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Beavers Are the Working-Class Heroes of Their Ecosystems —America Should Appreciate Them More

As the climate warms, beaver dams could help the arid West store water and lock up carbon. Doesn't sound like the work of a "pest" to me.

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A North American beaver (*Castor canadensis*).

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Imagine you're sailing across the Atlantic 400 years ago as a British colonist headed to the New World. Being accustomed to the cities, villages, and managed landscapes of early 17th-century England, you undoubtedly wonder what awaits you in the unspoiled, primeval terrain of North America. With what sort of fauna will you soon be sharing space? Will they be gentle or ferocious? Adorable or terrifying?

And then as you step off the ship, you find a lush, fertile land that appears to be overrun by . . . *beavers*. Literally hundreds of millions of them, all busily doing their beaver thing: cutting and collecting wood, damming creeks and streams and rivers, constructing their architecturally elaborate lodges, responding to an industrious instinct that stretches back millions of years. Seeing their handiwork in every waterway you encounter, you may be forgiven for thinking that these large aquatic rodents are your new national animal, whether they have your vote or not.

In 1620, when the first pilgrims landed at Plymouth Rock, [an estimated 400 million beavers](#) inhabited the continent from coast to coast. Those numbers didn't last long. By the end of the 17th century, the demand for fashionable beaver hats was soaring all over Europe. Wave after wave of newly arrived North American trappers answered the call, creating an industry that flourished well into the 1800s—until the trappers finally ran out of beavers to trap. By the time of the Civil War, beavers had all but disappeared from the transcontinental landscape they once dominated. They only began to bounce back once early 20th-century naturalists and conservationists—often citing the beavers' intelligence and

creativity—began to campaign actively for their protection.

The tale of how the North American beaver was saved from the brink of extirpation is just one of the unexpectedly gripping stories found in a new book, [Eager: The Surprising, Secret Life of Beavers and Why They Matter](#). In it, author Ben Goldfarb chronicles humanity's unusual relationship with these animals, which has had its share of ups and downs. For instance, no sooner had conservation efforts begun to bear fruit in the last century than beavers became *rodenti non grata* among farmers and ranchers who hated the creatures' penchant for building their dams in irrigation ditches. People no longer killed the animals for their pelts; now they were perceived as pests, to be exterminated on sight. Even as wildlife managers and habitat experts tried to make the case for beavers as a [keystone species](#), critical to the health of their ecosystems, their public reputation suffered and their ranks continued to dwindle.

But according to Goldfarb, things are starting to look up for beavers here in the 21st century. (Full, semi-boastful disclosure: Goldfarb, who also writes about nature and wildlife for *Mother Jones*, *Scientific American*, *Smithsonian*, and *Audubon*, among many others, is a former *onEarth* intern.) The pro-beaver gospel that he and other “beaver believers”—his term—have been spreading seems to have finally broken through.





A beaver dam on the edge of a stream.

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How so? “A farmer's most important resource is water,” says Goldfarb, and “nothing stores water quite like a beaver.” That’s why, over the past decade or so, a small but growing group of ranchers has begun advocating for restoring beavers in the arid West. Goldfarb cites the case of Jon Griggs, a ranch manager in Elko County, Nevada, whose grazing lands were recolonized by beavers back in 2003. “They [turned Griggs’s stream](#) into a spectacular cattail marsh that sub-irrigated the surrounding meadows, improving grass production for his cattle,” Goldfarb says. When drought hit the region in 2012, the rancher was able to water his cows with the beaver ponds, “even as his neighbors had to pay through the nose to truck water to their livestock.” Since then, Griggs has become a vocal proponent of beavers’ agricultural value, and now, Goldfarb says, “there’s a little cluster of progressive, pro-rodent ranchers in one of the most conservative corners of the country.”

In some of the West’s driest precincts, wetlands cover just 2 percent of the land, yet they support 80 percent of its biodiversity. And beavers, Goldfarb says, are master wetlands architects. The ponds and pools formed by their dams support just about everything that flies, crawls, hops, and swims in this country. “Swans and ducks nest in and around beaver wetlands and ponds,” he says, launching into a litany of the beavers’ beneficiaries. “Moose cool off in them. Frogs spawn in them. Baby salmon and trout grow up in them. Mink and herons hunt in them. Woodpeckers and flying squirrels nest in the dead trees killed by rising water levels. Songbirds perch in the willows. Bats snatch insects out of the open airspace above the water’s surface.”

With public attitudes shifting, Goldfarb hopes that scientists will further explore other ecosystem services provided by *Castor canadensis*—including, believe it or

not, climate adaptation. “As the West gets hotter and drier,” he says, “and as more precipitation runs off as rainfall rather than being locked up in snowpack, it becomes ever more important to keep water on the landscape.” Pond-making beavers, in that particular scenario, “start to look awfully valuable.” Beaver ponds, furthermore, “store crazy amounts of carbon in the form of settled-out organic matter,” he notes. [One 2013 study](#) concluded that beaver complexes on a system of 27 streams within Rocky Mountain National Park once stored more than 2.6 million megagrams of carbon—an amount, Goldfarb says, equivalent to the carbon stored by 37,000 acres of typical American forest.

In spite of all the data suggesting that beavers do more good than harm, Goldfarb admits that for every newly minted beaver believer such as Jon Griggs, “there are probably a dozen folks who still shoot beavers on sight.” Public ambivalence, alas, is reinforced by governmental ambivalence. He notes that [Wildlife Services](#), the branch of the Agriculture Department that manages troublesome animals, still kills more than 20,000 beavers across the country each year, “even though there are plenty of nonlethal ways to handle beaver conflicts.” At the same time, he says, “the National Oceanic and Atmospheric Administration is [restoring beaver populations](#) in the Pacific Northwest to create ponds and wetlands for juvenile salmon. Sometimes it doesn’t seem like the left hand knows what the right hand is doing.”

Before the colonization and industrialization of North America, beavers had millennia to shape our physical terrain into the Edenic landscape encountered by the pilgrims back in the early 17th century. We should treat them well. We may soon find ourselves in need of their services again.



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