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## Ghost Dogs and Their Unwitting Accomplices

Stanley Gehrt

### Foreword, by Rylan Higgins

Stan Gehrt and I “met” for the first time via Zoom in May of 2021. We talked for about an hour, and at some point, we learned that we grew up within about 45 minutes of each other in southeast Kansas. As an anthropologist, I have always found that such connections facilitate a level of comfort that makes for good conversation. Within minutes, furthermore, I was sure I was talking with not only an intelligent coyote researcher but also a compassionate human who had come to relate to animals in ways few people have. By the end of the conversation, biologist (Stan) and anthropologist (Rylan) had put heads together and arrived at a plan for a rather unique essay for *Anthropology Now*.

A week or so before my meeting with Stan, I had heard him talk on CBC Radio One while I drove home (in the Halifax region of Canada). He was being interviewed by *Quirks & Quarks* host Bob McDonald about his coyote research in Chicago, and several things about that conversation struck me. The general idea that North American cities are home to many, many coyotes was itself quite notable, as was Stan’s in-depth knowledge about these urban-based creatures. The evolving story of how humans and coyotes

have related to one another, and continue to, was also rather remarkable and revealed features of interaction that I had never considered, even though I, like nearly everyone in North America, live among coyotes. I also found Stan’s relationship with coyotes both intriguing and endearing.

As I listened to Stan on the radio and later talked with him, I was certain that his research on coyotes in general, but especially on human-coyote relations, would make interesting content for *Anthropology Now*. Based on what he described, I came to think that Stan does something akin to an ethnography of coyotes. As of the writing of this Foreword, I am still not sure how fitting this comparison is. Does Stan’s research with coyotes mimic in any significant way the work that anthropologists carry out? Perhaps it is a bit of a stretch with regard to some of his methods. Radio collars and the use of sedatives simply aren’t part of the anthropology tool kit. But hanging out, communicating and forming relationships are. And this is what Stan does with coyotes. He knows individual animals in a way that is not entirely dissimilar from the human-to-human interactions that result from anthropological research.

Regardless, human/nonhuman relations are an increasingly common and important topic in anthropology. This vein of scholarship is producing a lot of compelling insights, including ideas about expanding our understanding of personhood to include nonhuman animals. Stan’s research on coyotes weds very nicely with this trend and makes it clear that collaborations between biologists and anthropologists hold a lot of potential for developing in-depth knowledge about how our species relates to others. As

Stan's essay below so nicely shows, a lot is being learned, but plenty remains unknown. I, for one, am glad that there are researchers like Stan forming relationships with animals, learning about their lives and addressing key questions about how people make meaning as we interact with the non-human world.

## The Story of Human-Coyote Relations in North America

If you are reading this article from basically any place in North America, in all likelihood you have been an unwitting accomplice to one of the most amazing wildlife stories to take place in the last century. This story involves the coyote (*Canis latrans*) and its unqualified success at conquering the continent at least partially through its strange, paradoxical relationship with humans. To be clear, the consequence of the coyote's success is that most of you are living with coyotes whether you are aware of it or not, whether you are reading this from a rural farm, residential subdivision or even a downtown office.

There are many layers involved in the history of the coyote that combine to make it such a compelling wildlife story in North America. Two aspects form the underlying foundation. Firstly, during a period of extreme persecution and land conversion to primarily human use, the coyote has dramatically expanded its distribution and abundance across the continent. Secondly, in the last 20 to 30 years, coyotes have become residents in virtually all metropolitan areas in the United States and Canada, a truly remarkable process because it has involved establishing themselves as the apex predator in urban systems built

and occupied by their most dangerous predator: humans. Consequently, many readers of this article are participants in this second part of the coyote's story, and this is also where my research comes in to play.

The coyote is an exclusive North American member of the Canidae family, which includes wolves, foxes, jackals and, of course, our domestic dogs. At the time of European expansion across the continent (1600–1850 AD), the coyote's range was mostly restricted to plains and deserts west of the Mississippi and from the Canadian border to parts of Central America.<sup>1</sup> On the open range of the West, the coyote occupied the mid-sized carnivore niche, hunting mostly small prey and scavenging off kills made by the larger predators, while at the same time avoiding those dangerous competitors. This lifestyle, hunting prey while avoiding larger predators, would serve the coyote well as the landscape shifted from one dangerous predator to another.

Although coyotes had a largely positive relationship with the first people to inhabit North America, and indeed figured prominently in western Native American culture, things would change with pioneer expansion by those with European ancestry and the landscape would become dangerous again. Intense persecution of mammalian predators took place with such effectiveness that larger predators mostly disappeared. As Native Americans experienced their own persecution in the face of white expansion, the relationship between coyotes and people shifted to one of hostility. However, while larger mammalian predators succumbed to persecution and were largely extirpated from their former ranges, coyotes responded to this pressure by dramatically expanding their range across all

conterminous states and Canadian provinces. They have also expanded southward, increasing their range in Central America, and by 2013 crossed the Panama Canal.<sup>2</sup>

The amazing aspect of this tremendous range expansion is that it has been accomplished in the face of intense human persecution. At no point have coyotes benefited from any sort of protection or conservation efforts by state or federal agencies. Throughout most of their range, coyotes are regulated as game animals, which allows people to harvest them but also to remove them as predators. In most states, harvest regulations are the most lenient for coyotes compared to other species. Unlike other game species, nearly all states allow year-round hunting of coyotes with no limits on the number that can be taken. Occasionally coyote hunting contests, bounties and other forms of incentives appear to increase this persecution. Currently, using reported harvest and predator control numbers, between 500,000 and 800,000 coyotes are harvested or killed as part of predator control measures in the United States each year. Of course, these are underestimates of the total number of animals killed, because coyotes are killed for other reasons as well, so the total number of animals removed may approach 1 million in some years. Yet, despite this pressure, despite the human efforts to control or remove them, the coyote not only persists but has more than doubled its range and increased in abundance. Put differently, after nearly two centuries of intensive “coyote control,” there are more coyotes on the continent today than at any point since European colonization. No other wildlife species can claim that level of invulnerability to human persecution.

As remarkable as that success is, a more stunning aspect of the coyote’s story is their amazing success populating all metropolitan areas in the United States and Canada.<sup>3</sup> If the coyote had an opposable digit, it is likely they would be using it to thumb their noses at our efforts to exterminate them by claiming residence in our own backyards. But is this perception true, and what does their perceived “success” in urban areas mean for us and our ever-evolving relationship to coyotes?

For the past 21 years, I have had the privilege of developing and supervising the largest study of coyotes to date within one of the largest urban centers in North America, the Chicago metropolitan area. Over the years, we have used various types of technology to peer into the hidden lives of these animals, lifestyles that remain largely hidden despite living within a landscape containing 9 million people. But even with the advantages of radiotelemetry, GPS (Global Positioning System) satellites, remote cameras, chemical analysis of tissue for diet, and the latest genetic tools, it never ceases to amaze me how difficult it is to study these animals, even in a system where these animals are living among millions of people. In many ways they are as mysterious to me as when we started.

The story of the emergence of the coyote in the Chicago system is emblematic of most major cities across the United States and Canada. Prior to the 1990s, coyotes were only found in the more remote areas of the Chicagoland area, and usually in low numbers. But at the close of the 20th century, it appeared that their numbers increased dramatically, such that coyotes began appearing in areas where they have never been seen before.<sup>4</sup> Animal control agencies began fielding

calls from concerned residents, and many communities demanded animals be removed because of the perceived risk. However, despite efforts to “depopulate” coyotes from the area, they persisted. This, in turn, led to the need for better understandings of how the coyote population in the Chicago area was functioning and of the real risks they posed to people and their pets.

At the turn of the 21st century, the phenomenon of the urban coyote was relatively new, and little information existed on which to direct management decisions and, perhaps more important, how to respond to the general public’s increasing fear. This need for basic information was the initial motivation for our Chicago research. Our project began in March 2000, when we captured and radio-collared our first coyote, a sub-adult female, Coyote #1. I still remember

the excitement of actually capturing a free-ranging, wild coyote just a few miles from O’Hare International Airport, with airliners flying overhead and thousands of cars passing by a few hundred meters away. Little did we know just how special that animal would become.

We also began the study by assigning each coyote the functional, if not creative, ID numbers corresponding to the order in which we capture them. Hence, Coyote #1 was the first coyote captured, and her mate, a handsome, large male, Coyote #115, was the 115th coyote captured; our most recently captured animal is Coyote #1376. Nevertheless, some individuals that we follow do earn nicknames that stick, such as #115’s name “Mellonhead,” because of his large head. Obviously, the rather boring number system helps to minimize anthropocentric



*Image 1. An alpha male, Coyote #748, attending a den with his litter of newborn pups, on top of a parking garage across from Soldier Field, downtown Chicago, April 1, 2013. For more of his story, see: <https://urbancoyotersearch.com/coyote/748>. Photo credit S. Gehrt.*



influences in our science but also serves to help maintain some degree of impartiality as we are observers of their lives and try not to influence what transpires, which can be difficult. However, the radio collars serve as windows into their lives, and the process of spending countless hours observing certain animals naturally produces a relationship with them, even if they are unaware of it. The radio collars also allow us to document the end of their life, and the numbers help mitigate our loss to some degree, as we will inevitably record their death.

In my first night of tracking Coyote #1, she took me on a journey across five subdivisions and a tollway. This trek ended in a patch of weeds with my headlights shining on three men with dogs on leashes, com-

pletely unaware that a coyote was hiding only five meters away. In one night, that animal taught me the following: (1) we were underestimating their ability to move through a presumably challenging, urbanized landscape; (2) we were grossly underestimating the coexistence already occurring between people and coyotes; (3) we were likely underestimating the abundance of these animals in Cook County and, most important; (4) I definitely underestimated the budget for this research! She and her mate taught us many other things over a decade. Both lived for 12+ years and raised at least 38 offspring from seven litters. They spent every day of their lives living within a few meters of people and their pets, without conflict. One of their favorite hiding spots during the day was



*Image 2. Graduate student Ashley Wurth and technician Abby-Gayle Prieur take measurements and samples from an immobilized coyote, adult male Coyote #1071. Photo credit: J. Nelson.*

under a bush a couple meters from a post office, where hundreds of unsuspecting people walked past each day. To be fair, coyote pups sometimes destroyed Nerf footballs and stole chew bones from backyards, but these are hardly the behaviors worthy of human persecution.

Coyotes have highly structured social systems, in which family groups, or “packs,” maintain exclusive territories that are defended from other coyotes. As the population grows, more of the landscape is filled with these territories, and young (and sometimes older) coyotes leaving their packs will attempt to create a territory in a new area. It is through this territorial system that the coyote population expanded across the Chicago region and into areas that had not previously experienced coyotes. Survival is relatively high and vacant territories are limited, so young coyotes are continually forced to explore and attempt to exploit strange, novel areas — which they do, quite well.

Using radiotelemetry and GPS technology to track over 1,300 marked and radio-collared animals, our research has shown that coyotes are capable of maintaining territories and raising litters in all parts of the Chicago area, even the most heavily developed regions we originally thought impossible.<sup>5</sup> For example, possibly the most urban of our coyotes, adult female #447, had a territory that encompassed all of downtown Chicago. Thus, she shared her territory with approximately 750,000 people, which does not include the commuters who worked downtown. She lived in that area for at least five years, without a conflict. Indeed, based on her location and the number of humans she shared space with, I would argue that she

may have been the most “urban” coyote in the country.

To successfully live in the city, coyotes must avoid humans as much as possible. The vast majority of the coyote population goes about their daily lives largely unnoticed by people, even when they are living a few meters away. To do this, they may hide during the day and move at night. In fact, we have found that coyotes living in the most urbanized areas are exclusively nocturnal and travel further distances within larger territories than more suburban coyotes. They learn human traffic patterns and know the safest times and locations to cross roads. Coyotes learn when and where humans are most active, and they scale down their activities to avoid us. They spend a lot of time watching us and learning. Consequently, we are largely coexisting with them without knowing it. Indeed, they are so effective at avoiding us I have referred to them as Chicago’s ghost dogs.<sup>67</sup>

Another important aspect of the relationship between urban coyotes and humans is food. Our initial assumption was that success in urban areas was likely because of a reliance on human-associated food. In other words, we assumed that coyotes in cities were living off of us. Starting in 2012, we began using stable isotopes to characterize individual coyote diets. We did so because traditional techniques, such as fecal analysis, tended to underestimate the use of human-processed foods. To do this, we collected a whisker from a captured coyote (so the individual information was known: sex, age, social status, location); the whisker was sectioned into multiple segments, and each segment was analyzed individually. This gave us a dietary profile for the animal over the



*Image 3. Recapture of Coyote #967 on February 23, 2018. The red ear tags are slightly visible in the ears and radio collar peaks out under his chin. Photo credit J. Nelson.*

weeks and months of whisker growth and allowed us to measure the variability of food items in their diet over time, as well as variability in diet across individuals in the population. The picture that emerged is that, much like us, coyotes are highly individualistic in their diets, even those within the same packs and living in the same areas. Most coyotes, moreover, have maintained diets largely dominated by natural foods, such as voles, mice, and rabbits, with only a minority heavily relying on human foods.<sup>7</sup> Basically, urban coyotes have a smorgasbord of natural and human-associated foods available to them, and unlike rural systems, food abundance is maintained across seasons and years.

Other lines of evidence support the conclusion that dietary resources are not limiting. Our study animals, on average, are in excellent health and body condition. There

is a small trend for increasing size with urbanization among our population of coyotes, such that they tend to be heavier than rural animals. Another indicator of the benefits of city life is litter size. Each spring, we enter the dens of our study animals and microchip and measure neonate pups. We do this for a variety of reasons, but a primary one is to record litter size. Coyotes are able to scale their litter size relative to available resources, so when resources are abundant they may produce relatively large litters. We regularly record large litter sizes, at times averaging over 8 pups per litter, and sometimes exceeding 11 or more. Again, these lines of evidence reveal a picture of the metropolitan area as a type of hospitable refuge compared to more rural areas. As a kid born and raised in a small Kansas town, I would have never guessed



that an area with millions of people would be an oasis of sorts for coyotes.

There are, however, costs to living in the urban world. Coyotes in the core of the city must travel further and faster, within a reduced activity period, to obtain resources.<sup>8</sup> All coyotes must navigate roads, and for a transient, solitary coyote in a new part of town, a miscalculation means death. And if a coyote suddenly becomes too obvious to people, by, for example, engaging in regular daytime activity, there will inevitably be a call to lethally remove it. Although urban coyotes are relatively protected from hunting and trapping, human-caused mortalities are still the most common causes of death, either unintentional human-caused mortalities through vehicle collisions, which is by far the leading cause of mortality, or coyotes killed intentionally through removal efforts. A minority of these removals are the result

of actual conflicts in the form of aggression or attacks on pets. Most coyote removals/killings are simply the result of animals becoming habituated to human activities.

For most cities, coyotes are the largest predator in their midst, and attacks on people and pets do occur, albeit rarely. Thus, coyotes do represent a risk that was not present in most cities prior to their expansion, and part of our research is measuring that risk. Each year, 1 to 4 percent of the coyotes we monitored were removed as nuisances. In nearly all cases, the animal had not actually attacked or injured a pet or person but was becoming too obvious to people or may have conflicted with humans in other ways. For example, some “nuisance” coyotes are removed each year from airports, where there is understandably zero tolerance for disrupting flights. The large grasslands surrounding airports are unfortunately attractive for coyotes hunting rodents. Overall, of



*Image 4. S. Gehrt holding a litter of seven pups from Coyote #581, an adult female living in the Chicago suburbs. Each year we enter dens once during the spring to count and microchip pups for population estimates and to record family relationships. Photo credit S. Eszterhas.*

the animals we have marked, only a handful have attacked pets, and none have attacked or threatened a person.

The characteristics of conflicts often vary based on the quirky nature of coyotes. Coyote #748, an alpha male (meaning he was an adult with a mate), occupied a territory encompassing Lakeshore Drive and some of Chicago's most iconic sites, such as the Field Museum, Soldier Field and Sears Tower. He and his mate were "good" coyotes, in that they avoided people and their pets at all costs. This changed suddenly in April, when 748 suddenly became aggressive toward dogs, but in his own unique style. The pair had a newborn litter in a den at the top of a parking garage across from Soldier Field, a very popular dog-walking spot along the lakefront. During the first two weeks after the litter was born, he would sneak down from the garage and, ignoring the poor dog owner, "attack" a dog in an attempt to protect the den. Although there was a constant flow of dog walkers from early morning until late at night, 748 would "attack" only one dog each evening between 6:30 and 8:30pm, and only between those hours. Equally as strange, he never injured a dog. He would jump on them and they would roll around with much yelping in front of their terrified owner, but then he would trot away, leaving the dog covered in saliva but otherwise unharmed. Fortunately, after the pair moved the litter to a different location away from dog walkers, 748 reverted to a "good" coyote again.

This case also illustrated a common human quirk that likely contributes perceptions of risk and trepidation regarding coyotes. People tend to exaggerate the size of animals, especially predators (no one ever

reports encountering a "tiny" coyote, only the "big" ones). I became aware of 748's switch to "dog attacker" only an hour or two after his first attack, because the owner of the dog googled me and called my office while I was working late. While he was walking his dog on a leash near the stadium, a "huge" radio-collared coyote came "out of nowhere" and jumped on his dog. Luckily, his dog was not injured, but he described the coyote as over 100lb. I asked him how he estimated the coyote to be that big, and he said that the coyote was at least as large as his dog, which was a 110-lb mastiff. When we captured 748 a month prior, he weighed a typical 29 lb. The heaviest animal we have captured to date was 42.4 lb. Somehow, with the animal right in front of him and even with his dog as a comparison, the owner managed to add 70lb of imaginary size to 748. Our ability to unconsciously inflate size of animals we fear undoubtedly contributes to conflicts.

Although the actual risk of humans being attacked by coyotes is small, the *perceived* risk is often high. So, I'm regularly asked by members of the public and officials what good are coyotes? Why should people tolerate any risk, no matter how remote? Is there anything positive about coyotes in cities, or is the urban coyote story simply about managing risk? My answers to these questions likely are at least a bit surprising.

Predation is an important, even vital, function in ecosystems, and unfortunately the lack of predators in urban systems results in overpopulation of some prey species, often at the expense of habitats or damage to our property. For far too long, predation was absent or limited in our cities, such that urban



*Image 5. S. Gehrt and Coyote #1, an adult female living in the suburbs near O'Hare International Airport. At the time of her recapture, she had been monitored continuously for nearly a decade and had outlived the battery life of her radio collar. Duct tape on the mouth was necessary because she was not immobilized. Photo credit S. Gehrt.*

ecosystems were severely altered and some species (e.g., geese, deer, rodents) became artificially overabundant. As coyotes have made their appearance onto the urban stage, it is possible that they have introduced predation to this severely altered ecosystem. Whether this is the case and to what extent became new research questions for us.

At different stages of our study, we were able to expand our objectives to explore the relationship between coyotes and two prey species that are known to become overabundant in urban areas: Canada geese and white-tailed deer. Using a variety of techniques and technologies, we documented that coyotes were responsible for taking the eggs from half of goose nests each year, thereby reducing the annual population growth rate from 14 percent to less than 2 percent. Regarding coyotes and deer, we found the predation rate of deer fawns ranges from 35 to 80 percent each year, with most years over 50

percent. In both cases, coyote predation has helped slow the population growth of the prey species at the local level. Deer are particularly problematic when overabundant, because they can cause ecological damage through herbivory, while also representing a threat to health and safety through collisions with automobiles.

A predation rate of more than 50 percent of fawns is sufficient to limit growth at the local level, and limiting the deer population has direct benefits for people. This is because the most dangerous wildlife species to people and their property in urban systems is not a predator but rather deer and their collisions with automobiles. Each year, tens of thousands of accidents occur with deer, especially in large urban centers, with injuries to people and occasionally fatalities. For example, during 2019 there were over 16,000 auto-deer accidents across Illinois, resulting in 604 injuries and four deaths. This is ac-

cording to data from Illinois Department of Transportation.<sup>9</sup> Only a few months prior to writing this essay, two people were tragically killed near our study area from a collision with a deer.<sup>10</sup> By comparison, there have only been two recorded human deaths from coyote attacks over the past 50 years across the United States and Canada.

There is a particular irony here. Through a largely unnoticed process, a predator that the public associates with risk actually helps to reduce the much more substantial risk posed by a prey species. When I talk to the public about urban coyotes, I often point out that it is very likely that coyotes actually save human lives regularly by reducing deer populations and the risk of deadly car accidents caused by deer.

An alpha predator can also impact the system by influencing the behavior of other, small predators. Outdoor domestic cats, or feral cats, are also a prominent feature of urban landscapes that can be a management dilemma. Over a four-year period, I created experimental feral cat shelters across parts of Chicagoland in areas where we also had coyotes radio-collared. We followed humane protocols and all cats were vaccinated; provided food, water and shelter; and radio-collared. We found a strong coyote effect on cats, but surprisingly it was primarily in the form of avoidance rather than predation. Despite establishing cat shelters in areas of high coyote densities, only 7 percent of 127 radio-collared cats were killed by coyotes. This is because nearly all cats avoided the green spaces and natural habitat fragments that were occupied by coyotes and restricted their movements to neighborhoods and yards. Essentially, coyotes served as buffers for green

spaces that limited outdoor cat use, which benefits a variety of birds and small mammals that traditionally serve as prey for cats. Other studies have found that the diversity of native wildlife species in urban landscapes is higher where coyotes are present than where they are absent, largely due to their exclusion of outdoor cats.<sup>11</sup>

Although these positive aspects of coyotes in the system are important when trying to understand the various layers to this amazing coyote story, they are only the tip of the iceberg of our understanding how coyotes affect other wildlife species or whatever positive effects are associated with them. The studies mentioned above were incredibly challenging, took years of effort and required the best of our technologies to uncover coyote-related processes taking place among 9 million people. We are only scratching the surface of what coyotes bring to the urban ecosystem and, in fact, the roles they play across North America. It is an unfortunate fact that, by far, funding for research on coyote and other mammalian predators has been focused specifically on conflicts and ways to control or limit their populations. This leaves us with a limited understanding of how coyotes function ecologically or how we benefit from them.

Similarly, through their perseverance, coyotes are infusing themselves into our urban culture, as they did originally with Native Americans, and even western white America. Despite their best efforts, coyotes in the most urban areas have a difficult time avoiding people completely, especially in the most urban areas. It is these times when people encounter coyotes when they develop their own "coyote stories." When we began our

research two decades ago, urban coyote stories were rare, but now they are common and even transcend continental boundaries.

As an example, one of my favorite anecdotes comes courtesy of Coyote #447, an adult female I described earlier. Sometime in 2010, I received an email from a person from Switzerland who traveled to Chicago each year for a week of business meetings. He wondered whether he had encountered one of our study animals on his most recent trip. When he stayed in Chicago, his traditional routine was meetings all day and then a run at night in Grant Park. On this warm summer night, as he jogged, he was surprised by a dog-like animal passing him from behind on the path. It was notable because it was not leashed and was wearing this strange collar. She gave him a quick glance but never broke her effortless trot as she continued down the path. It happened so quickly, he wasn't sure if it was a coyote or a strange dog. However, as he continued his jog around the park, he kept an eye out for the animal. Sure enough, before he had completed his lap, she came from behind him again and, like before, barely acknowledged him as she casually lapped him, passing a few inches from his leg, as she did before. He thought her glance was mildly approving of his progress, and then she was gone.

When I responded that yes, this was Coyote #447, and she regularly used Grant Park, he was thrilled, using many exclamation points!!! He described his experience of being lapped by one of the famous "Chicago coyotes" in Grant Park as easily the most memorable experience from all his business trips, and he would remember it forever. Though this is a cute anecdote (it makes me

smile each time I share it), it is worth noting that it is one of thousands of coyote encounters that take place each year that are not conflicts but rather a spice of life — memorable moments that are never reported in the media, unlike the rare cases of an attack on a dog. Much like their ecological effects on the urban ecosystem, coyotes are likely impacting human culture in subtle ways that have not yet been fully recognized.

So, how are you a participant in this coyote story, even if you do not have your own coyote story? With a rather high degree of certainty, most of you are living with coyotes. If you live or work within a metropolitan area, at some point you have passed within a few meters of a coyote. Some of you may pass them on foot or with your car on a regular basis. If you use a park, visit a cemetery, run an errand or play a round of golf, undoubtedly there is a coyote watching and learning from you. As you commute to work, a coyote is near the road or rail line, avoiding you. It is through your activity that you reinforce or, in some cases, change their behavior, and you are playing a role in one of the most amazing wildlife stories <sup>1</sup>in North America. More than anything else, the coyote's ability to live in an urban area and effectively coexist with us relies on its ability to avoid you. But I believe we can learn from coyotes as well, if we are willing. Coyotes teach us lessons in humility, whether that is scientists attempting (and often failing) to understand them or the many landowners, municipalities and government agencies attempting to exterminate them. They teach us every day that there is still much to learn about this world, even in our own backyards.



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