

A conflict management plan

Solving Problems with Coyotes

This coyote management and coexistence plan has been prepared for use by Jefferson Parish communities (including, but not limited to, cities, villages, towns, homeowners associations, etc.) in humanely and effectively preventing and solving conflicts among coyotes, people and companion animals. The information in this plan has been gathered from scientific and peer-reviewed articles, from experts in the field of human-coyote conflict resolution, and from successful coyote management plans across the U.S.

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How to use this coyote management plan

The goal of this coyote management and coexistence plan is to provide a program for reducing human-coyote conflicts while prioritizing human safety. The suggested actions outlined in this plan are designed to increase citizens' knowledge and understanding of how coyotes behave and make clear how such behavior can be managed to reduce or eliminate conflicts with coyotes.

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We would also like to acknowledge the following coyote management plans, which helped to influence the ideas and guidelines presented in this plan:

- City and County of Broomfield (CO) Coexistence with Wildlife Policy
- City of Calabasas (CA) Coyote Management Plan
- City of Centennial (CO) Coyote Management Plan
- City of Davis (CA) Coyote Management and Coexistence Plan
- City and County of Denver (CO) Coyote Management Plan
- Portland (OR)-Vancouver (BC) Model Coyote Management Policy
- Village of Riverside (IL) Coyote Home Audit Checklist
- City of Wheaton (IL) Coyote Policy

Introduction and goals

This coyote management and coexistence plan is based on scientific research, a thorough understanding of coyote ecology and biology in urban settings, and the best known management practices and management tools. This plan is guided by the following basic principles:

1. Human safety is a priority in managing human-coyote interactions.
2. Coyotes serve an important role in ecosystems by helping to control the population of rodents, Canada geese, rabbits and other urban mammals.
3. Preventive practices such as reduction and removal of food attractants, habitat modification and responding appropriately when interacting with wildlife are key to minimizing potential interactions with coyotes.
4. Solutions for coyote conflicts must address both problematic coyote behaviors (such as aggression toward people and attacks on pets) and the problematic human behaviors (intentionally or unintentionally feeding coyotes and letting pets outside unattended) that contribute to conflicts.
5. Non-selective coyote removal programs are ineffective for reducing coyote population sizes or preventing human-coyote conflicts.
6. A community-wide program that involves residents is necessary for achieving coexistence among people, coyotes and pets.

Due to their intelligence and adaptability—in addition to extensive urbanization and the subsequent decline of larger predators—coyotes have successfully expanded their range across North America. Coyotes are now found in all states in the U.S. except Hawaii and have become well established in nearly every ecosystem. They live in deserts, swamps, tundra and grasslands, brush, dense forests, cities and suburbs. People can live among coyotes yet never see them. Often it's only an evening chorus or group howling and yipping that alerts us to the presence of this wild canid in our neighborhoods. It is important to keep in mind that coyotes have been interacting with and adapting to people for at least the last 100 years.

The Coyote

ECOLOGICAL IMPORTANCE

Coyotes are curious, smart and adaptable creatures and our urban areas provide the perfect balance of food, shelter and water for them. What you may not know is that even in fragmented and urbanized landscapes, coyotes can play an integral role in their environment by providing ecosystem services and helping to maintain species diversity. Coyotes in urban areas not only provide free rodent control by feeding on mice and rats, but also help to regulate the population size of other species that may cause conflicts with people in urban areas (such as voles, wild turkeys, white-tailed deer and Canada geese).

GENERAL BIOLOGY, REPRODUCTION AND BEHAVIOR

Since coyotes are naturally very skittish and afraid of humans, they are rarely 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 two or three coyotes 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, voles, rabbits and prairie dogs, 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 three 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 through 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 6 weeks, after which the pups will learn to hunt with their parents. Coyote dens are found in steep banks, rock crevices and underbrush, as well as in open areas. During dispersal season (September through 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 (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 coyotes average 2–5 square miles, while transient coyotes have larger home ranges (averaging 10 square miles). Home range size can be an important indicator of resource distribution and abundance and also may correlate with population density.

Coyotes are drawn to urban and suburban areas for the following reasons:

Coyote attractants in urban areas

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:

- Never hand-feed or otherwise deliberately feed a coyote.
- 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.
- Never compost any meat or dairy (unless the compost is fully secured).
- Maintain good housekeeping, such as regularly raking areas around bird feeders, to help discourage coyote activity near residences.
- Remove fallen fruit from the ground.
- Keep trash in high-quality containers with tight-fitting lids. Only place the cans curbside the morning of collection. If you leave trash cans out overnight, they are more likely to be tipped over and broken into.
- 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 the food temporarily or take it 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. 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.

- 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).

- 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:

- Feed cats only during the day and at a set time—and pick up any leftovers immediately.
- Provide escape routes for cats. Hazing coyotes seen on the property, making them feel uncomfortable will encourage them to stay out of the area.

- Dogs.

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).

- Small, unattended dogs.

Small unattended dogs may be seen as potential prey for coyotes. It is important to either keep dogs on a leash 6 feet long or shorter when outdoors or to stay within 6 feet of them when outside. (Coyotes may view a dog on a leash longer than 6 feet as an unattended pet.) Attacks on unattended small dogs are normal coyote behavior and do not indicate a danger for people.

- Although attacks on larger dogs are rare, 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 (6 feet long or shorter) when in public areas.
- Fences can be used to keep coyotes out of residential yards.
- Other domestic animals kept outside.

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.

MONITORING AND COLLECTING DATA

Coyote coexistence strategies and techniques

Monitoring and data collection are critical components of an effective coyote management plan. This is best accomplished with input from both residents and city officials using a coyote online reporting form.

The purpose of monitoring human-coyote interactions is to document where coyotes are frequently seen, to count how many coyotes are within an area and to identify human-coyote conflict hotspots. Gathering specific data on incidents will allow for targeting of educational campaigns and conflict mitigation efforts, as well as the ability to measure success in reducing conflicts over time.

A standard Coyote Incident Form should be made available to residents and employees to allow for consistent reporting of coyote incidents. Contact information—including the date, time, name, address and phone number of the individuals submitting the report—should be included, as well as specific information about the incident.

HUMAN-COYOTE CONFLICT DEFINITIONS

The following definitions will be used for the process of categorizing human-coyote conflicts:

Coexistence:

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.

Observation:

The act of noticing signs of a coyote(s), such as tracks, scat or vocalizations, but without visual observation of the coyote(s).

Sighting:

A visual observation of a coyote(s). A sighting may occur at any time of the day or night.

Encounter:

A direct meeting that is between human and coyote(s) with no physical contact and that is without incident.

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.

Human attack:

A human is bitten by a coyote(s).

Provoked: 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.

Unprovoked: An attack where the involved human does not encourage the coyote to engage. The following definitions will also be used for the process of categorizing conflicts among coyotes, pets and livestock.

Pet attack:

Coyote(s) kills or injures a domestic pet.

Attended: Pet is on a leash less than 6 feet in length or is in the presence of a person less than 6 feet away.

Unattended: Pet is free-roaming, walking off-leash more than 6 feet from a person, or on a leash longer than 6 feet.

Livestock loss/depredation:

Coyote(s) kills or injures livestock.

EDUCATION AND OUTREACH

A critical element of a successful coyote management plan is the education and awareness of residents. Education is the key to having residents make appropriate decisions regarding their safety and managing their property and pets. This involves decreasing food attractants, taking precautions with pets and creating tolerance of normal coyote behavior.

An educational campaign should focus on how residents can coexist with coyotes successfully. Educational outreach opportunities include:

1. Educational materials. These can include brochures, informational postcards mailed or hand-delivered to specific neighborhoods with a high number of coyote sightings and interactions, detailed information and appropriate links made available on local websites, e-newsletters, development of various public service announcements to run on public access channels, or coyote signage posted in appropriate parks and open spaces.
2. Trainings. Incorporate coyote education in schools and make educational seminars and trainings available to the public.
3. An outreach and education team. Composed of trained community volunteers, a team can help with community outreach by tabling at community events, presenting in classrooms and/or following up directly with individuals and neighborhoods who may have concerns.

HAZING: AN INTERVENTION TECHNIQUE

Generally, coyotes are reclusive animals who avoid human contact. Coyotes in urban and suburban environments, however, may learn that neighborhoods provide easy sources of human-associated food while presenting few real threats. These coyotes, having lost their fear of humans, may visit yards and public areas even when people are present and may cause conflicts with people and pets. Humans have contributed to this habituation of coyotes by not reacting when they see a coyote. We have a tendency to either ignore them due to fear or to be enamored by them because they are wild and it is “cool” to see one. To coexist safely, it’s important to modify this behavior and attitude in resident coyote populations.

The best solution for addressing problematic coyote behavior is by instituting a community-based hazing program.

Hazing is an activity or series of activities that is conducted in an attempt to change behaviors of habituated coyotes and/or to re-instill a healthy fear of people in the local coyote population. Hazing techniques include generating loud noises, spraying water, shining bright lights, throwing objects, shouting, etc. Hazing can help maintain coyotes’ fear of humans and deter them from neighborhood spaces such as backyards, greenbelts and play spaces

A hazing program encourages the use of harassing actions without employing weapons or causing bodily harm to the coyote. The more often an individual animal is hazed, the more effective hazing is in changing coyote behavior. Being highly intelligent animals, coyotes who are hazed quickly learn to avoid neighborhoods, people and pets.

The goals of hazing are to:

- Reverse the habituation of coyotes to people, teaching them to once again fear and avoid humans
- Discourage coyotes from entering public areas such as parks, playgrounds and yards when people are present
- Discourage coyotes from approaching people and pets
- Empower residents by giving them tools to use when they encounter a coyote, thereby reducing their fear of coyotes
- Increase awareness about coyote behavior among residents and involve the community in coyote management efforts

Basic Hazing: Consists of directly facing the coyote and being “big and loud” by waving your arms over your head, making loud noises or squirting the coyote with water until the coyote(s)

chooses to leave. Using a variety of different hazing tools is critical because coyotes can become desensitized to the continued use of just one technique, sound or action.

Basic hazing can be performed by anyone and includes the following techniques:

- Yelling and waving your arms while approaching the coyote.
- Making loud noises with whistles, air horns, megaphones, soda cans filled with pennies, pots and pans.

- Throwing projectiles such as sticks, small rocks, cans, tennis balls or rubber balls at the direction of the coyote.

- Squirting water from a hose, water gun or spray bottle (with vinegar water).

High-intensity Hazing: Consists of approaching the animal quickly and aggressively, throwing projectiles, paint balls, pepper balls, sling shots, clay pellets or pepper spray at the coyote. High-intensity hazing should only be carried out by trained professionals such as animal control and police officers. High-intensity hazing should be used in specific areas and only in response to more egregious incidents.

LETHAL CONTROL

Lethal 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.

When implementing lethal control, it is extremely difficult to ensure that problem-causing coyote(s) will be the ones located and 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, never mind the problem-causing coyote.

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 percent 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.

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 who 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. If implemented, lethal control efforts should focus on the offending coyote(s) only, rather than the coyote population at large. This requires significant surveillance efforts to make sure that the correct animal(s) 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.

LOCAL ORDINANCES

In addition to the suggested responses below, the following current parish-wide ordinances may be helpful:

Leash law. The leash law is where a monetary fine for off-leash dogs can help address problematic behavior that could lead to coyote-pet conflicts. Residents should be instructed to keep pets on a leash 6 feet long or shorter.

The Anti-feeding ordinance. We have banned the feeding of nuisance wildlife, a monetary fine helps address the potential for problematic feeding behavior that can lead to the habituation of coyotes.

Coyote response plan

Coyote Behavior	Classification	Response
Scat or paw prints seen	Observation	Provide educational materials about coyote behavior
Coyote seen moving through the area (day or night)	Sighting	Distribute education materials and information on normal coyote behavior.
Coyote seen resting in area (day or night)	Sighting	If area frequented by people, educate on normal coyote behavior and how to haze to encourage animal to leave. Look for and eliminate attractants.
Coyote entering a yard (no person present)	Sighting	Educate on coyote attractants; provide hazing information and yard audit.
Coyote following or approaching a person with no incident	Encounter	Educate on hazing techniques. Look for and eliminate attractants
Coyote following or approaching a person and pet with no incident	Encounter	Educate on hazing techniques and pet management. If an open area, post education signs to alert other residents to keep dogs on leash and to haze coyotes. If it is pup season and there is a known den nearby, consider blocking off the path or area until pup season is over.
Coyote entering a yard with pets, no incident	Encounter	Educate on coyote attractants and pet management, provide hazing information and yard audit.

Coyote entering yard with people and pets, no pet attack occurring	Encounter	Gather information on specific animals involved and report circumstances. Educate on coyote attractants and pet management, provide hazing information and yard audit.
Coyote injures or kills unattended pet in back yard	Unattended Pet Attack	Gather information on specific animals involved and report circumstances. Educate on coyote attractants and pet management, provide hazing information and yard audit.
Coyote injures or kills pet off-leash in open space area	Unattended Pet Attack	Gather information on specific animals involved and report circumstances. Educate on pet management and hazing, Look for and eliminate food attractants. Post education signs in open area to alert other residents to keep dogs on leash and to haze coyotes. If it is pup season and there is a known den nearby, consider blocking off the path or area until pup season is over.
Coyote injures or kills livestock	Livestock Loss/Depredation	Gather information on specific animals involved and report circumstances. Educate on proper livestock husbandry (including the use of secure enclosures, livestock guarding animals, and/or proper fencing).
Coyote injures a human	Attack	Remove Coyote from area.