

## Making Ripples

### Clues in the Coyote

by Amanda Bancroft

It's a dog! No, a wolf! No, it's a coydogwolf! Sightings of these canines can get as confusing as bystanders looking up at Superman. Like Clark Kent/Superman, coyotes bring more questions than answers about their true identity, but they leave us lots of clues.

Despite the coyote's increasingly nocturnal behavior in response to human disdain (and guns, and traps) they are still audible and sometimes visible in unusual, unexpected places like alleys and subways. In many years-long university studies on urban coyotes using tracking collars, it appears that coyotes fulfill a missing link in the urban ecosystem, by managing populations of rodents and overabundant populations of native predators like skunks and raccoons as well as introduced predators like feral cats. But there are downsides to certain "problem coyotes" too, and are they even native here?

Coyotes, being members of the desert southwest and great plains regions, existed in prairies right up next to Northwest Arkansas since before the 1700's, according to Nature.com. But habitats are not neat, tidy things that stick to state lines. Northwest Arkansas plays host to a variety of environments, including remnant prairie, and each one of these areas includes species that evolved to fill a niche – including prairie-adapted coyotes. With the exception of prairies, most coyotes seen in Arkansas are outside their native range. After agricultural activity opened up fields and resident wolves were extirpated, coyotes started expanding their range northeastward. Like our jumpy friends the armadillos, coyote numbers have been increasing in areas far outside their historic range.

And they're evolving right before our eyes. They interbred with domestic dogs to create coydogs. They also interbred with gray wolves in the northeast, and the red wolves that were native to Arkansas, leading to some coyotes having a wolf bloodline. Through DNA analysis, we know that some "coyotes" are actually a three-way split between dog, wolf, and coyote.

The coyote is full of clues about what happens when humans alter the habitat and remove apex predators like mountain lions and wolves. Ecosystems change, animals evolve and adapt, and some of the wild beauty that was once there will exist no more, sometimes due to irreparable damage like extinction. However, not every clue is reason for a strict conclusion. Just because some coyotes may carry dog and/or wolf genes, doesn't mean that it's impossible to see a "regular" coyote or a rare wandering grey wolf from the great lakes population. It happens.

In the absence of a balanced ecosystem, abundant coyote populations are actually unnatural. However, they are adapting to become a main predator of deer, filling a hole left by extirpated large predators. But they bring problems for livestock farmers and can be detrimental to native species (like the fox) in areas where there were no coyotes historically. In short, coyotes give us

lots of clues, but not necessarily conclusions, about what evolution we're seeing and the changes taking place in the natural world.

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