

Urban Coyotes: Conflict and Management

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Coyotes have become the top carnivores in most metropolitan areas across North America.

Rarely seen and occasionally heard, coyotes generally avoid humans, even when they inhabit largely urban and suburban areas. Consequently, many coyotes live in close proximity to people without ever being noticed.

However, as coyote populations begin to thrive in urban areas, so have reports of conflicts with people.

Originally from the open grasslands and deserts of Mexico and Central North America, coyotes have expanded their range across North America and now are found in an increasing number of cities in the United States and Canada.

Despite thriving in urban areas, coyotes tend to avoid humans, shifting a majority of their activity to evening hours and spending most of their time in wooded patches and shrubbery rather than in residential, commercial, and industrial areas.

Because coyotes are opportunistic creatures, their behaviors can vary from individual to individual. Consequently, some coyotes are able to thrive in ur-

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What Does a Coyote Look Like?



The coyote is a medium-sized member of the dog family, which includes wolves and foxes. With its pointed ears, slender muzzle, and drooping bushy tail, it often resembles a German shepherd or collie.

Coyotes are usually grayish brown with reddish tinges behind the ears and around the face, but coloration can vary from silver-gray to black. Most adults weigh 30–35 pounds (particularly large individuals weigh 40–45 pounds), although their full coats often make them appear larger.

ban areas with elevated human activity and minimal natural cover. Likewise, their diets are extremely flexible; coyotes are generally scavengers and predators of small prey, mostly feeding on rodents, fruit, deer, and rabbits. They generally avoid eating trash, even in urban areas.

Coyotes can function as a top predator in urban environments, assisting with controlling deer, rodent, and Canada goose populations. Songbird diversity and nesting success increase in urban parks inhabited with coyotes. Through predation on fawns, coyotes may also slow white-tailed deer population growth in high-density areas.

Why Are Coyotes Living in the City?

- Residential areas provide year-round habitat (food, water, shelter, and space) for coyotes.
- Backyards are often sites of plentiful food sources, including mice, rabbits, squirrels, and voles. Bird feeders and fallen fruit around homes may help increase the abundance of these prey, consequently attracting coyotes to developed areas.
- In some cases, urban coyotes have also learned to take advantage of human-related food such as pet food left outside and meat and fish scraps in garbage cans or compost piles.
- In dry conditions, coyotes may seek out water available in parks, natural areas, and backyards.
- Coyotes have a higher survival rate in residential areas due to a lack of trapping and hunting.

Types of Conflicts with Coyotes

As coyotes have emerged as top predators in urban environments, so have reports of conflicts with people. Coyote conflicts can range from sightings to pet killings and, in rare cases, attacks on people. The following sections list common nuisance situations in metropolitan areas.

Sightings

Sometimes, just the sight of a coyote can elicit fear among people, even without any evidence of damage or antagonistic behavior. Perhaps because of their role as a large predator, people are sensitive to the real or perceived threat coyotes may pose to pets or children.

Conflicts with Cats

Often pitting sections of the public against each other, coyote predation on cats is perhaps one of the most controversial aspects to the urbanization of coyotes. Coyotes may kill cats for food or to remove them as potential competitors for prey such as rodents and rabbits. Members of the public who own cats or are otherwise interested in cats' well-being view this function of coyotes as strongly negative.

It is difficult to assess coyotes' true impact on cat populations. In many cases it is hard to identify the fate of missing cats, and coyotes may incorrectly be accused as the source. In some situations, coyote predation on feral cats has resulted in increases in the nesting success of songbirds. Thus, coyotes can also serve as a top predator by removing an important smaller predator, the cat.

Conflicts with Dogs

Less commonly, coyotes may attack small dogs and, rarely, medium-to-large dogs. Dogs are usually attacked when they are not accompanied by people, but in some rare cases, small dogs have been taken in the presence of an owner.

Small dogs may be taken at any time of the year, but attacks on larger dogs are usually associated with the mating and breeding season (January through April), during which time coyotes become highly defensive and territorial. The rare fight between a coyote and a dog usually occurs when a dog is off-leash and either chases a coyote or explores a coyote's den or burrow where pups are sheltered.

Most reported dog attacks have occurred when dogs have been in their backyard (either alone or in the presence of their owner) or were being walked by their owner in a park.

Always keep dogs leashed in urban parks or natural areas.

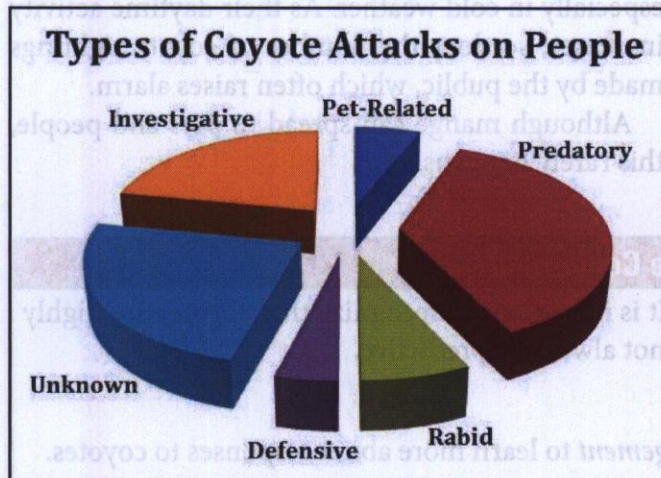
Attacks on Humans

The most extreme and relatively rare types of conflicts are coyote attacks on people. The majority of these cases involve younger children, and most attacks have occurred in the Southwest, especially in southern California where coyotes have lived in

suburbs for decades. However, coyotes have also attacked adults for various reasons.

Coyote attacks on people are usually minor in nature and generally fall into one of five categories:

- **Predatory**—The coyote directly and aggressively pursued and bit the victim.
- **Investigative**—The coyote bit a sleeping or resting person, testing it as a possible prey source.
- **Rabid**—The coyote was captured, tested, and diagnosed with rabies.
- **Pet-related**—The coyote attacked a person that was walking a pet, trying to save a pet from a coyote attack, or was just near a domestic pet at the time of attack.
- **Defensive**—The coyote felt threatened and was defending itself, its pups, or a den.



Coyote attacks on people are generally committed by seemingly healthy coyotes, with less than 8% of victims reportedly being bitten by rabid coyotes. Most attacks on humans occur between May and August (pup-rearing season) and, to date, no significant difference has been found between the number of daytime and nighttime attacks.

Prior to attacks, victims are commonly engaged in some type of recreational activity such as jogging, hiking, bicycling, or playing golf. Other common activities prior to attack are sleeping and resting outside. A majority of attacks on children occur while the victims are playing outside in their yard or driveway.

Most victims do not suffer serious injuries from coyote attacks and are oftentimes able to scare away the coyote by yelling or throwing objects at it. However,

small children are the primary targets of predatory attacks, which result in the most serious injuries and account for approximately 37% of all reported attacks. Coyotes may view small children as potential prey and may also be stimulated to attack children that are running or engaging in playful behavior.

Causes of Conflicts with Coyotes

Feeding Coyotes

In almost one-third of reported coyote attacks on people, it was known that coyotes were being fed (either intentionally or accidentally) near the attack site.

Easily obtained food common in many backyards, such as pet food, bird seed (attracting rodents), fallen fruit, and meat or fish scraps in garbage cans or composts, can be the source of many conflicts, luring coyotes into human settlements and teaching them to associate backyards with quick meals. In neighborhoods where cooking or eating outside is common, coyotes may be attracted into backyards by food scraps left outside.

Coyotes that are fed in residential neighborhoods can lose their fear of people and may eventually test humans or pets as possible prey.

Regardless of whether feeding is intentional or accidental, leaving food sources outside in areas of high human activity may teach coyotes to either lose fear of people (called **habituation**) or associate the site of feeding with positive food rewards (called **food conditioning**).

Habituation occurs when a coyote has repeated innocuous interactions with people, resulting in the eventual loss of fear and avoidance of people. Habituation is not an all-or-none response and may vary widely among individuals within the same population. Habituated coyotes often become nuisances in metropolitan areas; as they lose fear of humans, they may become bolder and more aggressive towards people, often in search of food.

Food conditioning occurs when food rewards such as accessible pet food or meat scraps encourage undesirable behaviors such as coyotes exploring

backyards. Food conditioning is a simple association made between people or human places and food; it does not mean that the animal has lost fear of people.

Disease: Rabies and Mange

Rabid coyote attacks on humans account for less than 8% of total reported cases, and most pet attacks are caused by healthy, non-diseased, habituated coyotes. Coyote-strain rabies is restricted to southern Texas, but coyotes are sometimes infected with rabies from other species. For example, raccoon-strain rabies is prevalent along the east coast of the United States and occasionally flows over into coyote populations.

Coyote attacks on pets and people are generally committed by seemingly healthy coyotes.

When coyotes are infected with rabies, they become extremely dangerous and aggressive. If a person is bitten by a coyote that is acting aggressively, he or she

should be treated for rabies as a precaution. Anytime a person is bitten by a coyote, animal care and human health professionals should be contacted and the coyote should be removed if possible.

Coyotes with extensive mange infections are commonly believed to pose a threat to human safety. This is an incorrect assumption. In contrast to rabies, mange infections do not cause coyotes to act aggressively.

Rather, the disease produces severe skin irritation, causing excessive scratching and resulting in massive hair loss and open wounds. This, in turn, causes the coyote to look strange and somewhat threatening.

Massive hair loss affects a coyote's ability to maintain a sufficient body temperature; as a result, infected coyotes become more active during the day, seeking warmth, food, and refuge near people's homes, especially in cold weather. As their daytime activity increases, so does the number of coyote sightings made by the public, which often raises alarm.

Although mange can spread to pets and people, this rarely happens.

How Do I Recognize Threats, and When Should I Be Concerned?

Below are signs of increasing threats posed by coyotes. It is important to recognize that coyotes are highly variable in their behavior; therefore, this sequence may not always be predictive.

Low Concern

See *Community-Level Strategies for Urban Coyote Management* to learn more about responses to coyotes.

High Concern

- Coyotes are rarely or occasionally seen at night and more rarely seen during dusk and dawn. Howling is heard occasionally.
RESPONSE: Seek public education. Prohibit/limit wildlife feeding.
- Coyotes are occasionally seen during the day and frequently seen at night. A house cat disappears occasionally.
RESPONSE: Seek public education. Prohibit/limit wildlife feeding. Be aware that free-ranging pets are at risk. Use negative stimuli, repellents, or hazing.
- Coyotes are frequently seen during the day. They appear in yards on an increasing basis but flee when approached by people. Pets in yards are attacked.
RESPONSE: Seek public education. Prohibit/limit wildlife feeding. Consider removal. Supervise pets. Use negative stimuli, repellents, or hazing.
- Coyotes are fearless or aggressive. They take pets from yards, approach people without fear, follow children, or act aggressively (growling, barking) when subjected to negative stimuli.
RESPONSE: Seek a removal program and public education. Prohibit/limit wildlife feeding. Supervise pets. Use negative stimuli, repellents, or hazing.

Our relationship with coyotes is directly affected by our behaviour.

Preventing Conflicts with Coyotes

Modifying individual human behavior is the most basic way to prevent or reduce conflicts with coyotes. The following sections list steps that individuals can take to prevent such conflicts.

Do Not Feed Coyotes.

- Eliminate intentional and accidental feeding of coyotes.

Preventing Conflicts by Removing Possible Food Sources

Feeding wildlife causes many of the human-coyote conflicts experienced in urban areas. Here are some ways to eliminate coyote feeding.

- Avoid feeding pets outside, or remove food bowls as soon as your pet has finished its meal.
- Remove water bowls set outside for pets. In dry conditions, water can attract coyotes.
- Remove fallen fruit or seed around bird feeders. Coyotes are usually not interested in bird food, but bird feeders often attract rodents, especially squirrels, which then attract coyotes. Regularly rake areas around bird feeders.
- Use enclosed bins when composting, and do not compost meat or fish scraps.
- Keep trash in high-quality containers with tight-fitting lids. Only place cans curbside the morning of collection. Bag enticing food wastes such as meat scraps or leftover pet food.

Supervise Children When Outside.

- Supervise children when playing outside, even in their own backyard, especially if coyotes have been recently observed in the neighborhood.

Do Not Let Pets Run Loose.

- Keep domestic cats indoors. Free-ranging cats and feral cat colonies may attract coyotes to residential areas.

- Watch dogs with caution when left outside.
- Obey leash laws, especially when walking in urban parks or wooded areas.
- Take extra care during breeding season (January through April). Keep dogs on their leash during this time.

Do Not Run from a Coyote.

- Exhibit caution if you see a coyote during the daytime. Coyotes active during the day may be habituated to humans.
- Never run away from a coyote. If approached, yell, wave your arms, and/or throw something at the coyote.

Report Aggressive, Fearless Coyotes Immediately.

- Contact appropriate officials as soon as possible when coyotes fail to exhibit fear of humans or act aggressively by barking or growling in the yard or playground. Appropriate officials usually include animal control or the police.

Try Repellents or Fencing.

- Repellents may keep coyotes out of small areas such as yards, but many have not been tested thoroughly for coyotes. Repellents may involve remotely activated lights or sound-making devices.
- Fencing may keep coyotes out of a yard; however, coyotes are skilled climbers, jumpers, and diggers, so the effectiveness of fencing may vary with individual coyotes.
- Protect other outdoor animals such as chickens and rabbits from coyotes (and other predators) with protective fencing as discussed above. Confining outdoor animals to sturdy cages or pens each evening may also help protect them from predation.

It is recommended that mesh or net-wire fencing be at least 5 feet high with a roll bar across the top. Roll bars prevent an animal from gaining a foothold when attempting to jump or climb over a fence. Installing an electric wire or barbed wire at the top and bottom of the fence may also inhibit coyotes from climbing over. Because coyotes are capable of digging under fences, fencing may be more effective if it also extends beneath the ground. A buried apron extending 6 inches below ground may help.

When using repellents or fencing, remember that coyotes vary widely in individual behavior. As such, a coyote's response to any measures taken may vary from coyote to coyote as well as from year to year. Coyotes are also extremely smart and adaptable creatures capable of quickly learning how to circumvent barriers or repellents. The key to success is to use a diversity of approaches to deter coyotes.

Final Points

- Presence of coyotes does not always lead to conflicts. Indeed, most coyotes residing in urban areas do not come into conflict with people.
- Individual steps taken to prevent conflicts will only be effective if they are coordinated across a community. Individual actions may be undermined if a neighbor engages in activities that habituate coyotes or attract them into human areas. See *Community-Level Strategies for Urban Coyote Management* for recommended action at the community level.
- Coyote behavior can widely vary among individuals and from year to year; therefore, individual coyotes may respond differently to management

measures. The key to success is to employ a variety of deterrent techniques.

- Most conflicts are related to feeding coyotes, either intentionally or inadvertently. Any type of coyote feeding should be discouraged. Remove from residential areas all easy food sources such as pet food left outside and large bird feeders that attract multiple wildlife species.

Additional Sources

- For more information on fencing, see the Ohio State University Extension fact sheet *Preventing and Controlling Coyote Problems*, available at <http://ohioline.osu.edu/w-fact/pdf/0004.pdf>.
- For more information on community-level management actions, see the Ohio State University Extension fact sheet *Community-Level Strategies for Urban Coyote Management*.
- The Cook County, Illinois, Coyote Project website (<http://urbancoyoteresearch.com/>) is also helpful.
- Also see the Ohio State University Extension bulletin *Urban Coyote Ecology and Management* (<http://ohioline.osu.edu/b929/pdf/b929.pdf>).

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