the following descending order of public importance:

1. If a negative wildlife encounter occurred on my property due to having the fruit tree
2. Financial incentives that covered the full cost of removal
3. If fruit trees on Town public property were removed first as an example
4. Financial incentives that covered a partial cost
5. More information or justification about why it is harmful to humans and wildlife to maintain fruit trees on my property.

These results may indicate that the incentive the Town offers for tree removal is an important factor for people when considering whether to remove their fruit-bearing tree but may not be enough to encourage homeowners to act toward having their tree removed. The aesthetic or sentimental value associated with the existing fruit-bearing tree is shown to be the highest-ranking reason for homeowners maintaining a tree on their property, revealing that the

presence of a tree is important to them. As one respondent stated in an idea submission, the Town may consider methods to incentivize tree replacement rather than removal. This could help residents feel like they are experiencing less of a loss from the removal of their fruit-bearing tree.

With a relatively low number of Town-owned fruit-bearing trees remaining within Canmore, prioritizing their removal could be seen as an act of good faith to the public. By removing the remaining Town-owned fruit-bearing trees, private landowners may feel more incentivized to follow suit with tree removal on their own property.

### Off-leash dogs

To determine the factors that continue to contribute to owners letting their dog off-leash outside of designated off-leash dog parks, a stepwise survey approach was utilized. Gauging the public's opinion on a variety of wildlife-related questions ranging from basic attitudes toward wildlife to specific questions about off-leash dogs, the survey enables the Town to determine at which points public perceptions differ from policy.

#### *Attitudes toward wildlife*

The importance of the protection of wildlife and their habitat to participants is nearly unanimous, with 96.4% of submissions confirming that the topic is specifically important to them. Similarly, 87.1% of respondents answered that they agree that letting dogs off-leash poses a threat to the safety of wildlife.

#### *Signage*

When asked about their awareness of signage communicating the hazards associated with letting dogs off-leash on designated trails, 92 respondents (18.4%) stated that they had not seen any such signage before, while 372 (74.3%) responded that they had. 37 survey submissions (7.4%) indicated that they were unsure.

A significant number of respondents were unaware of signage communicating restrictions to off-leash dogs on designated trails, indicating that increased amount or visibility of signage with off-leash dog messaging may be required to increase public awareness.

#### *Enforcement*

Public opinion on the enforcement of off-leash dog bylaws did not show significant division, with 407 (81.2%) responses indicating that they believe that keeping dogs on-leash should be enforced outside of designated off-leash parks. 55 (11.0%) responses stated that they did not agree with the statement, while 39 (7.8%) were unsure.



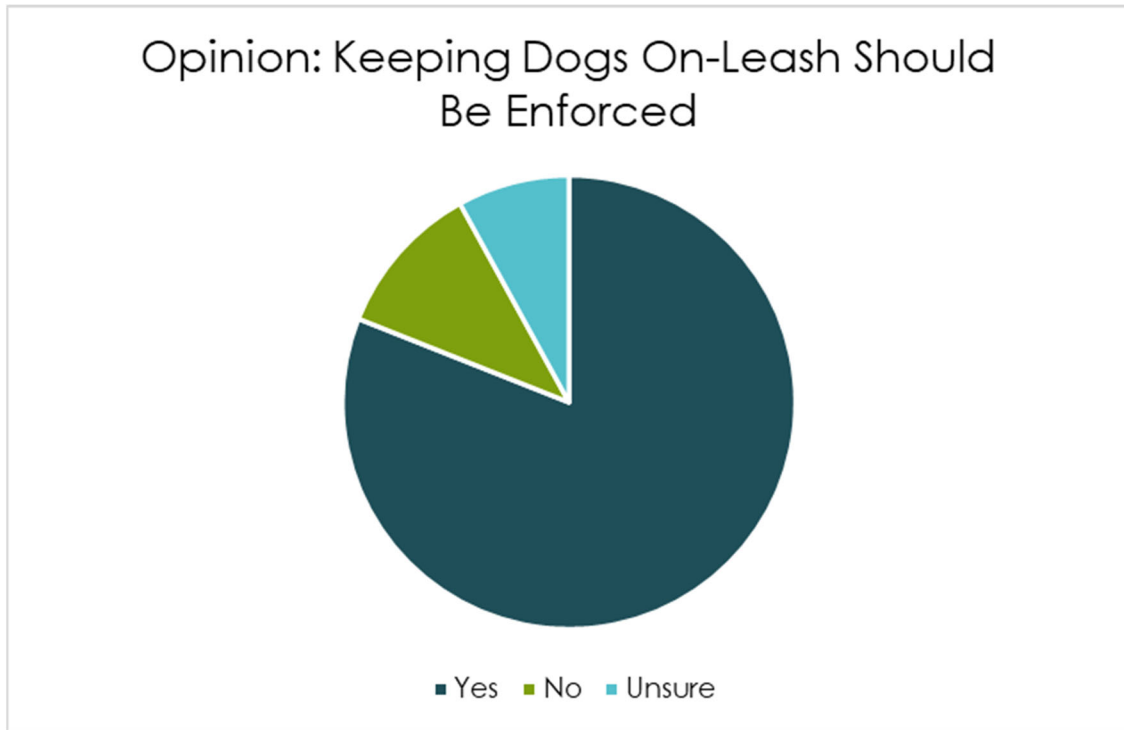


Figure 6. The percentage of residents who agree that keeping dogs on-leash should be enforced.

### *Reasons for walking dogs off-leash*

Survey respondents were asked if they walked their dog off-leash, and if so, to pick from a list of reasons why. While 292 (73%) survey submissions confirmed that they did not walk their dog off-leash, 108 (27%) stated that they did. Four reasons were selected among those who walked their dog off-leash: “My dog is under control with voice commands” scored the highest with 82 (75.9%) responses, there being a lack of enforcement from the Town with 14 (13%) responses, “I have a reactive dog, or my dog does not behave well on a leash” with 9 (8.3%) responses, and “I wasn’t aware I was not allowed to [walk my dog off-leash]” with 3 (3.8%) responses.

This result offers valuable insight into the awareness of dog owners to off-leash bylaws as well as the reasons for continuing to let dogs off-leash. Practically all respondents who walk their dogs off-leash are aware of off-leash dog bylaws, but continue to do so, with their belief in their control over their dogs as well as a lack of enforcement being the top reasons for doing so. This suggests that present levels of enforcement may not be enough to discourage a change in behavior from off-leash dog walkers.

### **Community Opinion**

Following the survey’s multiple-choice section, participants were encouraged to submit written ideas relating to the coexistence of humans and wildlife. Contributors submitted 24 ideas that were interacted with through comments and votes 149 times. Most frequently submitted topics included food attractants and fruit-bearing trees, public awareness, and off-leash dogs. Other

topics less frequently submitted included land preservation surrounding Canmore, mitigations of the effects of the Trans-Canada highway on wildlife, FireSmart land management, and the involvement of Indigenous peoples in government processes. The three most frequently submitted idea topics are expanded upon in this section.

### Food Attractants & Fruit-bearing Trees

Topics relating to food attractants and fruit-bearing trees were placed in the same category for the purposes of this report and was the most frequently submitted idea category. Survey participants unanimously supported the removal of fruit trees in Canmore, and many creative solutions were brought forward in support of decreasing the presence of wildlife within town limits. Ideas included:

- Improving the response time of reported fruit accumulation on fruit-bearing trees,
- Offering an additional incentive to help cover the cost to replace a fruit-bearing tree once it has been removed,
- Prioritizing the cleanup of improperly disposed-of garbage in the town, and
- Installing more bear-proof garbage containers along trails within the town to avoid litter.

### Public Awareness

Respondent ideas were submitted relating to a wide range of topics involving the public's awareness of bylaws and wildlife behavior. Ideas included:

- Directing resources toward providing information for visitors regarding safety and laws associated with wildlife in the Bow Valley,
- Increasing education for visitors regarding the harassment of wildlife, and
- Improving signage and enforcement regarding seasonal trail closures to better protect wildlife.

### Off-leash Dogs

Dog owners and advocates submitted ideas aimed at improved support as well as providing adequate off-leash options for a growing population. Ideas in this category included:

- Allowing the use of public transit by dogs to allow dog owners without vehicle access to travel to designated off-leash dog areas,
- Altering the enforcement schedule of off-leash bylaws to allow for more flexibility in off-leash behavior, and
- Developing more designated off-leash dog areas to provide closer access for a growing population of dog owners.

## Recommended Implementation and Action Items

In conjunction with the recommendations from the Bow Valley Human-Wildlife Coexistence Roundtable's 2018 report, seven actionable recommendations have been developed that the Town should prioritize to maximize wildlife-human coexistence. In this section, additional context

and actionable steps including timing considerations towards reaching the goal of each recommendation are provided.

## Fruit Tree Removal

Fruit trees are highlighted as the number one priority for the Town to decrease human wildlife conflict and wildlife habituation of human spaces. While the current Community Standard Bylaw prevents the planting of new fruit bearing trees or bushes, 2582 fruit trees still exist within Canmore. A tree removal incentive program introduced in 2019 is currently in place to help fruit-tree owners cover the cost of tree removal by providing \$500 per property has shown preliminary but promising results. A total of 172 fruit-bearing trees have been removed from the land of 96 private landowners as of 2019, with incentives totaling \$22,803.88. Annual removed trees reached their highest point in 2023 since the program's inception, with 94 trees removed from the property of 30 private landowners totaling \$11,000 in incentive handouts. If after three years private removal rates do not increase, it is recommended to expand the incentive program to include the replacement of the removed fruit-bearing tree as per results from the public outreach component of this report.

Fruit tree removal remains a priority for the Town, with a decision in November 2023 to expand the budget for fruit tree removal on Town land to \$30,000/year over the next five years, starting in 2024.

The primary species that act as wildlife attracts are:

- Ornamental crab apple (*Malus spp*),
- Chokecherry (*Prunus virginiana*),
- Mountain ash (*Sorbus decora*), and
- Buffaloberry (*Shepherdia canadensis*).



Figure 7. Common fruit trees within the Town of Canmore. (From left to right: buffalo berry, crab apple, chokecherry, mountain ash).

### Crab Apple Trees

Based on observational data from stakeholder groups in Canmore including the Biosphere Institute and Yellowstone to Yukon, as well as literature indicating that ornamental crab apple trees are highly attractive to bears and are commonly used in urban landscaping, it is recommended that the Town selects ornamental crab apple trees as the priority species for removal (Lewis et al., 2015) and should aim for a 100% removal of all Town-owned crab apple trees before 2029. The Town should prioritize crab apple tree removal before moving on to subsequent tree species identified for removal.

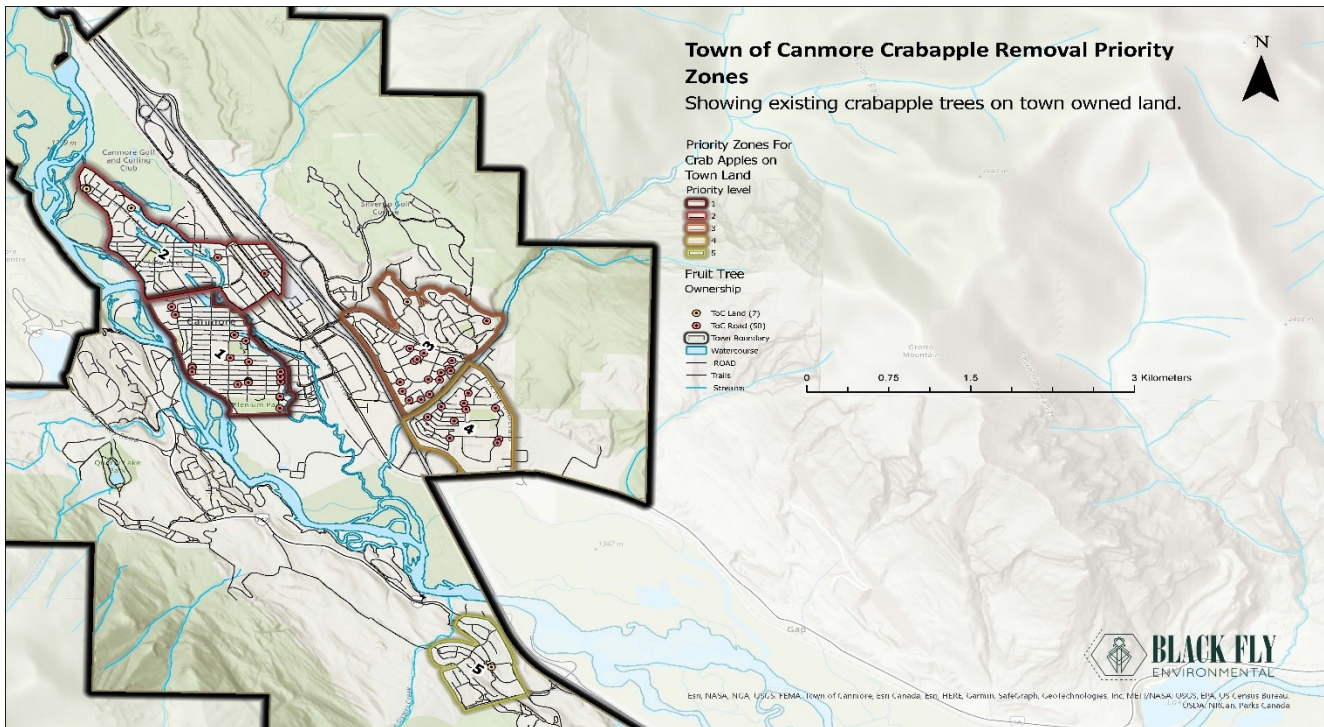


Figure 8. Crab apple removal priority areas for trees on Town of Canmore land

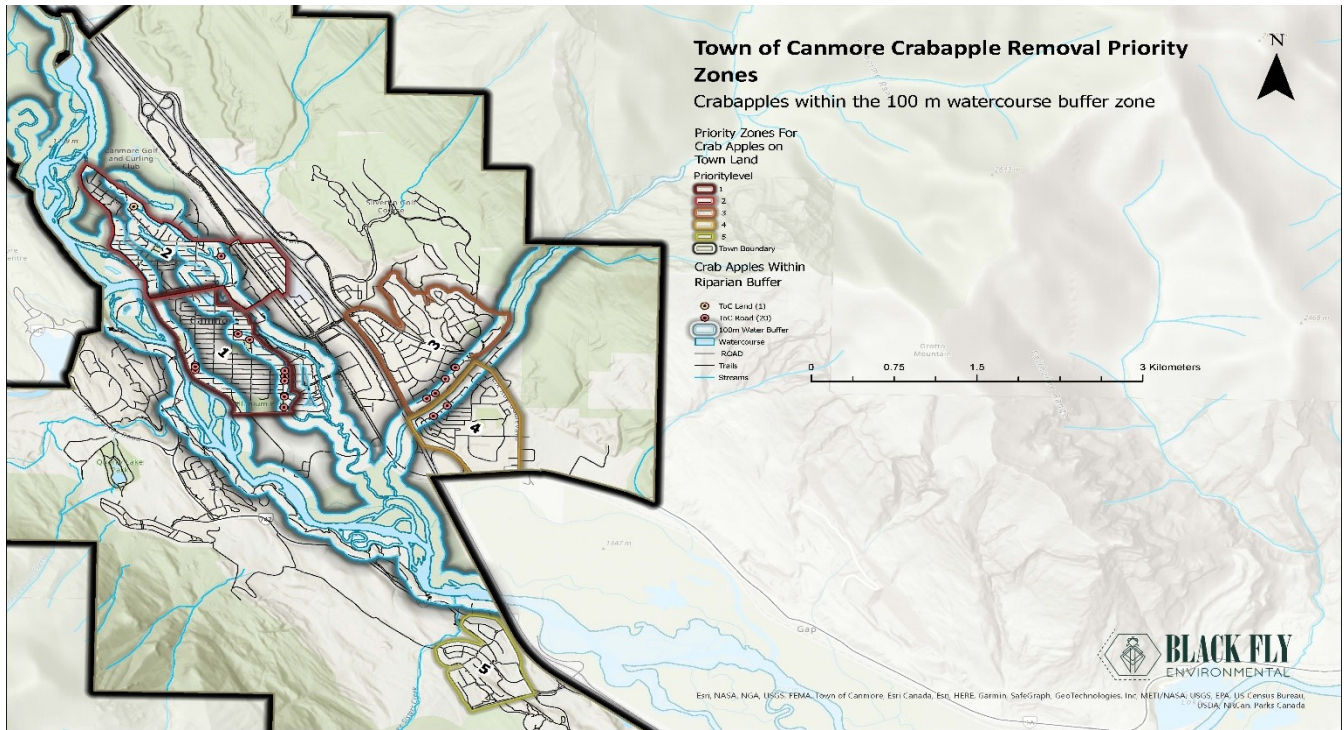


Figure 9. 100 Meter riparian buffer and crab apple trees within 100 m riparian buffer.

To enhance the efficacy of the crab apple tree removal process in the Town, a structured, priority zone stepwise approach on Town owned land is advised. The initial focus should be on eliminating all crab apple trees in town center and within a 100-meter radius of identified watercourses within town limits.

Table 1. Crab Apple priority Zone Removal Locations and Areas.

Priority Zone	Priority Zone Area (Ha)	Area of 100m water buffer within priority area (Ha)	% Priority Zone Area within 100m water buffer area	Crab apple total count	Crab apples within 100m water buffer area	% crab apples within 100m water buffer area
1	93	36	39%	21	12	57%
2	106	54	51%	6	2	33%
3	101	11	11%	19	5	26%
4	69	9	13%	10	2	20%
5	49	0	0%	1	0	0%

To effectively manage the removal of crab apple trees in Canmore, the proposed strategy should commence in areas of highest priority, concentrating on zones with the greatest density of trees within the town center and riparian buffer zones. These riparian buffer zones, often rich in biodiversity, function as natural corridors that facilitate wildlife movement into and out of urban areas, making their management essential to mitigating human-wildlife conflict. Although the Cougar creek watershed has been altered, it should still be viewed as a

riparian area within Canmore as it still facilitates wildlife movement into and out of town. All trees within priority zone 1 should be removed prior to beginning tree removal in priority zone 2-5.

Table 2. Priority Zone description and removal Process for Crab Apple Trees within Town of Canmore owned Land.

Priority Zone	Attribute	Comment
<b>Zone 1</b>	<b>Area</b>	93 hectares
	<b>Riparian Buffer Area</b>	Area: 36 hectares (39% of Zone 1)
	<b>Crab Apple Trees</b>	21 total, with 12 (57%) within the riparian buffer
	<b>Removal Strategy</b>	Prioritize the removal of trees within the riparian buffer to mitigate the most immediate risks of wildlife attraction to central urban areas.
<b>Zone 2</b>	<b>Area</b>	106 hectares
	<b>Riparian Buffer Area</b>	54 hectares (51% of Zone 2)
	<b>Crab Apple Trees</b>	6 total, with 2 (33%) within the riparian buffer
	<b>Removal Strategy</b>	Focus on trees within the riparian buffer after Zone 1 is cleared, due to the high proportion of land in the riparian buffer zone.
<b>Zone 3</b>	<b>Area</b>	101 hectares
	<b>Riparian Buffer Area</b>	11 hectares (11% of Zone 3)
	<b>Crab Apple Trees</b>	19 total, with 5 (26%) within the riparian buffer
	<b>Removal Strategy</b>	After Zone 2, remove trees starting with those in the buffer area to continue reducing wildlife attractants.
<b>Zone 4</b>	<b>Area</b>	69 hectares
	<b>Riparian Buffer Area</b>	9 hectares (13% of Zone 4)
	<b>Crab Apple Trees</b>	10 total, with 2 (20%) within the riparian buffer
	<b>Removal Strategy</b>	Once Zone 3 is complete, address these trees with an emphasis on the buffer zone to maintain the momentum of the project.
<b>Zone 5</b>	<b>Area</b>	49 hectares
	<b>Riparian Buffer Area</b>	0 hectares (0% of Zone 5)
	<b>Crab Apple Trees</b>	1 total, none within the riparian buffer
	<b>Removal Strategy</b>	With no trees in the riparian buffer, the single tree can be removed at this stage with less urgency but should not be overlooked to ensure the thoroughness of the project.

The removal plan begins with Zone 1, targeting the 12 crab apple trees within the riparian buffer, a key area for wildlife due to its proximity to water and central location. Given that nearly 40% of this zone falls within the riparian buffer, it is imperative to address these trees first to significantly reduce the likelihood of wildlife encounters in the most populated urban areas. Subsequent zones follow in a sequential order of priority. Zone 2, with half of its area within the riparian corridor and a lower density of crab apple trees, is the next focus, followed by Zones 3, 4, and finally Zone 5, which should not be neglected despite its lack of riparian habitat to ensure comprehensive management.

This prioritized, phased approach ensures that the Town can methodically diminish wildlife attractants, thereby decreasing the potential for wildlife to enter and remain in urban settings in search of food. The systematic removal from riparian areas, which serve as vital pathways for wildlife, is particularly crucial. These zones should be carefully monitored both during and after the removal process to observe wildlife patterns and assess the effectiveness of the intervention.

By prioritizing crab apple trees and methodically proceeding to other attractant species, Canmore can systematically decrease the incentives for wildlife to enter urban areas, thereby reducing the frequency and potential for human-wildlife conflicts. This phased approach not only mitigates immediate risks but also supports the long-term goal of preserving the natural behavior of wildlife and maintaining the delicate balance between urban development and the surrounding ecosystem. It is a thoughtful progression that underscores the Town's commitment to coexistence with the local wildlife while safeguarding its citizens and visitors.

### **Chokecherry**

The Town recognizes the importance of Chokecherry management as a key element of public safety and the broader initiative of human-wildlife coexistence. Like Crab Apple trees and Buffalo Berries, Chokecherries are an attractant for wildlife, increasing the possibility of encounters between animals and Canmore's residents or visitors. These trees are often found in public parks and urban areas, especially around waterways and lush spaces, enhancing the potential for wildlife interactions. A systematic approach to the management and removal of Chokecherries should be implemented. Priority will be given to the Town center and areas within 100 meters of riparian zones due to their high public usage. Effective management of Chokecherries in these critical locations is essential for ensuring public safety and enhancing human-wildlife coexistence within the town.

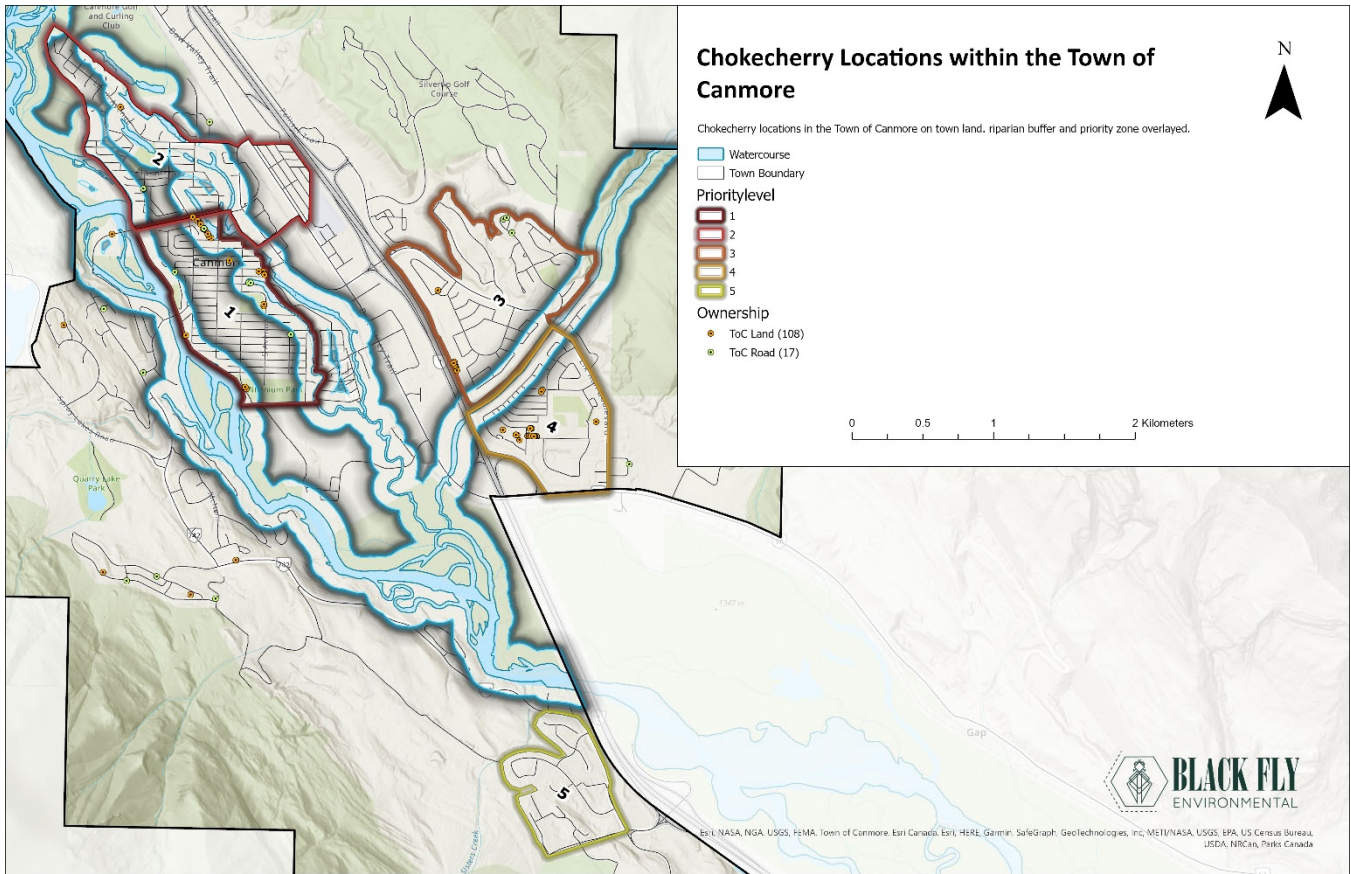


Figure 11. Chokecherry tree locations on Town of Canmore Land.

Table 4. Chokecherry Tree Locations on Town of Canmore Owned Land.

Removal Priority Zone	Ownership		Total
	ToC Land	ToC Road	
1	31	5	36
2	2	2	4
3	9	3	12
4	59		59
Outside Priority Zones	7	7	14
Total	108	17	125

The Town's inventory has identified a total of 125 Chokecherry trees on municipal property, with concentrations varying across lands and roadways under the Town's jurisdiction. The established priority zones for crab apple tree removal have been utilized to outline key areas for Chokecherry removal, ensuring a coherent strategy across fruit tree species. Within Priority Zone 1, there are 36 Chokecherry trees, representing approximately 28.8% of the total. A significant portion of these, 86%, are situated on Town land, with the remainder along municipal roads. Priority Zone 2 hosts a smaller number, with 4 trees accounting for 3.2% of the total, distributed



evenly between Town lands and roads. Priority Zone 3 comprises 12 trees, approximately 9.6% of the total. The most substantial aggregation is found in Priority Zone 4, with 59 trees, or 47.2% of the total, all on municipal land. Outside these priority areas, there are 14 additional trees, making up 11.2% of the total, evenly split between Town lands and roads.

For effective management and in line with the coordinated approach taken for crab apple trees, the removal of Chokecherry trees should commence in Priority Zone 1, with subsequent, orderly removal in Zones 2 through 4, concentrating efforts within the town center to maximize the safety and cohabitation of the community and local wildlife.

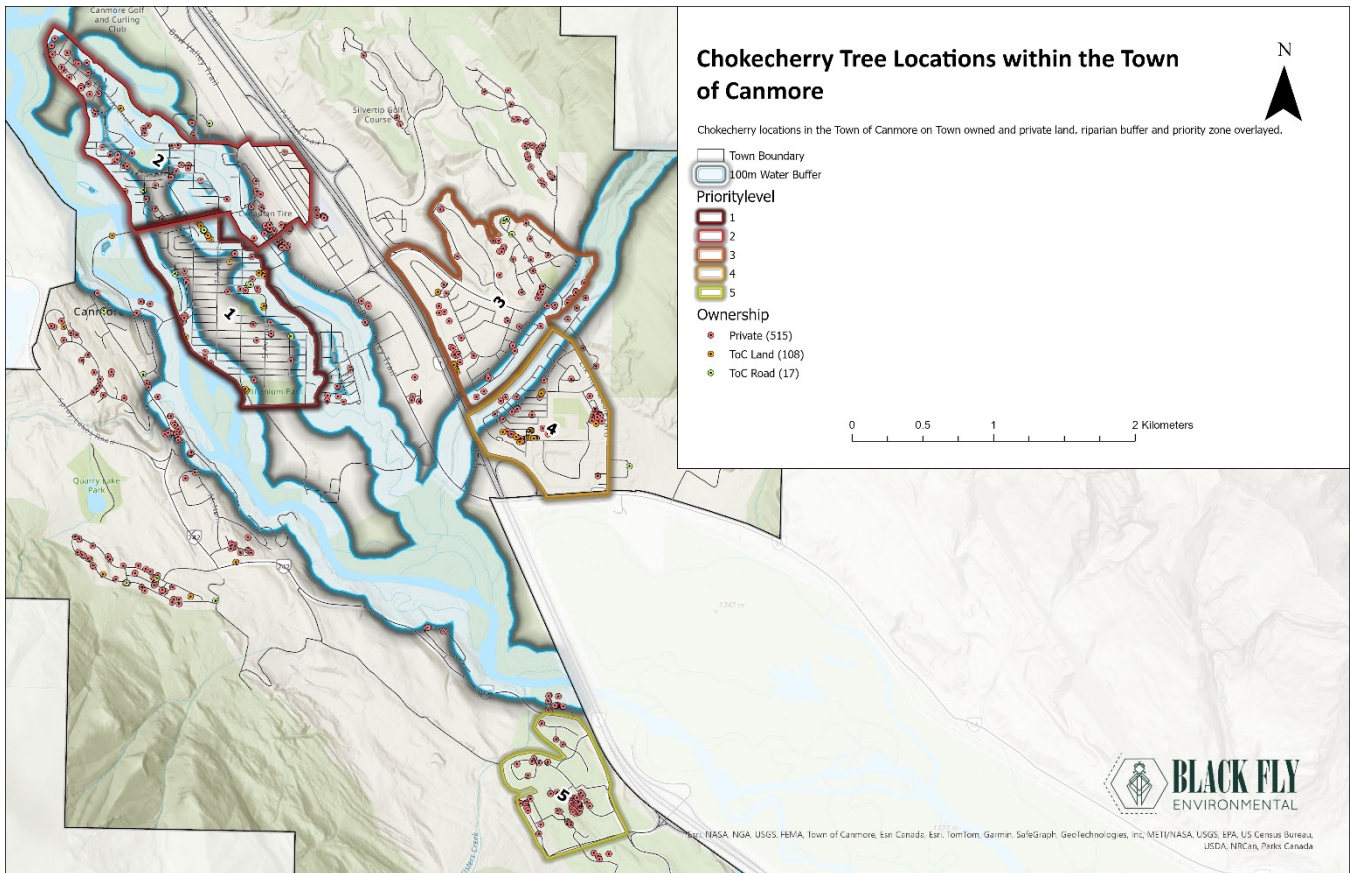


Figure 12. Chokecherry tree locations on private land and the Town of Canmore Land.

A total count reveals 516 Chokecherry trees located on private properties, as illustrated in Figure 12. Considering this substantial figure, the continuous advancement of the fruit tree removal program is crucial. This should be supported by sustained public education campaigns that focus on the implications of wildlife attractants and the responsibilities of fruit tree owners.

### Mountain Ash

In addition to Crab apple and chokecherry trees, mountain ash should be prioritized for removal following the removal effort of apple, and chokecherry. With a total of six mountain ash trees

located on Town owned land (Figure 13), removal of these mountain ash trees will be relatively easy and can be viewed as an easy win for the Town.

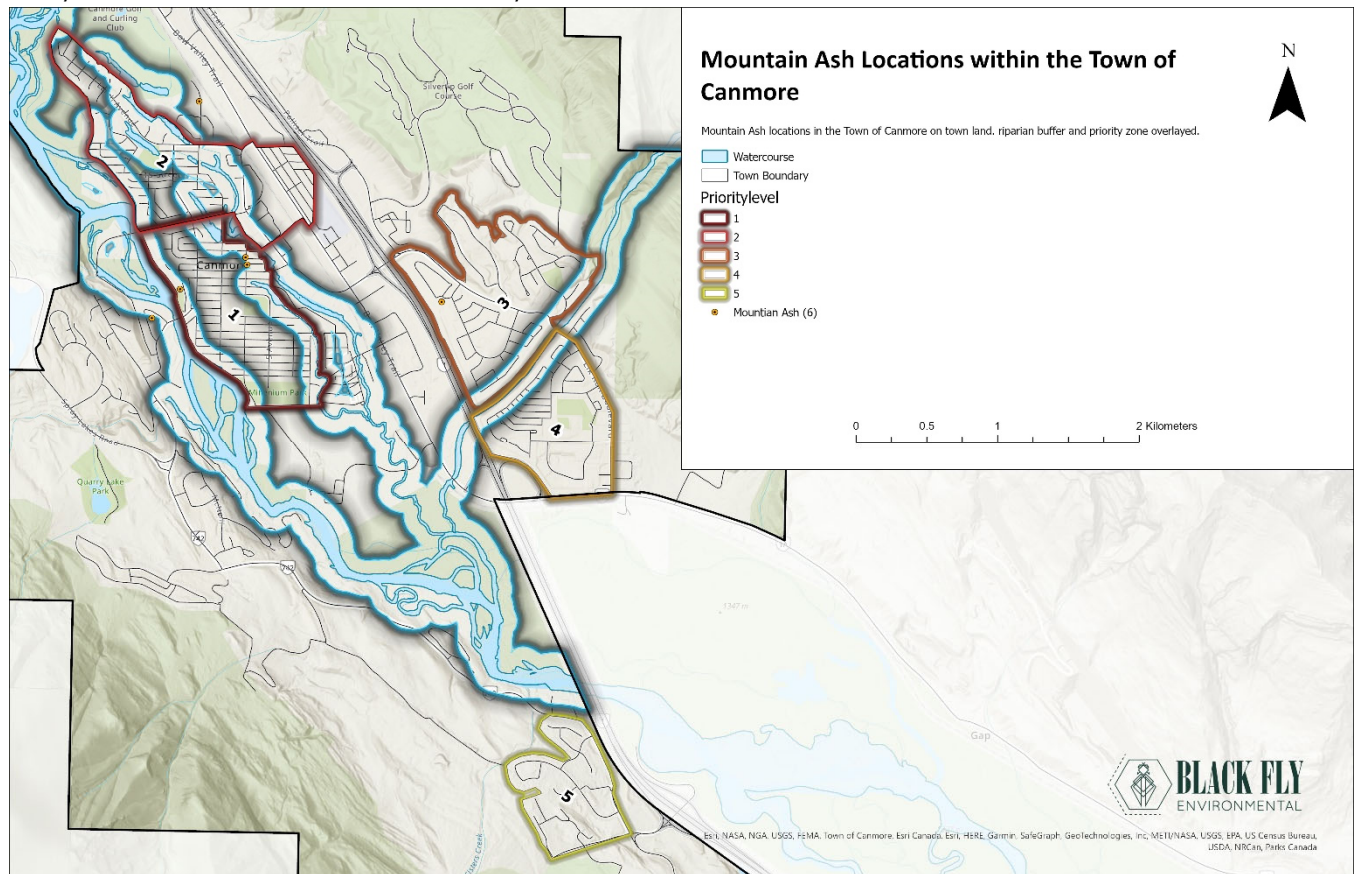


Figure 13. Mountain Ash trees located on Town of Canmore owned land.

Residents should be encouraged to utilize the tree removal incentive program if they have any of the identified species proposed for removal.

### Buffaloberry

The active management of buffaloberry is a critical component of wildlife management within the town, as it serves as an attractant for both black bears and grizzly bears. The prevalence of buffaloberry in the Town's parks and the town center, especially within riparian zones, can lead to an increase in wildlife encounters, thereby elevating the risk of human-bear interactions. To mitigate this risk, a systematic and prioritized approach to the removal of buffaloberry is suggested. Aligning with the established priority removal zones for crab apple tree removal, park areas within the town center and those within the 100-meter riparian corridors should be addressed first. As public parks receive a higher volume of public use by both residents and visitors, it is recommended that buffaloberry within Town parks be a high priority for removal or control. For the most effective and permanent removal, buffaloberry bushes should be recut every seven to 10 years. The strategic elimination of buffaloberry from these key locations is a



Table 3. Buffalo Berry removal priority and density within Town of Canmore parks.

Park Name	Removal Priority	Buffalo Berry Count	Park Area (ha)	Density of Shepherdia (Stems/ha)
Riverside Park	1	103	1.12	91.82
Lions Park	2	71	3.98	17.83
Millenium Park	3	110	6.74	16.31
Eagle Terrace Park	4	21	1.70	12.38
Centennial Park	5	7	2.44	2.86
Elk Run Park	-	0	3.80	0.00
Friendship Park	-	0	0.15	0.00
Quarry Lake Park	-	0	13.77	0.00

The distribution data of Buffaloberries in Canmore's parks reveals a pattern that can guide a strategic removal approach (Table 2). Millennium Park, with an area of 6.74 hectares, has a moderate density of 16.31 buffaloberry plants per hectare. Riverside Park and Lions Park, however, display higher densities, 91.82 plants/ha and 17.83 plants/ha respectively, making them high-priority areas for the removal of this species. Eagle Terrace Park has a lower density of 12.38 plants/ha, followed by Centennial Park with 2.86 plants/ha, suggesting that these parks should follow in the removal schedule due to lower densities. Elk Run Park, Friendship Park, and Quarry Lake Park all report zero density of buffaloberry, indicating that no immediate action is required in these areas.

Given the high density and potential for Buffalo Berry to attract wildlife, Riverside Park should be the top priority for buffaloberry removal efforts. Following Riverside Park, the removal operations should proceed to Lions Park, then Millennium Park, with subsequent efforts focusing on Eagle Terrace Park and finally, Centennial Park.

The removal strategy should prioritize areas with the highest densities to effectively reduce wildlife attractants and the associated risk of human-wildlife conflict. Regular monitoring post-removal is also recommended to ensure that the berry populations do not re-establish to problematic levels.

### Migratory Birds

The Town is deeply committed to the conservation of its diverse wildlife. Migratory birds enhance Canmore's ecological vibrancy, presenting an opportunity for residents to enjoy local wildlife that resonates with the Town's heritage and local biodiversity. Mindful acknowledgment of migratory birds reflects Canmore's dedication to ecological conservation within the town.

Considering the importance of migratory birds to Canmore's ecological and recreational landscape, compliance with protective legislation is crucial. Canmore falls within Nesting Zone A4, with an official nesting period from April 19 to August 24 (Government of Canada in 2018). To be compliant with the Migratory Birds Convention Act (1994) which prevents harm to migratory birds and their nests, it is recommended that all fruit tree removal should be

completed outside of the Nesting Period (Migratory Birds Convention Act, 1994). More specifically, tree removal is suggested during the winter and early spring (prior to April 19), in order to avoid the removal of foraging opportunities for migratory birds in the fall immediately prior to migration.

### Tree Protection Bylaw

Currently, the Tree Protection Bylaw does not exempt fruit bearing vegetation. In order to remove any potential roadblocks as fruit bearing trees are removed from Town land, it is recommended that the Tree Protection Bylaw be amended to remove fruit bearing trees. The following language in italics should be added to the bylaw to reflect these changes:

- *“Fruit Bearing Vegetation” means any vegetation that bears Fruit and is a Wildlife attractant including but not limited to
  - o Crab apple trees Mountain ash
  - o Chokecherry,
  - o Mountain ash, and
  - o Buffaloberry*
- *“Fruit” means the fleshy, seed-bearing structure of a flowering plant species and includes fruit and berries;*
- *“Wildlife Attractant” means any substance that could reasonably be expected to attract Wildlife, including, but not limited to, Fruit, garbage, refuse, food, food waste, and compost.*
- *“Tree” means a woody perennial plant having one or more stems with at least one stem having a diameter of 50 mm (2 inches) at breast height (1.4 m or 4.5 feet above the uphill side of the Tree) and does not include Fruit Bearing Vegetation.*
- *“2.4 This bylaw does not apply to Fruit Bearing Vegetation”.*

### Community Standard Bylaw

The Community Standard Bylaw governs the enforcement and subsequent fines of wildlife attractants on personal property, as well as the feeding of wildlife. To increase compliance with the Community Standard Bylaw, it is recommended to add a section that prohibits any person or property owner permitting a wildlife attractant to be placed or remain in an outdoor location where it attracts wildlife and increase the fine from \$250.00 to \$1000.00.

Additionally, it is recommended to increase the fine amount for Section 57 (No Person shall feed, attempt to feed, or permit the feeding of Wildlife) from \$250 for first offence, \$500 for second and \$1000 for third and subsequent offences to \$1000.00 for the first offence.

## Summary of Recommendations

1. **Incentivization** – Continued support of the Town's increase of its fruit-bearing tree removal on Town lands funds of \$30,000 per year over the next five years in addition to the continued tree removal incentive program for private landowners of \$10,000 per year is recommended.
  - a. **Contingency:** If after three years private removal rates do not increase, it is recommended to expand the incentive program to include the replacement of the removed fruit-bearing tree. This recommendation comes as a result of the public outreach component of this report indicating that sentimental value associated with trees on landowner property is a significant factor when considering whether or not to remove existing fruit-bearing trees.
2. **Fruit-Bearing Tree Species Prioritization:** It is recommended that the Town selects ornamental crab apple trees as the priority species for removal. This recommendation is based on observational data from stakeholder groups in Canmore including the Biosphere Institute and Yellowstone to Yukon, as well as scientific literature indicating that ornamental crab apple trees are highly attractive to bears and are commonly used in urban landscaping.
  - a. When crab apples are sufficiently removed from the Town, it is recommended that the Town repeat the below-mentioned removal strategy for the following species:
    - i. Chokecherry (*Prunus virginiana*),
    - ii. Mountain ash (*Sorbus decora*),
    - iii. Buffaloberry (*Shepherdia canadensis*).
3. **Town-Owned Trees:** It is recommended that 100% removal of all Town-owned crab apple trees before 2029. This recommendation is viewed as a manageable and incremental strategy to have Town-owned crab apple trees largely removed in the next five years.
4. **Fruit-Bearing Tree Removal Strategy:** A structured, priority zone stepwise approach on Town owned land is advised. The initial focus should be on eliminating all crab apple trees in town center and within a 100-meter radius of water crossings within town limits, following the prioritized zonal plan outlined in figure 8.
5. **Mitigating Effects on Migratory Birds:** it is recommended that all fruit tree removal should be completed outside of the Nesting Period from April 19 to August 24. Adhering to this recommendation ensures compliance with the *Migratory Birds Convention Act (1994)* which prevents harm to migratory birds and their nests, and prevents the removal of foraging opportunities for migratory birds in the fall immediately prior to migration.

6. **Amend the Tree Protection Bylaw:** the language in the Tree Protection Bylaw should be amended to exempt fruit bearing trees from protection.
7. **Amend the Community Standard Bylaw** to increase the fines for a person or property owner allowing a wildlife attractant to remain on their property from \$250.00 to \$1000.00.
8. **Amend the Community Standard Bylaw** to increase the fine amount for Section 57 (No Person shall feed, attempt to feed or permit the feeding of Wildlife) from \$250 for first offence, \$500 for second and \$1000 for third and subsequent offences to \$1000.00 for the first offence.

## Off-Leash Dogs

Off-leash dogs can cause disruptions in the normal processes of wildlife, especially in high value habitats such as the Bow Valley where wildlife more frequently intersect with the outdoor lifestyles of many of the Town's residents and visitors. The presence of off-leash dogs in natural areas can have various effects on wildlife, potentially leading to both short-term disturbances and long-term ecological impacts. In the immediate sense, off-leash dogs may pose a direct threat to wildlife through harassment, chasing, or even predation. Such disturbances can cause stress, disrupt feeding patterns, and force wildlife to expend unnecessary energy, particularly during critical times such as breeding or migration (Weston and Stankowich 2014). Off-leash dogs may also trigger aggressive or territorial behavior from wildlife, posing a safety risk to both dogs and their owners.

The Town Animal Control Bylaw is currently in place to ensure that dogs be kept on their leash outside of designated off-leash areas. The Town currently offers five designated off-leash dog parks, namely Cougar Creek/1A, Quarry Lake, Elk Run, Palliser, and Hubman. These parks are frequently used by dog owners and should continue to be maintained indefinitely. If off-leash dog parks need to be moved due to planning purposes, a new off-leash park within the same community and of equal or greater quality should be created. Additionally, the inclusion of off-leash dog parks should be considered in all future development plans. However, off-leash dogs are still a persistent problem in the Town, despite an all-time high in bylaw infraction tickets handed out in 2023 (Figure 12).

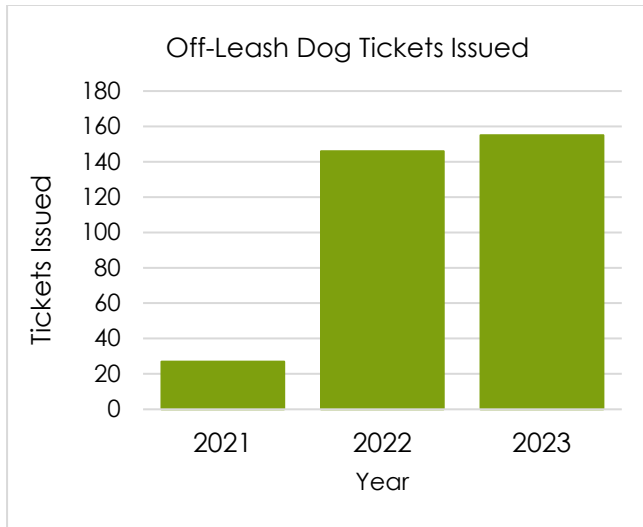


Figure 14. Off-leash dog tickets issued in the Town of Canmore. Please note that 2023 statistics are current as of September 11, 2023.

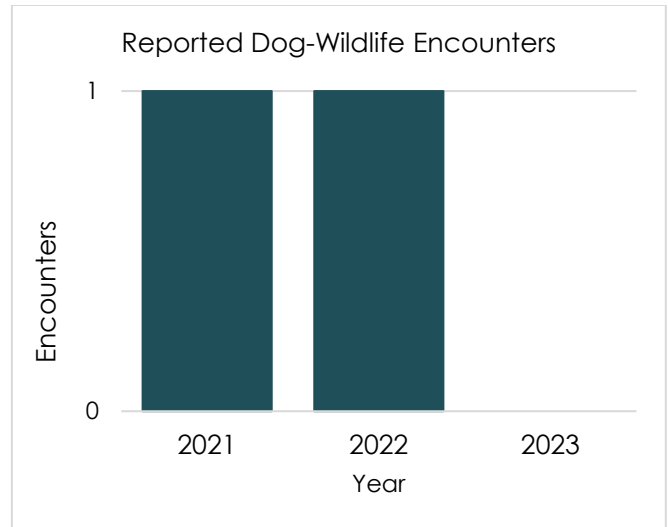


Figure 15. Dog wildlife encounters within the Town of Canmore. Please note that 2023 statistics are current as of September 11, 2023.

Public outreach undertaken for this report provides us with highly valuable data regarding the attitudes and motivations behind off-leash dog walking in Canmore. Survey participants who indicated that they walked their dog off-leash were asked to select a reason for the behavior. Only 3.8% of responses indicated that they were not aware of existing off-leash dog bylaws, firmly clarifying that public awareness of existing bylaws is not lacking in the town.



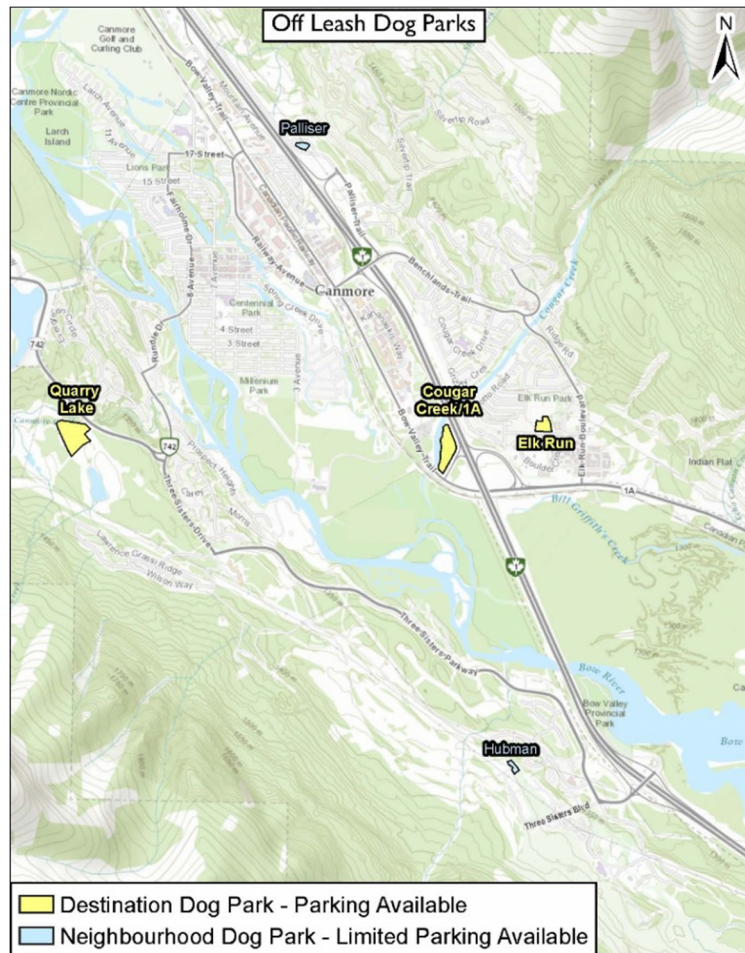


Figure 16. Off leash dog parks in and around Canmore. Courtesy of www.canmore.ca

The two most commonly recorded reasons for walking dogs off-leash were a belief that the dog is under control with voice commands from the owner, with 82 (75.9%) responses, and there being a lack of enforcement from the Town with 14 (13%) responses. This strongly indicates that bylaw enforcement, the dollar amount owed for fine violation, or a combination of the two are at present not high enough to sufficiently deter off-leash dog walkers from engaging in the behavior. Therefore, it is recommended that the Town maintain or target enforcement capacity relating to off-leash dogs to improve compliance with local bylaws, in addition to an increase in the dollar amount owed for bylaw violation relating to walking dogs off-leash.

To assist Town municipal enforcement personnel, determine where to best prioritize compliance with off-leash bylaws, it is recommended that the locations of past off-leash bylaw infractions be reviewed to identify infraction hot-spots. If after two years the problem of off-leash dog walking persists, it is then recommended that the Town consider adding an additional Community Peace Officer.

## Summary of Recommendations

1. **Off-Leash Areas** – It is recommended that the five designated off-leash dog parks currently maintained within Town limits, namely Cougar Creek/1A, Quarry Lake, Elk Run, Palliser, and Hubman, be maintained indefinitely. If an off-leash dog park needs to be relocated, the replacement should be located within the same community and be of equal or greater value. Additionally, the inclusion of off-leash dog parks should be considered in future developments. The frequent use of these areas as well as the support voiced in the public outreach component of this report demonstrate their current importance to dog owners in Canmore.
2. **Enforcement** - Results from the public outreach component of this report strongly indicate that bylaw enforcement, the dollar amount owed for fine violation, or a combination of the two are at present not high enough to sufficiently deter off-leash dog walkers from engaging in the behavior. Therefore,
  - a) **Capacity** – It is recommended that the Town maintain or target enforcement capacity relating to off-leash dogs to improve compliance with local bylaws.
  - b) **Fine Amount** – It is recommended to implement an increase in the dollar amount owed for bylaw violation relating to walking dogs off-leash to \$250.00 per offence.
    - a. Should a dog be observed barking at or chasing any wildlife in a threatening manner, an increased fine for \$750.00 should be applied.
  - c) **Contingency** - If after two years the problem of off-leash dog walking persists, then it is recommended that the Town consider adding an additional Community Peace Officer.
3. **Prioritization** - It is recommended that the locations of past off-leash bylaw infractions be reviewed to identify infraction hot-spots. This recommendation is presented to assist Town municipal enforcement personnel to determine where to best prioritize compliance with off-leash bylaws.

## Wildlife Exclusion Fencing

### Urban Green Spaces

Along with black bears and grizzly bears, elk pose a safety risk to residents and visitors to Canmore. As well as urban foraging opportunities, predator refugia incentivizes the use of urban green spaces by elk. Mackenzie (2001) found that the elk that were habituated to the townsite within Banff National Park had higher fecal nitrogen compared to elk that resided primarily outside of the townsite, suggesting that there is a nutritional gain from foraging in urban green spaces.

Wildlife exclusion fencing is currently installed around Centennial Park. While the fence is effective in keeping wildlife out of the park, it was expensive to implement and financial

restrictions limit wildlife exclusion fencing from being a widespread wildlife conflict mitigation strategy within Canmore. Despite financial restrictions preventing exclusion fencing from being a simple solution for the Town, there are very few if any other viable options for wildlife deterrence. Various studies have found deterrent methods that utilize visual (Ujvari et al. 1998) or olfactory (Lavsund & Sandegren 1991) responses quickly become ineffective due to rapid habituation with target species. Audio-based deterrents that utilizes sounds to elicit a flight response from wildlife have shown efficacy in the short term but can be unpleasant to humans and show a high rate of habituation for animals exposed to the noise for longer periods (Honda 2019).

The aesthetic standard that the Town currently maintains for infrastructure including wildlife exclusion fencing contributes significantly to potential costs associated with installing new fencing. It is recommended that the Town consider loosening aesthetic requirements for wildlife exclusion fencing to decrease the cost of its purchase and installation.

Wildlife hazing is currently implemented on an as-needed basis within Canmore. This method of deterrence is effective in the immediate term on an individual basis, but several factors make it unsustainable as a long-term measure. Provincially employed Fish and Wildlife officers are currently requested as needed to carry out wildlife hazing but are not available on a 24-hour basis and are often unavailable due to the larger scope of their positions. This results in a relatively low number of ungulates receiving the deterrent, doing little to prevent continued use of the green spaces within Canmore. While this option of wildlife deterrence is better than leaving wildlife unchecked in the town's green spaces and should be continued in lieu of other solutions, more permanent methods of wildlife deterrence should be considered. With this in mind, it is recommended that the Town engage in dialogue with the provincial government to advocate for funding for wildlife deterrence solutions including additional Fish and Wildlife officer availability and wildlife exclusion fencing.



Figure 17. Elk foraging in Centennial Park prior to the installation of wildlife exclusion fencing.

In alignment with Recommendation 8 from the Technical Working Group 2018 Round Table Report, it is recommended that the Town install wildlife exclusion fencing around green spaces within Town limits that are used by elk to reduce habituation and risk of conflict. Areas recommended for wildlife exclusion fencing in order of priority based on proximity to wildlife corridors include:

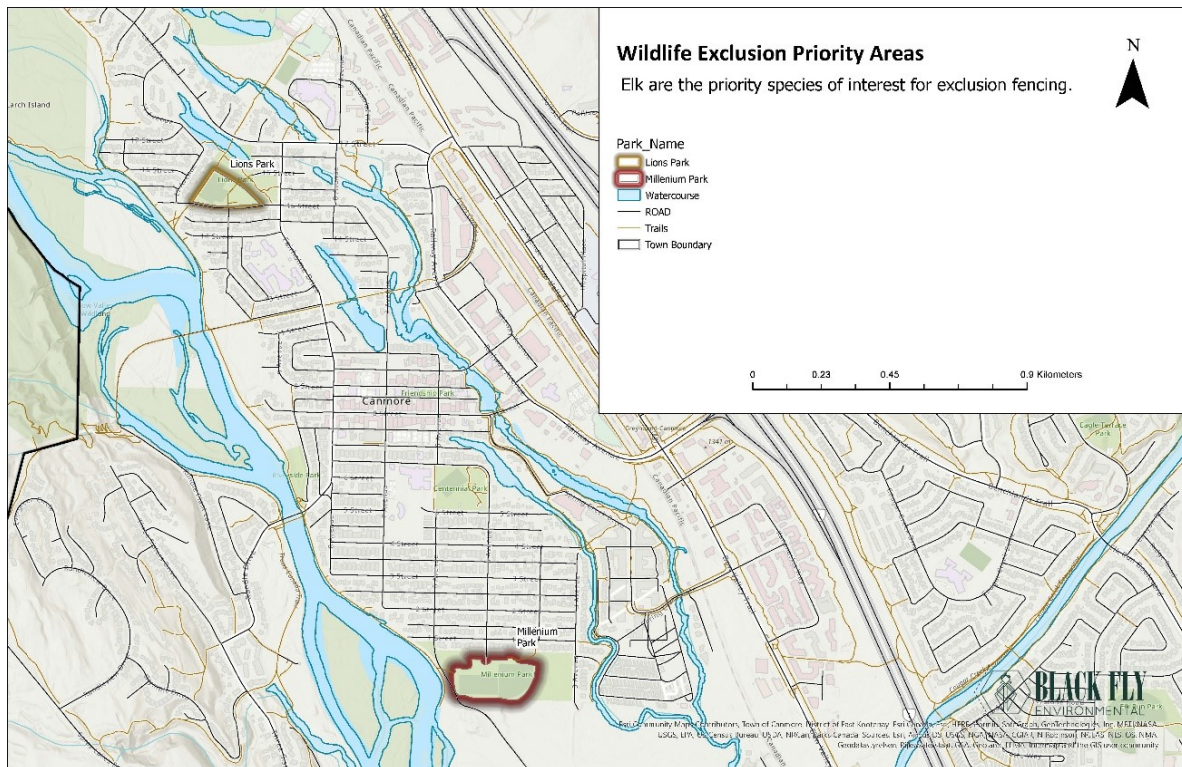


Figure 18. Wildlife Exclusion Priority areas

Table 5. Priority parks for the installation of wildlife exclusion fencing.

Park Name	Priority	Proposed Fenced Area (ha)	Proposed Fenced Perimeter (m)
Lions Park	1	1	538
Millenium Park	2	3	751

In selecting areas within Canmore for wildlife exclusion fencing, considerations included the parks' location, the variety of uses they support, the demographics of their users, and their proximity to wildlife corridors and travel routes, particularly within the designated 100 m riparian buffer zone. The prioritization process has identified two central Town parks for the potential exclusion fence installation. Lions Park, listed as the first priority, will have a smaller fenced area of 1 hectare and a perimeter of 538 meters. Millennium Park, proposed as the second priority, would have fencing around an approximate 3-hectare area with a perimeter measuring 751 meters. These parks are vital to the town center's recreational opportunities, providing ample green spaces for residents and visitors, including sports fields and playgrounds for children. They are frequented by a diverse group of patrons, including families, children, and seniors, who might be at increased risk from wildlife interactions. Implementing this fencing initiative is essential to enhance the safety of these community spaces and mitigate the potential for wildlife-related incidents.

Locations for wildlife exclusion fencing, intended to limit wildlife access, should also consider the impact on available grazing habitat, particularly the reduction that affects local elk populations as a consequence of the fencing. The proposed installation of wildlife exclusion fencing around Millennium and Lions Park, as detailed in Table 5, results in the loss of approximately four hectares of grazing land. This plan, while important for managing wildlife interactions, necessitates a balanced approach. The ongoing commitment to and expansion of the FireSmart program is a strategic effort to enhance habitat quality and increase grazing opportunities outside the urban boundaries of Canmore. This initiative is anticipated to compensate for the diminished grazing areas within Millennium and Lions Park. Central to the overarching objective of minimizing or altogether eliminating elk activity within the urban centers of Canmore, prioritizing the removal of appealing grazing options in recreational areas is pivotal. This strategy is integral in redirecting wildlife activity away from urban spaces, thereby aligning with the Town's commitment to fostering safe and proactive human-wildlife coexistence.

## Types of Wildlife Exclusion fencing

### **Woven Wire Elk Fence**



Figure 19. Example of woven wire wildlife exclusion fencing.

Woven wire fencing is used for wildlife exclusion fencing along roads, highways, and park areas, its durability and low maintenance requirements make it a suitable choice. This type of fence has also proven effective in minimizing deer and elk damage in both small gardens and larger fields.

To be effective at deterring elk the fence must stand at least eight feet tall. Corner posts should be wooden, at least 10 feet long and 5 inches in diameter at the top. For line posts, 3-inch diameter wooden posts are recommended. Wooden posts should be treated with a preservative for the bottom three feet. These posts should be buried about 2.5 feet deep and spaced approximately 15 feet apart. Ensure the fence is well-braced at corners, angles, and regular intervals along longer stretches. Due to its lower cost, woven wire fencing is suitable for large areas or long linear features. Woven wire fencing may also be used in locations where aesthetic restrictions can be relaxed.

## Chain-link/metal fencing



Figure 20. Wildlife exclusion fencing around Centennial Park in Canmore, Alberta.

Chain link fencing offers a viable substitute for woven wire wildlife exclusion barriers when fencing off smaller areas. Its design lends to both longevity and robustness, and it often blends more seamlessly into urban landscapes. To be effective against elk and similar large ungulate species, the chain link is recommended to stand at a minimum of eight feet tall and be constructed with sufficient strength to resist being toppled by wildlife. There are an array of metal fencing styles and designs, each influencing the overall look and cost of the installation. This variety allows for flexibility in aligning with the aesthetic preferences and budget constraints of urban settings.

**When:** Wildlife exclusion fencing should be installed in the summer months allowing for both a faster installation period and to avoid calving activity in the spring and rutting season in autumn. Wildlife exclusion fencing should not be installed in the winter months for both ease of construction and to not remove foraging opportunities during times of caloric stress for wildlife. If more wildlife data becomes available that suggests additional fencing is warranted, it is recommended that the Town be open to revised and/or additional fencing locations.

## Elk Monitoring Program

To better understand the impacts of wildlife exclusion fencing on local elk populations, an elk monitoring program should be established following the installation of wildlife exclusion fencing around Lions or Millenium Park. A monitoring program would provide data to evaluate whether the wildlife exclusion fencing effectively redirects elk away from urban areas and to assess any impacts on their overall health and behavior. Additionally, a monitoring program would ensure that the fencing does not inadvertently disrupt critical wildlife corridors or lead to habitat fragmentation.

These learnings can then be applied to any future fencing initiatives and current fences could potentially be adapted in response to any negative ecological impacts. Ultimately, adaptive management such as establishing the monitoring program, and using the data to inform wildlife management decisions is necessary for sustainable coexistence between urban development and wildlife conservation, demonstrating the Town's commitment to preserving local biodiversity while also prioritizing public safety.

## Trans-Canada Highway

Over the past decade, the Bow Valley has received prominent media and research attention relating to wildlife and the highways that fragment their habitat. This regional focus has been justified by both a) the disproportionate traffic that has resulted from the seasonal influx of tourists facilitated by the Trans-Canada Highway which runs through the valley, and b) the unique ecological setting that has resulted in regionally unique fauna that are particularly vulnerable to hazards associated with the road.

Animal-vehicle collisions have historically been one of the leading causes of non-natural mortality for wildlife, particularly ungulates and small to medium sized mammals (Glista et al. 2009). Extensive research has been done in the Bow Valley to determine the long-term effects of mortality due to animal-vehicle collisions, with wildlife exclusion fencing emerging as a highly effective solution to prevent wildlife from entering the road surface (Rytwinski et al. 2016). The effectiveness of wildlife exclusion fencing, however, prevents movement of wildlife across highways to such a degree that their habitat becomes fragmented, exacerbating the existing barrier effect of roads. If strong enough, the barrier effect relating to roads has resulted in wildlife species developing genetically distinct populations on each side of the road (Sawaya et al. 2019). To prevent this, wildlife exclusion fencing should be constructed in combination with jump outs, wildlife crossing structures, allowing wildlife to cross to the other side of the road at prescribed locations.

In areas outside of the Towns jurisdiction, advocacy to the Province for wildlife exclusion from the Banff Gates to the new wildlife overpass east of Canmore is recommended.



## Summary of Recommendations

1. **Aesthetic Standards** – It is recommended that the Town consider loosening aesthetic requirements for wildlife exclusion fencing to decrease the cost of its purchase and installation. The aesthetic standard that the Town currently maintains for infrastructure including wildlife exclusion fencing contributes significantly to potential costs associated with installing new fencing.
2. **Advocacy** – It is recommended that the Town engage in dialogue with the provincial government to advocate for funding for wildlife deterrence solutions within Canmore. Including additional Fish and Wildlife officer availability and financial support for future wildlife exclusion fencing initiatives. In areas outside of the Town's jurisdiction, advocacy to the Province for wildlife exclusion fencing from the Banff Gates to the new wildlife overpass east of Canmore is recommended.
3. **Wildlife Exclusion Fencing Installation** - In alignment with Recommendation 8 from the Technical Working Group 2018 Round Table Report, it is recommended that the Town install wildlife exclusion fencing around green spaces within town limits that are used by elk to reduce habituation and risk of conflict. Areas recommended for wildlife exclusion fencing in order of priority based on proximity to wildlife corridors include:
  - Priority 1:
    - Lions Park: 538 meters of proposed fencing around park perimeter
  - Priority 2:
    - Millenium Park: 751 meters of proposed fencing around park
  - **Contingency** - If more wildlife data becomes available that suggests additional fencing is warranted, it is recommended that the Town be open to revised and/or additional fencing locations.
4. **Installation Schedule** - It is recommended that wildlife exclusion fencing be installed in the summer months allowing for both a faster installation period and to avoid calving activity in the spring and rutting season in autumn. Wildlife exclusion fencing should not be installed in the winter months for both ease of construction and to not remove foraging opportunities during times of caloric stress for wildlife.

## Integrate FireSmart Programs with Habitat Enhancement Measures

While the presence of wildlife in the Town is correlative with an expanding urban footprint and the food attractants that come with it, surrounding habitat configuration also plays a critical role. Many of the species that find themselves within Town boundaries typically prefer forest habitats mixed with patches of shrubby vegetation or meadow for grazing. However, due in part to historical periods of fire suppression, the amount of Montane forests older than 100 years has nearly quadrupled in the past 65 years, from 21% to 78% (Westhaver et al. 2007). Mature

forests provide fewer opportunities for grazing due to a denser canopy, which results in a decline in understory vegetation, which is compounded with a more than 50% reduction in Montane grasslands and open forest habitats between 1915 and 1995 (Rhemtulla 1999). Consequently, wildlife and in particular ungulates, have fewer grazing options in their natural habitat and are therefore more likely to venture into urbanized areas for grazing opportunities.



Figure 21. Elk in natural habitat near Canmore. Photo by Edna Winti (CC BY 2.0 DEED).

A highly effective method of encouraging habitat use outside of the town center is to modify surrounding habitats to be more attractive to wildlife. Forest and fire management, if done correctly, can configure forested landscapes in a way that allows for full ecosystem functioning while providing habitat patches that are well suited to the species traditionally found in that habitat. For example, forest management with a FireSmart focus involves planning and conducting forest and fire management activities in a fully integrated manner at both the stand and landscape levels (Hirsch et al. 2001). Using a FireSmart approach to enhance habitat surrounding the town in a way that includes open patches of habitat for wildlife to forage can make those areas more attractive to target species than those in the town.

While this report acknowledges the limited direct action that the Town can undertake regarding FireSmart management in areas surrounding Canmore, it is recommended that the Town

advocate for land managers to improve habitat quality and diversity outside of the town boundaries using a FireSmart approach. Communicating to the Province of Alberta the benefits that the municipality could experience in a landscape managed using FireSmart techniques is among the first steps that can lead to a more sustainably managed Bow Valley, both in terms of wildfire management and habitat quality.

### Summary of Recommendations

1. **Advocacy** – It is recommended that the Town advocate for land managers to improve habitat quality and diversity outside of town boundaries using a FireSmart approach. Communicating to the Province of Alberta the benefits that the municipality could experience in a landscape managed using FireSmart techniques is among the first steps that can lead to a more sustainably managed Bow Valley, both in terms of wildfire management and habitat quality.

### Engineering Design and Construction Guidelines Update

The Town Engineering Design and Construction Guidelines (EDCG) contains a list of vegetation species that are native to Alberta that are acceptable to use for landscaping purposes. However, there are multiple species within this list that are fruit bearing and considered wildlife attractants such as kinnikinnick (*Arctostaphylos uva-ursi*) as an attractant for bears. It is recommended that the Town update the EDCG to remove all fruit bearing species as well as those that have the potential to attract wildlife in order to be in alignment with the Community Standard Bylaw which prevents the planting of fruit bearing species.

See Table 6 below for the comprehensive list of species recommended for removal from the EDCG.



Figure 22. Landscaping in The Town should avoid fruit-bearing species. Photo: Andy Rogers (CC BY-SA 2.0 DEED)

Similarly, the list of vegetation species within the EDCG contains highly flammable conifer species such as lodgepole pine (*Pinus contorta*), white spruce (*Picea glauca*), and black spruce (*Picea mariana*). It is recommended that the Town update the EDCG to remove all highly flammable species to be in alignment with FireSmart programs.

Further, upon a detailed review of the EDCG it was noted that several of the vegetation species common and scientific names were outdated. It is recommended that the Town update the vegetation species common and scientific names in Appendix F of the EDCG to be in alignment with the naming conventions in the ACIMS List of Elements in Alberta – Vascular Plants (Alberta Parks, 2022).

Table 6. Vegetation species recommended for removal from the EDCG.

Common Name	Scientific Name	Reason for Removal
Lodgepole Pine	<i>Pinus contorta latifolia</i>	FireSmart
Limber Pine	<i>Pinus flexilis</i>	FireSmart
Engelman Spruce	<i>Picea engelmannii</i>	FireSmart
White Spruce	<i>Picea glauca</i>	FireSmart

Black Spruce	<i>Picea mariana</i>	FireSmart
Kinnikinnick	<i>Arctostaphylos uva-ursi</i>	Wildlife Attractant
Prickly Rose	<i>Rosa acicularis</i>	Wildlife Attractant
Common Wild Rose	<i>Rosa woodsii</i>	Wildlife Attractant
Common Snowberry	<i>Symphoricarpos albus</i>	Wildlife Attractant
Wild Strawberry	<i>Fragaria virginiana</i>	Wildlife Attractant
Yellow Hedysarum	<i>Hedysarum sulphurescens</i>	Wildlife Attractant
False Salomon Seal	<i>Maianthemum stellatum</i>	Wildlife Attractant
Tall Blue Lungwort	<i>Mertensia paniculata</i>	Wildlife Attractant

### Summary of Recommendations

1. **Species Update: Wildlife Attractants** - It is recommended that the Town update the EDCG to remove all fruit bearing species as well as those that have the potential to attract wildlife in order to be in alignment with the Community Standard Bylaw which prevents the planting of fruit bearing species. See Table 6 for the comprehensive list of species recommended for removal from the EDCG.
2. **Species Update: Wildfire Risk** - It is recommended that the Town update the EDCG to remove all highly flammable species to be in alignment with FireSmart programs. The list of vegetation species within the EDCG contains highly flammable conifer species such as lodgepole pine (*Pinus contorta*), white spruce (*Picea glauca*), and black spruce (*Picea mariana*). See Table 6 for the comprehensive list of species recommended for removal from the EDCG.
3. **Naming Convention** - It is recommended that the Town update the vegetation species common and scientific names in Appendix F of the EDCG to be in alignment with the naming conventions in the ACIMS List of Elements in Alberta – Vascular Plants (Alberta Parks, 2022). Upon a detailed review of the EDCG it was noted that several of the vegetation species common and scientific names were outdated.

### Public Education

Wildlife messaging campaigns are continually created to remind visitors and campsite-users to avoid leaving garbage in their camp sites; messaging includes infographics instructing users on how to properly dispose of waste, and often includes eye-catching headlines such as “human food kills wildlife” on signage posted at park gates. Similarly, signage communicating the potential hazards of wildlife are present throughout natural areas in and around the town, but

bears remain their central focus. This leaves information regarding other species including ungulates largely out of public view. It is therefore recommended that signage communicating the potential hazards associated with ungulates be increased in areas of high overlap between human presence and ungulates. Effective placement of signage can further be enhanced by utilizing conflict data and placing signage in areas where human ungulate conflict has occurred in the past. This and all other forms of signage should involve the Town's Communications Department to ensure consistent messaging and aesthetics. Further, it is recommended that current signage communicating the prohibition of off-leash dogs be either updated or replaced to add the dollar value of the fine for infraction.

Results from the public survey created for the purpose of this report provides valuable insight into which methods residents prefer to receive updates and information about the Town. When asked to choose seven methods of information sharing with the option to choose as many as applies to respondents, 983 selections were made. Social media ranked the highest with 223 respondents selecting it as the method they would most prefer to receive information through, followed by the Town website (216), email newsletters (206), and signage (145). Presentations or events were chosen less frequently with 91 selections, followed by door-to-door education (55), and "other" (47).

Based on these findings, it is recommended that the Town continue to employ a multifaceted outreach approach, utilizing social media, the Town website, email newsletters, and signage as primary methods of disseminating information relating to wildlife-related programs and bylaws. Social media posts and online ad campaigns are likely to be one of the most effective methods of communication with a public that is increasingly present on social media platforms.

### Summary of Recommendations

1. **Signage: Ungulates** – It is recommended that signage communicating the potential hazards associated with ungulates be increased in areas of high overlap between human presence and ungulates, and in areas of past human ungulate conflict. Currently, signage communicating the potential hazards of wildlife are present throughout natural areas in and around the town, but bears remain their central focus. This leaves information regarding other species including ungulates largely out of public view.
2. **Signage: Off-Leash Dogs** - It is recommended that current signage communicating the prohibition of off-leash dogs be either updated or replaced to add the dollar value of the fine. This recommendation is aimed at increasing the deterrence of off-leash dog walkers from engaging in the behavior. It should be noted that signage would have to be updated if fine amounts were to change over time.
3. **Public Outreach Methods** - It is recommended that the Town continue to employ a multifaceted outreach approach, utilizing social media, the Town website, email newsletters, and signage as primary methods of disseminating information relating to

wildlife-related programs and bylaws. Social media posts and online ad campaigns are likely to be one of the most effective methods of communication with a public that is increasingly present on social media platforms.

## Incorporation of Traditional Knowledge

Given the limitations in budget and time, the initial stages of this report's development did not include dedicated efforts for Indigenous engagement. However, recognizing the importance of fostering strong, collaborative relationships with local Indigenous communities it is important that the implementation phase of this project actively involves Indigenous communities and leaders. This engagement will provide an opportunity for Indigenous communities surrounding Canmore to contribute insight and knowledge during the implementation phase of this program.

## Summary of Recommendations

1. **Engagement with Indigenous Communities and Individuals** – It is recommended that the Town engage with local Indigenous communities within the Bow Valley for knowledge sharing of human wildlife coexistence strategies.

## Future Outlook and Continuous Improvement

The Canmore Human-Wildlife Coexistence Implementation and Action Plan needs to be recognized as a dynamic document and process that will evolve over time. The future outlook of this plan is grounded in the principles of continuous improvement, adaptive management, and proactive engagement. As the plan is initiated key areas of improvement and monitoring are as follows:

### Adaptive Management and Monitoring

- **Regular Assessments:** Continuous monitoring of the plan's effectiveness is a crucial component of long-term success. Monitoring involves regular assessments of wildlife movement patterns, human-wildlife interaction incidents, and the effectiveness of implemented measures.
- **Data-Driven Adjustments:** Understanding and utilizing the latest information and research to inform any necessary adjustments or enhancements to the recommendations. This approach ensures that the plan remains relevant and effective in the face of changing environmental conditions and urban development goals or initiatives.
- **Five Year Review:** A comprehensive review should be conducted five years post-publication to appraise the progress of action item implementation, as well as to assess the impact and effectiveness of the strategies employed in achieving the overarching goal of reducing human-wildlife conflict.

## Community Engagement and Education

- **Ongoing Public Involvement:** The future success of this plan hinges on the active participation and support of the Town and the vibrant community. Regular public forums, surveys, and educational campaigns will be vital in maintaining community engagement and awareness for wildlife co-existence issues and solutions.
- **Youth Involvement:** Continued engagement with local schools and youth groups to foster a culture of wildlife awareness and stewardship among Canmore's younger generation, ensuring the longevity and continued success of wildlife co-existence initiatives.

## Collaboration and Partnerships

- **Expanding Partnerships:** Strengthening existing partnerships and developing new ones with local, provincial, and federal conservation groups, wildlife experts, and Indigenous communities.
- **International Exchange:** Exploring opportunities for knowledge exchange with other countries, communities, and experts internationally who are advocating and researching similar conservation measures.

## Technological Advancements

- **Innovative Technologies:** Embracing new technologies for wildlife monitoring and conflict mitigation. This may include GPS systems, non-invasive wildlife deterrents, and new urban planning tools.
- **Research and Development:** Supporting and collaborating with research institutions to develop new methods and technologies for better understanding and managing human-wildlife interactions.

## Long-Term Vision

- **Sustainable Development Goals:** Aligning the plan with broader environmental and sustainability goals. This includes considering the long-term impact of urban development on wildlife habitats and integrating eco-friendly practices in Town planning.  
**Legacy of Coexistence:** Establish a legacy of coexistence, where the Town is not only a model for successful human-wildlife interactions but also an example of sustainable urban planning and development.

## Conclusion

The "Canmore Human-Wildlife Coexistence Implementation and Action Plan" presents a forward-thinking and adaptive approach to managing the complex interactions between human communities and wildlife in the Town. The plan is a testament to the commitment of the



Town towards sustainable and responsible coexistence and development, emphasizing continuous improvement, adaptive management, and proactive community engagement.

At its core, the plan addresses critical issues such as community safety, wildlife attractants, fruit-bearing tree removal, wildlife exclusion fencing, updating community bylaws, enforcement approaches, and public education. These measures are designed not only to mitigate immediate human-wildlife conflicts but also to foster a deeper understanding and respect for wildlife within the Town.

The plan's emphasis on continued management and innovation, particularly in wildlife monitoring and conflict mitigation, positions Canmore as a leader in environmental stewardship. The integration of community feedback and continuous reassessment ensures that the plan remains dynamic and responsive to changing environmental and urban development needs. The Canmore Human-Wildlife Coexistence Implementation and Action Plan sets a high standard for other communities facing similar challenges. It is a blueprint for achieving sustainable human-wildlife coexistence, balancing the needs of the community with the ecological integrity of the surrounding natural environment. The successful implementation of this plan will not only enhance the safety and quality of life for the residents and visitors of Canmore but also ensure the conservation and respect for the wildlife that is integral to the region's identity.

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# Appendix A

## Summary of Recommendations

### Human-Wildlife Coexistence Implementation and Action Plan



**BLACK FLY**  
ENVIRONMENTAL

Implementation and Action Item	Recommendation	Description	Department Ownership
Fruit Tree Removal	1. Incentivization	Recommended to continue support for the Town's increase of its fruit-bearing tree removal on Town lands funds of \$30,000 per year over the next five years in addition to the continued tree removal incentive program for private landowners of \$10,000 per year.	Environment and Sustainability / Parks
	2. Fruit-Bearing tree Species Prioritization	It is recommended that the Town selects ornamental crab apple trees as the priority species for removal, followed by Chokecherry, then Mountain Ash, then Buffalo Berry.	Environment and Sustainability / Parks
	3. Town-Owned Trees	Recommend a 100% removal of all Town-owned crab apple trees before 2029, removing 11 crab apple trees annually.	Environment and Sustainability / Parks
	4. Fruit-Bearing Tree Removal Strategy	A structured, priority zone stepwise approach on Town owned land is advised. The initial focus should be on eliminating all crab apple trees in town center and within a 100-meter radius of water crossings within town limits.	Environment and Sustainability / Parks
	5. Mitigating Effects on Migratory Birds	It is recommended that all fruit tree removal should be completed outside of the Nesting Period from April 19 to August 24. Adhering to this recommendation ensures compliance with the <i>Migratory Birds Convention Act (1994.)</i>	Environment and Sustainability / Parks
	6. Amend Tree Protection Bylaw	Recommended to amend the language in the Tree Protection Bylaw should be amended to exempt fruit bearing trees from protection.	Municipal Enforcement
	7. Amend Community Standard Bylaw	It is recommended to increase the fines for a person or property owner allowing a wildlife attractant to remain on their property from \$250.00 to \$1000.00.	Municipal Enforcement
	8. Amend the Community Standard Bylaw	It is recommended to increase the fine amount for Section 57 (No Person shall feed, attempt to feed or permit the feeding of Wildlife) from \$250 for first offence, \$500 for second and \$1000 for third and subsequent offences to \$1000.00 for the first offence.	Municipal Enforcement
Off-Leash Dogs	1. Off-Leash Areas	It is recommended that the five designated off-leash dog parks currently maintained within Town limits, namely Cougar Creek/1A, Quarry Lake, Elk Run, Palliser, and Human, be maintained indefinitely. If an off-leash dog park needs to be relocated, the replacement should be located within the same community and be of equal or greater value. Additionally, the inclusion of off-leash dog parks should be considered in future developments.	Planning and Development / Parks Planner
	2. Enforcement	<p><b>a)</b> Capacity - It is recommended that the Town maintain or target enforcement capacity relating to off-leash dogs to improve compliance with local bylaws.</p> <p><b>b)</b> Fine Amount - It is recommended to implement an increase in the dollar amount owed for bylaw violation relating to walking dogs off-leash to \$250.00 per offence. Should a dog be observed barking at or chasing any wildlife in a threatening manner, an increased fine for \$750.00 should be applied.</p> <p><b>c)</b> Contingency - If after two years the problem of off-leash dog walking persists, then it is recommended that the Town consider adding an additional community peace officer.</p>	Municipal Enforcement
	3. Prioritization	It is recommended that the locations of past off-leash bylaw infractions be reviewed to identify infraction hot-spots.	Municipal Enforcement
	1. Aesthetic Standards	It is recommended that the Town consider loosening aesthetic requirements for wildlife exclusion fencing to decrease the cost of its purchase and installation.	Planning and Development
	2. Advocacy	It is recommended that the Town engage in dialogue with the provincial government to advocate for funding for wildlife deterrence solutions within Canmore including additional Fish and Wildlife officer availability and wildlife exclusion fencing.	Mayor and Council

<b>Wildlife Exclusion Fencing</b>	<b>3. Wildlife Exclusion Fencings Installation</b>	It is recommended that the Town engage in dialogue with the provincial government to advocate for funding for wildlife deterrence solutions within Canmore including additional Fish and Wildlife officer availability and wildlife exclusion fencing.	Environment and Sustainability / Parks
	<b>4. Installation Schedule</b>	It is recommended that wildlife exclusion fencing be installed in the summer months allowing for both a faster installation period and to avoid calving activity in the spring and rutting season in autumn. Wildlife exclusion fencing should not be installed in the winter months for both ease of construction and to not remove foraging opportunities during times of caloric stress for wildlife	Environment and Sustainability / Parks
<b>FireSmart Habitat Enhancement</b>	<b>1. Advocacy</b>	It is recommended that the Town advocate for land managers to improve habitat quality and diversity outside Town boundaries using a FireSmart approach. Communicating to the Province of Alberta the benefits that the municipality could experience in a landscape managed using FireSmart techniques is among the first steps that can lead to a more sustainably managed Bow Valley, both in terms of wildfire management and habitat quality.	Mayor and Council
<b>EDCG Update</b>	<b>1. Species Update: Wildlife Attractant</b>	It is recommended that the Town update the EDCG to remove all fruit bearing species as well as those that have the potential to attract wildlife in order to be in alignment with the Community Standard Bylaw which prevents the planting of fruit bearing species	Planning and Development / Engineering
	<b>2. Species Update: Wildlife Risk</b>	It is recommended that the Town update the EDCG to remove all highly flammable species to be in alignment with FireSmart programs. The list of vegetation species within the EDCG contains highly flammable conifer species such as lodgepole pine ( <i>Pinus contorta</i> ), white spruce ( <i>Picea glauca</i> ), and black spruce ( <i>Picea mariana</i> ).	Planning and Development / Engineering
	<b>3. Naming Convention</b>	It is recommended that the Town update the vegetation species common and scientific names in Appendix F of the EDCG to be in alignment with the naming conventions in the ACIMS List of Elements in Alberta – Vascular Plants (Alberta Parks, 2022).	Planning and Development / Engineering
<b>Public Education</b>	<b>1. Signage: Ungulates</b>	It is recommended that signage communicating the potential hazards associated with ungulates be increased in areas of high overlap between human presence and ungulates, and in areas of past human ungulate conflict	Communications / Municipal Enforcement / Environment and Sustainability
	<b>2. Signage: Off-Leash Dogs</b>	It is recommended that current signage communicating the prohibition of off-leash dogs be either updated or replaced to add the dollar value of the fine. This recommendation is aimed at increasing the deterrence of off-leash dog walkers from engaging in the behavior.	Communications / Municipal Enforcement / Environment and Sustainability
	<b>3. Public Outreach Methods</b>	It is recommended that the Town continue to employ a multifaceted outreach approach, utilizing social media, the Town website, email newsletters, and signage as primary methods of disseminating information relating to wildlife-related programs and bylaws.	Communications / Environment and Sustainability
<b>Incorporation of Traditional Knowledge</b>	<b>1. Engagement with Indigenous Communities and Individuals</b>	It is recommended that the Town engage with local Indigenous communities within the Bow Valley for knowledge sharing of human wildlife coexistence strategies.	All Departments