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## Coyote Management Plan

<p><b>Situation / Principles</b></p>	<p>The Town of Collingwood desires to identify and achieve a balance between the importance of human safety as a priority and the natural ecology. Safety is a priority in managing human-coyote interactions. The Town of Collingwood has seen an increase in the number of coyote sightings and reports within the last few years.</p> <p>This coyote management plan is based on scientific research, understanding of coyote ecology and biology in an urban setting and the best known management practices and management tools.</p>
<p><b>Objectives</b></p>	<ul style="list-style-type: none"> <li>▪ Educate the public on normal coyote behaviour, how to prevent coyote/human and coyote/pet conflicts and interactions and help people to feel safe in their neighbourhoods by reducing public fear of coyotes.</li> <li>▪ Develop a strategy for coyote conflicts to address problematic coyote behaviours (such as aggression towards people and attacks on pets and humans) and the problematic human behaviours (intentionally or unintentionally feeding coyotes, and unattended pets outside) that contribute to conflicts.</li> <li>▪ Achieve a community-wide program that involves residents, which is necessary for achieving co-existence among people, coyotes and pets.</li> <li>▪ Removal programs should only be considered based on a defined set of behaviours and classification.</li> </ul>
<p><b>Definitions</b></p>	<p><b>COEXISTENCE:</b> Humans and coyotes exist together. Humans take an active role in helping coyotes in their community stay wild by removing attractants, taking responsibility for pet safety, hazing coyotes in their neighborhood and learning about coyote ecology and behavior.</p> <p><b>ENCOUNTER:</b> A direct meeting between humans and coyotes with no physical contact and which is without incident.</p> <p><b>HAZING:</b> A method of negative association. When a coyote or other animal is in an area where it is not wanted, scaring it away will make it less likely to return. Hazing can include making loud noises (yelling, not screaming), waving arms, popping open an umbrella, shaking car keys or other noisy objects, throwing objects near, but not at the animal. It is also commonly referred to as ‘aversion conditioning’ or ‘escape conditioning’.</p> <p><b>HUMAN ATTACK:</b> A human is bitten by a coyote.</p> <p><i>Provoked:</i> An attack where the involved human encourages the coyote to engage. Examples include a human hand-feeding a coyote, approaching a coyote with pups or intervening in a coyote attack on a pet.</p> <p><i>Unprovoked:</i> An attack where the involved human does not encourage the coyote to engage.</p>

**INCIDENT:** A conflict between a human and a coyote where the coyote exhibits any of the following behaviors: growling, baring teeth, lunging or making physical contact with the person. A human is not bitten.

**LIVESTOCK LOSS/DEPREDATION:** Coyote(s) kills or injures livestock.

**LOCATE/ELIMINATE:** A trapping program to be implemented only if absolutely necessary, based on the strategy identified herein to locate and trap a problem coyote to eliminate threat based on the advice sought by staff from a recognized wildlife expert. Proceeding with such a program will be at the full discretion of staff in consultation with the CAO, unless Council direction is received or requested by Staff. An evaluation of all facts of the situation/event to be confirmed and investigated prior to proceeding, including an understanding of the area and all associated risks.

**OBSERVATION:** The act of noticing signs of coyotes, such as tracks, scat, or vocalizations, but without visual observation of the coyotes.

**PET ATTACK:** Coyote kills or injures a domestic pet.

*Attended:* Pet is on a leash less than six feet in length or is in the presence of a person less than six feet away.

*Unattended:* Pet is free-roaming, walking off-leash more than six feet from a person, or on a leash longer than six feet.

**SIGHTING:** A visual observation of a coyote. A sighting may occur at any time of the day or night.

**Coyote Biology / Behaviour**

The coyote species in Ontario is the eastern coyote. The eastern coyote is a relatively recent addition to the biodiversity of Ontario. The species is the result of hybridization between western coyotes from the prairies and eastern wolves. It now occupies developed urban and agricultural areas of Ontario. They are on average 40 pounds and generally appear larger than they actually are because of their long legs and thick coats. The small amount of DNA they share with wolves does not affect their behaviour in terms of humans safely coexisting with this highly adaptable and intelligent canid.

Since coyotes are naturally very skittish and afraid of humans, they are not regularly seen. Thus, their signs (including prints, scat and vocalizations) may be a better indicator of their presence. Coyote prints are similar to those of a domestic dog's, but are usually observed in a straight line, as opposed to the meandering path of domestic dog tracks. More commonly, coyote howling or other vocalizations may be heard. Coyotes produce a variety of sounds including howls, barks, whines and yips, to communicate with one another and defend their territory. Small groups of coyotes (two - three) can distort their voices and sound like a group of 20.

Coyotes also use scat (feces) to communicate by depositing it in the middle of a trail or on the edge of their territory. Coyote scat is similar to dog scat in size and appearance, but unlike dog scat, it is rope-like and typically filled with hairs, seeds and bones.

**Diet:** Coyotes are opportunistic omnivores with great flexibility in their diet. They generally hunt small mammals such as mice, rats, moles, and rabbits, but will also eat fruit and berries and will even scavenge road-killed animals. In urban areas, coyotes are also known to eat pet food, unsecured garbage and compost. They may also prey on unattended domestic pets such as cats and small dogs if given the opportunity. This does not indicate a danger to humans, but is rather a natural coyote behavior. This behavior can be prevented by reducing human-associated food attractants in urban areas and not letting pets outside unattended unless protected by a coyote-proof enclosure or fence.

**Social Structure:** Most coyotes (called resident coyotes) live in family groups with one breeding pair and one to four other related individuals. Coyotes do not hunt in packs, but work

together to defend their territory from other coyote family groups. Other coyotes (called transient coyotes) live alone or as an isolated mated pair.

Coyotes mate once per year, during their breeding season, which occurs from January through March. During the pup season (April – August), the breeding pair will give birth to pups, typically in April or May. Litter size depends on available resources and the number of coyotes in the area. The average litter size is four to seven pups. Coyotes will place their pups in a den for the first six weeks, after which the pups will learn to hunt with their parents. Coyote dens are found in logs, burrows, banks, rock crevices and underbrush, as well as in open areas. During dispersal season (September – December), the pups from the previous year (yearlings) will leave the family group and become transient coyotes in search of a new home range.

**Habitat:** Coyotes are naturally diurnal and are most active at dawn and dusk, but often shift to more nocturnal activity in urban and suburban areas in an effort to avoid people. Coyotes prefer open space and natural preserve areas over human-dominated landscapes, but are extremely adept at living in proximity to people. Coyotes thrive in these areas because food, water, and shelter are abundant. Home range sizes vary for each individual coyote. Research has shown that home range sizes for resident urban coyotes average 2-10km<sup>2</sup>, while transient coyotes have larger home ranges.

**Coyote Attractants**

1. **FOOD:** Urban areas provide a bounty of natural food choices for coyotes, who primarily eat rodents such as mice and rats. However, coyotes can be further attracted into suburban neighborhoods by human-associated food such as pet food, unsecured compost or trash, and fallen fruit in yards. Intentional and unintentional feeding can lead coyotes to associate humans with sources of food, which can result in negative interactions among coyotes, people and pets. To reduce food attractants in urban and suburban areas:
  - a. Never hand-feed or otherwise deliberately feed a coyote.
  - b. Avoid feeding pets outside. Remove sources of pet food and water. If feeding pets outside is necessary, remove the bowl and any leftover food promptly.
  - c. Never compost any meat or dairy, unless the compost is fully secured.
  - d. Maintain good housekeeping, such as regularly raking areas around bird feeders, to help discourage coyote activity near residences.
  - e. Remove fallen fruit from the ground.
  - f. Keep trash in high-quality containers with tight-fitting lids. Only place the cans curbside the morning of collection. If you leave them out overnight, trash cans are more likely to be tipped over and broken into.
  - g. Bag especially attractive food wastes such as meat scraps or leftover pet food. If it is several days before garbage will be picked up, freeze temporarily or take to a dumpster or other secure storage container.
  
2. **WATER:** Urban areas provide a year-round supply of water in the form of storm water impoundments and channels, artificial lakes, irrigation, pet water dishes, etc., which support both coyotes and their prey. In dry conditions, water can be as alluring as food, so remove water bowls set outside for pets and make watering cans unavailable.
  
3. **ACCESS TO SHELTER:** Parks, greenbelts, open spaces, golf courses, buildings, sheds, decks and crawl spaces, etc., increase the amount and variability of cover for coyotes. They allow coyotes to safely and easily remain close to people, pets, homes and businesses without detection. In the spring, when coyotes give birth and begin to raise young, they concentrate their activities around dens or burrows in which their young are sheltered. Coyotes may take advantage of available spaces under sheds or decks for use as a den, bringing them into close contact with people and pets.

4. **UNATTENDED PETS:** Pets are a normal part of an urban landscape. Within their territory, coyotes may consider pets as potential prey or potential competitors.
- a. Free-roaming pets, especially cats and sometimes small dogs, may attract coyotes into neighborhoods. The best way to minimize risk to pets is to not leave them outside unattended.
  - b. Cats. Coyotes primarily eat small mammals such as mice and rats, but will also prey on slightly larger mammals such as rabbits and groundhogs. Approximately the same size as a groundhog or rabbit, free-roaming outdoor cats may also be seen as eligible prey items by coyotes. It is important to note that attacks on cats are normal coyote behavior and do not indicate a danger for people. The only way to protect cats from coyotes (and the other dangers of outdoor life such as cars, disease, dogs and other wildlife) is to keep cats indoors (or only let them outside in a secure enclosure or when accompanied by a person and under the control of a leash and harness).
  - c. Feral cats. People who feed feral cats are often concerned that coyotes might prey on the cats. These concerns are well founded, as coyotes will be attracted to both the outdoor pet food and the cats themselves as prey. Although there is no sure way to protect feral cats from coyotes, the following tips can be helpful:
    - i. Feed cats only during the day and at a set time—and pick up any leftovers immediately.
    - ii. Provide escape routes for cats.
    - iii. Haze coyotes seen on the property. Making them feel uncomfortable will encourage them to stay out of the area.
  - d. Dogs are also vulnerable to coyote confrontations. These incidents generally involve coyotes who are accustomed or habituated to people, usually due to wildlife feeding, or coyotes who are protecting their territory and pups, usually during breeding season.
    - i. Small, unattended dogs may be seen as potential prey for coyotes. It is important to either keep dogs on a leash six feet long or shorter when outdoors or to stay within six feet of them when outside. Coyotes may view a dog on a leash longer than six feet as an unattended pet. Attacks on unattended, small dogs are normal coyote behavior and do not indicate a danger for people.
    - ii. Although attacks on larger dogs are rarer, coyotes will sometimes go after a large dog when they feel that their territory is threatened. This generally occurs during the coyote breeding season, which takes place from January through March. During this time, it is especially important not to let dogs outside unattended and to keep them on leashes (six feet long or less) when in public areas.
    - iii. Fences can be used to keep coyotes out of residential yards, but they must be “coyote-proof.” Coyote-proof fences are at least eight feet tall and made of a material that coyotes cannot climb or at least six feet tall with a protective device on top such as a “coyote roller ([coyoteroller.com](http://coyoteroller.com)) that rolls off any coyotes (and dogs) that try to scramble over the fence. To prevent coyotes from digging under a fence, it should extend underground at least twelve inches or include an L-shaped mesh apron that extends outward at least 18 inches and is secured with landscape staples.
  - e. Other domestic animals kept outside, such as chickens and rabbits, may also be viewed as prey by coyotes. Protect poultry or other outdoor animals from coyotes, and other predators with protective fencing both structural and electric, by ensuring that they are confined in sturdy cages or pens each evening and by using livestock-guarding animals where possible.

Strategy

Coyote Behaviour	Classification	Response
Coyote heard; scat or prints seen	Observation	Distribute educational material and information on normal coyote behavior.
Coyote seen moving through area (day or night)	Sighting	Distribute educational material and information on normal coyote behavior.
Coyote seen resting in area (day or night)	Sighting	If area frequented by people (i.e. park), educate on normal coyote behavior and provide hazing information. Look for and eliminate (if possible) any attractants in area where sighting occurred.
Coyote entering a yard (no person present outside)	Sighting	Educate on normal coyote behavior and provide hazing information. Complete yard audit.
Coyote following or approaching a person with no incident	Encounter	Educate on normal coyote behavior and provide hazing information. Look for and eliminate any attractants in area where encounter occurred.
Coyote following or approaching a person and pet with no incident	Encounter	Provide information on hazing techniques and encourage responsible pet ownership. In an open area, post coyote sign(s) to alert other residents. <b>If it is pup season and there is a known den nearby, consider blocking off the path or area until pup season is over.</b>
Coyote entering a yard with pets, no incident	Encounter	Educate on coyote attractants and responsible pet ownership. Provide information on hazing techniques and complete yard audit.
Coyote entering a yard with people and pets, no pet attack occurring	Encounter	Educate on coyote attractants and responsible pet ownership. Provide information on hazing techniques and complete yard audit.
Coyote injures or kills unattended pet in back yard ( <i>distance greater than 6' from human</i> )	Unattended Pet Attack	Gather information on specific animals involved and reported circumstances. Educate on coyote attractants and responsible pet ownership. Provide information on hazing techniques and complete yard audit.
Coyote injures or kills pet off-leash in open space area	Unattended Pet Attack	Gather information on specific animals involved and reported circumstances. Educate on responsible pet ownership and hazing. Look for and eliminate (if possible) any attractants in area where incident occurred. Post coyote sign(s) in open area to alert other residents. <b>If it is pup season and there is a known den nearby, consider blocking off the path or area until pup season is over. Develop hazing team in area.</b> Levy fines (for leash law violations) when appropriate.
Coyote injures or kills livestock	Livestock Loss/Depredation	Gather information on specific animals involved and reported circumstances. Educate on proper livestock husbandry (including the use of secure enclosures, livestock guarding animals, and/or proper fencing).
Coyote injures or kills pet off leash with human nearby (within six feet)	Attended Pet Attack	Gather information on specific animals involved and reported circumstances. Educate on responsible pet ownership, coyote attractants, and hazing. Perform yard / neighborhood / public area audit. Post coyote sign(s) and / or send educational materials to residents in the area. Implement high intensity hazing techniques (by Animal Control Officers, police, trained volunteer groups etc.). If multiple confirmed incidents have occurred in the same vicinity within a short amount of time, locate/elimination of problem coyote may be required.
Coyote aggressive toward person, showing teeth, back	Incident	Gather information about incident and <b>reported</b> circumstances. Educate on responsible pet ownership ( <b>if applicable</b> ), coyote attractants, and hazing. Perform yard / neighborhood / public area audit. Post coyote

fur raised, lunging, nipping without contact		sign(s) and / or send educational materials to residents in the area. Implement high-intensity hazing techniques (Animal Control Officers, police, trained volunteer groups etc.) If confirmed multiple incidents have occurred in the same vicinity within a short amount of time, locate and elimination of problem coyote may be required.
Coyote has bitten human (an attack where the involved human does not encourage the coyote to engage)	Unprovoked Human Attack	Identify and gather information on all details of attack (including action of victim before and after attack, action of victim towards coyote, and how incident was resolved). Any human bitten by a coyote(s) will need to seek the advice of their physician concerning the administration of a post exposure rabies vaccination. Animal Control Staff will notify the Clerk and / or CAO, the Ontario Provincial Police (OPP), and the Ministry of Natural Resources and Forestry (MNRF). Town staff will work with the OPP and / or MNRF to locate and eliminate the responsible coyote, which will be tested for rabies, and also be given a full necropsy to determine general health and whether feeding was involved. Town staff will educate residents on coyote attractants, hazing, and responsible pet ownership. Town staff will also perform yard / neighborhood / public area audit. Implement high-intensity hazing techniques (Animal Control Officers, police, trained volunteer groups etc.).
Coyote has bitten human (human encouraged coyote to engage by hand feeding, approaching coyote with pups, intervening during pet attack, etc.)	Provoked Human Attack Provoked Human Attack	Identify and gather information on all details of attack (including action of victim before and after attack, whether feeding or pets were involved, action of victim towards coyote, and how incident was resolved). Any human bitten by a coyote(s) will need to seek the advice of their physician concerning the administration of a post exposure rabies vaccination. When known, animal control staff will notify the Clerk and / or CAO, the Ontario Provincial Police (OPP), and the Ministry of Natural Resources and Forestry (MNRF). Town staff will work with the OPP and / or MNRF to locate and eliminate the responsible coyote, which will be tested for rabies, and also be given a full necropsy to determine general health and whether feeding was involved. Town staff will educate residents on coyote attractants, hazing, and responsible pet ownership. Town staff will also perform yard / neighborhood / public area audit. Fines (for wildlife feeding and / or leash law violations) when appropriate. Implement high-intensity hazing techniques (Animal Control Officers, police, trained volunteer groups etc.)
Locate/Eliminate Control	<p>Locate/eliminate trapping control programs may seem a like a quick fix to problems among coyotes, people and pets. However, removal programs are not effective in reducing coyote populations or addressing the root causes of conflicts. Coyote removal programs are costly due to the difficulty of catching coyotes, and controversial among the public.</p> <p>When implementing such control, it is extremely difficult to ensure that problem-causing coyotes will be the ones located and relocated/killed. Since firearms are usually unsafe to use in urban and suburban areas, traps, which are by design non-selective for particular coyotes, are generally the method used. Because coyotes are so intelligent and wary of human scent, it is very difficult to catch any coyote in a trap, even more so the problem-causing coyote.</p> <p>Research has shown that when lethally controlled, coyotes exhibit a “rebound effect” (a surge in their reproductive rates), allowing for quick regeneration of their population numbers. The disruption of their family group structure leads to an increase in the number of females breeding in the population, and the increase in available resources leads to larger litter sizes, earlier breeding ages among females and higher survival rates among pups. This allows coyote populations to bounce back quickly, even when as much as 70% of their numbers are removed through lethal control efforts. For these reasons, lethal programs are not effective at reducing coyote populations, and non-selective coyote trapping programs are not effective at solving conflicts.</p>	

In addition, coyotes removed from an area will quickly be replaced by transient coyotes looking for a vacant home range. If the root causes of human-coyote conflicts have not been addressed, incoming coyotes may quickly become nuisance coyotes as well. It is far better to have well-behaved resident coyotes that will hold territories and keep transients at bay than to risk having to deal with newcomers who do not know the "rules." Lethal responses (coyote removal) should be considered only in the event of an unprovoked, confirmed attack on a human, unless the situation within the strategy warrants particularly consideration. If implemented, lethal control efforts should focus on the offending coyotes only, rather than the coyote population at large. This requires significant surveillance efforts to make sure that the correct animal is targeted and removed.

Lethal control should be considered as only one of a suite of management interventions (e.g. removal of attractants, hazing, etc.) that involve an array of humane and non-lethal measures. It is worth remarking that if non-lethal control techniques are effective enough to reduce human-coyote interactions and conflicts to acceptable levels, then the lethal control limited option may remain in the toolbox without being used.