

COYOTE

To understand
Eastern coyotes, look
to their wolf relatives

By
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Thousands of Eastern coyotes live among us – rarely seen, often heard and frequently discussed. Some people resent the presence of coyotes and fear them as predators of pets, livestock and game animals. Others admire their resilience, and are thrilled to hear their return-to-the-wild howl and all it represents. In short, the coyote is a topic of contention.

The Eastern coyote (*Canis latrans var.*) and the Eastern wolf (*Canis lupus lycaon*) are closely related and similar enough in appearance that it can be hard to distinguish them. Yet coyotes are abundant throughout their range in the face of liberal hunting and trapping seasons, while the wolf is protected by the Endangered Species Act.

The answer to this dichotomy lies in the apparent vulnerability of the wolf and the undeniable success of the coyote. Susceptible to overhunting and habitat loss, wolves in the lower 48 were nearly eradicated over a century ago. Today, wolves roam throughout the West and the Great Lake states, saved by protection and reintroductions.

The coyote's success, on the other hand, has created a public relations nightmare for itself. Despite over a century of relentless persecution, coyotes have thwarted every effort at control and have expanded their range into the densely settled East Coast. Studies show that where coyote bounties (paying hunters to kill coyotes), open hunting seasons, poisoning, snaring and other control measures have been attempted, success varies depending on scale. Nationwide, there are tens of





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Wolf or Coyote? Side by side, the differences between wolves (that's a gray wolf on the left) and Eastern coyotes (right) are clear. The much larger wolf has a blocky muzzle and a large head compared to its ears, whereas the coyote's snout is thinner and its ears are oversized.

thousands more coyotes today than 100 years ago. Coyotes thrive in most environments – farmland, forest and town. Americans love winners, but the coyote has proven to be the predator we cannot control on a rangewide basis. As such, it represents a new kind of “wild.”

COYOTES 101

All coyotes are opportunistic, omnivorous predators and scavengers – the ultimate success story in the wild canid (dog) world. They are generalists, meaning they are extremely adaptable about where they live or what they eat, and they thrive on change. Our rapidly changing environment suits them perfectly. Log a mature forest and suddenly there is a bumper crop of preferred prey: small mammals, rodents, insects, ground nesting birds and eggs, as well as berries; convert a forest to farmland and coyotes will patrol hayfields and pastures for mice, insects, woodchucks or rats, and raid the yard for the occasional chicken or lamb. If farmland turns to subdivision, coyotes scavenge garbage, eat raccoons, skunks and apples (they can climb apple trees!), help themselves to pet food and possibly to a pet, if it's small enough and not protected. In cities, coyotes learn to live off garbage, rats, cats, pigeons, garden crops and handouts (a *really* bad idea).

Coyotes breed once each year, between January

UNEASY NEIGHBORS

As their population numbers increase, some coyotes may be pushed close to us, but as the smartest members of the dog family, they can be conditioned to avoid us. Under normal circumstances, coyotes fear humans and are unlikely to develop a taste for livestock or pets. To help keep it that way:

- **Fence backyards and cover garbage;** remove all outdoor pet food and never ever entice a coyote with handouts. Acclimating them means reducing their natural fear of humans, which can lead to problems.
- **Fence your livestock.** The days of truly free-range husbandry are gone. Strong fences frequently checked for signs of digging, and an electric wire top and bottom will provide good “attitude adjustment” in your neighborhood coyotes. Clear brush away from pasture fences. Dispose of dead stock properly and shorten lambing seasons.
- **If you encounter a coyote,** stand and face it, throw rocks or sticks, wave your arms and shout. Even move toward it. Do NOT run away. This signals a chase response in a predator.



Most coyotes prefer their natural prey and tend not to bother livestock. Removing coyotes that are not agricultural problems may open the area to other coyotes that may become so.

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COYOTE EXPANSION



Prior to colonialism in the west, a stable coyote population (indicated in yellow) occupied a narrow band west of the Mississippi.



Responding to increased prey (primarily sheep), lack of competing predators and hunting pressure, coyotes expand their range. [Circa 1900 range expansion.]



Today, coyotes occupy all 49 contiguous states, Mexico and Central America.

and March, and give birth 63 days later, just like other dogs. The male and female (alpha pair) form a bond which can last a lifetime, and the birth of their young starts a new pack. The male is critical to the success of the litter and will feed his mate and young, guard them against other predators and help to move them if the den is discovered. Generally, only the alpha pair breeds, which forces maturing pack members to disperse to find a mate and begin their own packs.

A female coyote's fertility in any given year varies with food availability. In years of normal prey availability, a female will produce a litter of 4-6 young. In years of high rodent and small mammal production, females may give birth to larger litters. Some argue that heavy hunting of coyotes can increase coyote reproduction in a given area. A reduction in the number of coyotes leaves more food for those that remain; the improved nutrition releases hormonal signals in female coyotes that result in them producing more eggs and thus giving birth to more young. Because of this natural occurrence, a temporary reduction in a local coyote population can mean an increase the following year.

Some believe that every dead coyote means more deer and other wildlife, but depending on the scale of removal, the opposite may be true. Coyote management models suggest that widespread, low-concentrated hunting pressure can cause social disruption in packs. For example, if the alpha female is removed from a pack, her daughters can be "freed" to breed, which may result in multiple litters within the same pack – and possibly more pups per litter, as described above.

By the time the pups are a month old, they are out of the den and eating pre-digested food, getting a taste

for natural prey. They will soon follow their parents on short hunts to hone their hunting skills and become familiar with their home range. It is a precarious time for the pups. Half to three-quarters of them will not make it to their first birthday because of disease, other predators and their own naiveté, which brings them too close to people. By 5-6 months of age, the pups are large and bold enough to hunt on their own. The pack regroups at a "rendezvous" spot, howling to locate each other. It is a misconception that coyotes howl to share food or to initiate a hunt. Like other predators, they make their living with their four feet and their mouth, so running through the woods howling after prey would not be helpful.

EXPANDING EASTWARD

A very special brand of coyote developed in the Northeastern U.S., quite different from its western cousins. By 1900, over 80% of our mature forests had been removed and replaced with farmland, followed by secondary forest growth.



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Adult coyotes are protective of their pups; they will move den sites at the first sign of human disturbance.

Taking some practical actions to keep coyotes away from humans will help us coexist with this remarkable, adaptable animal.

This change, as well as the bounty system, eliminated or displaced many predators, including wolves, wolverines, mountain lions and bears. Responding to habitat and prey changes in the West, the coyote population grew rapidly and migrated east, taking advantage of our changing ecosystems and the lack of competing predators. On its way east, the coyote mated with a small red wolf type found in southern Ontario and Quebec and then, invigorated with wolf DNA, became our Eastern coyote, *Canis latrans var.* If native predators had not been removed and if the habitat had not been so dramatically altered, the coyote would not have been so successful in the Northeast.

The Eastern coyote first appeared in the Northeast in the 1930s. While closely related to the Western coyote, it differs in significant ways. The smaller western variety (25-30 lbs.) hunts singly, is omnivorous and a scavenger, but can pair up to take sheep. Our Eastern coyote is much larger, averaging 35-40 lbs. and may be as large as 50 lbs. The wolf DNA in the Eastern coyote is expressed in this larger body size, as well as behavioral changes (packing up, learning to coordinate a hunt). Scientists attribute the Eastern coyote's success as a top predator in the Northeast to the hybrid vigor resulting from its coyote and wolf ancestry.

NEVER A COY-DOG

Many mistakenly refer to our coyotes as "coy-dogs," believing them to be part coyote and part domesticated dog. While all members of the *Canis* family (wolf, coyote, dog) can interbreed, the reproductive behavior of coyotes prevents populations of coy-dogs from becoming established. When coyotes expand their range, they do so singly; if a female comes into heat in January and cannot find a coyote with whom to breed, she may breed with a dog. The result is a litter of coy-dogs which are not successful for a couple of important reasons: The male dog doesn't

stick around to help rear the pups like a male coyote would, so the single female must leave them untended while she hunts. The odds of finding enough food for herself and her litter are low and most of the pups will starve, freeze or be killed by predators. If a coy-dog pup should survive, it has only half the instinct it needs to be a good hunter and an increased tendency to affiliate with people. If that doesn't spell the end for that pup, then nature presents another obstacle: The coy dog will come into heat in the fall or early

winter – but not January to March. This means that the only animal it can breed with will be another dog (because coyotes only breed in January, February or March) and the pups will be born during the coldest time of the year when there is little prey. The cards are stacked against the coy-dog, which is why, when DNA specialists test individual coyotes to determine their genetic make-up, they do not find "dog" in the mix.

The genetics of the Eastern coyote raise some interesting questions: Since this coyote is a wolf-coyote hybrid, how might the population continue to change?

Our coyotes have the wiliness of their western cousins and the size and hunting ability of wolves. As wolves continue to disperse from Canada, how will our large Eastern coyote interact with them? Only time will tell.

Making a few changes in our normal routine can allow us to live safely with coyotes. Predators – including ourselves – play an important role in regulating ecosystems. Ultimately, nature has a way of balancing predator and prey populations. Educating ourselves about coyotes, and taking some practical actions to keep them away from humans, will help us coexist with this remarkable, adaptable animal in our midst. **W**

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Coyotes typically howl in an attempt to locate other members in the pack.