

Did Reintroducing Wolves to Yellowstone Bring Back the Aspens?

The majestic wilderness of Yellowstone National Park is showing changes that some say may indicate the ecosystem is in danger. But surprisingly, scientists think the reintroduction of wolves to the park may be turning things around.

TAGGED UNDER: [Wolves](#) [Yellowstone National Park](#)

Advertisement

By Linda Orlando

Biologists and hydrologists studying the landscape in Yellowstone National Park over the last decade have discovered some interesting changes that have affected the way researchers think about the fragility and recoverability of our ecosystem. In 1996, hydrologist Bob Beschta was studying the Lamar River, one of the park's largest and most beautiful rivers. He was shocked to discover that the stream had grown too wide, the banks were eroding, and soil was sloughing off to be flushed down river. The plants and flora that had previously lined the riverbanks and safeguarded the soil had completely vanished. There was seemingly no explanation for these drastic changes.



Around the same time, a team of biologists were probing into another unexplained mystery at Yellowstone—the steady disappearance of aspen trees in the park. They wondered initially if changes in the global climate were affecting the trees, but decided that if that were the case, aspens in the entire area would be declining. Yet, aspens in areas surrounding the park were flourishing, while the numbers of aspens inside Yellowstone were dwindling. Researchers then wondered if the reduction in the number of forest fires in the park was hurting the aspens, since they are a species of tree that thrives after a burn. But a huge fire in 1988 had ultimately produced very few large trees, so biologists concluded that lack of enough fires couldn't be the reason for the vanishing aspens. So they decided they had to look within the trees themselves, by drilling cores to count growth rings. When they did this, they were startled to discover that most of the aspen trees in Yellowstone were at least 70 years old—almost none were younger. Surprisingly, the Yellowstone aspen trees had evidently stopped regenerating sometime in the 1930s.

After some investigation, the biologists realized one significant change that had occurred in Yellowstone around that time. By the 1930s, all the resident wolves in Yellowstone had been killed. In fact, between 1883 and 1917, more than 100,000 wolves were killed for bounty in Montana and Wyoming alone. The gray wolf was later listed as an endangered species in the 1970s, which ultimately resulted in a highly publicized and widely controversial program being developed and planned to bring the wolf off the endangered species list. In 1995, biologist Doug Smith and his colleagues imported 31 gray wolves from Canada, and began introducing them to Yellowstone. Of course, the landowners surrounding the park—farmers and ranchers—were infuriated by the sudden attacks on their animals since they had not had to deal with large predators before the wolves came back. But the effect of the wolves on the ecosystem in the park would ultimately become far more important to the area than to the removal of the wolf from the endangered species list. Researchers have determined that because of the elimination of most of the large predators, namely, the wolves, in Yellowstone, the elk were free to graze brazenly and unencumbered on aspens and willows.

Although other factors may have contributed to changes in the park, it seems the disappearance of the aspen trees and the vanishing of streamside vegetation—which provided beaver and songbird habitats—can be linked to the absence of the wolves. Evidently, the ecosystem in Yellowstone needs to have a resident large predator in order to keep the elk from obliterating the aspen, and thereby severely affecting the vital plant and animal diversity of the park. And the impact of wolves on the ecosystem actually begins with the effects of their kills, because a wolf kill isn't just a meal. After the wolves have had their fill, the carcass becomes a dinner invitation to a host of other animals including ravens, magpies, coyotes, bald eagles, and grizzly bears that feed on the remains. The feeding continues further, down to small mammals and even insects. So in essence, one wolf kill serves hundreds of park inhabitants.

Wolves were once a vital part of the landscape of North America, and evidently they were also an integral contributor to ecosystems before bounty hunters decimated their numbers. But with the reintroduction of wolves to Yellowstone, researchers have discovered that wolves may literally be reshaping the landscape. By keeping elk on the run, the aspens and willows are allowed to grow unchecked. Trees and shrubs are starting to grow back along the streams and rivers, and beavers and songbirds have new homes and habitats in which to flourish. The reintroduction of wolves to Yellowstone may have been controversial, but the long-term effects have paid off. The majestic wilderness and vitality of Yellowstone National Park is making a comeback of its own.

 Buzzle Staff  May 2, 2005  Reprint Permission