



# One Plus One Can Be Much

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By MIKE PHILLIPS

Editor's Note: As an organization dedicated to educating the world about wolves, the International Wolf Center recognizes that the presence or reintroduction of wolves can be controversial in some instances. In that spirit, we offer articles like this one to inform our readers of different perspectives without endorsing any specific wolf management plan.



**N**ot all species are created equal. Some, when conditions are right, have an outsized impact on their environments. No matter what you call them—keystone species, highly interactive species or ecological engineers—some species have the power to influence the ecological integrity of the wildlands they inhabit. Wolves and beavers are two such species. For that reason, they have been highlighted as essential for “rewilding” vast stretches of the western United States.

Rewilding aims to reestablish vital ecological processes on land where they have been interrupted. It relies heavily on restoring key native species and sometimes removing troublesome, nonnative species. Restoring some species—including essential ones like beavers and wolves—as part of a rewilding initiative requires a vast area for the benefits to be sufficiently realized.

I was honored to join conservation scientist Bill Ripple and several notable

colleagues to advance the audacious proposal of a Western Rewilding Network across 11 large reserves spanning federal lands in 11 western states. Our proposal for a rewilding network is grounded in ecological science and aligns well with President Biden’s executive order—America the Beautiful Plan—to conserve 30% of U.S. land and water by 2030. He challenged Americans to collaboratively “conserve, connect and restore the lands, waters and wildlife upon which we all depend.” Our Western Rewilding Network responds to that challenge by identifying a large reserve network in the American West suitable for rewilding the gray wolf and the beaver, both of which have cardinal significance to the ecology of any setting they occupy.

We focus first on the gray wolf, a wide-ranging species requiring extensive areas of habitat. Gray wolves were largely eradicated from the American West following Euro-American colonization and manifest conquest of the

West. Through measures afforded by the U.S. Endangered Species Act in the mid-to-late 1990s, gray wolves had been reintroduced in portions of the northern Rocky Mountains and the Southwest. Under state law, gray wolves will be introduced to western Colorado by the end of 2023. Notwithstanding this notable progress, the species’ current range in the western U.S. is still less than 15% of its historical range. Once likely numbering in the tens of thousands, as few as 3,500 wolves live in the American

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# Greater Than Two



West today. As an apex predator, the wolf can trigger strong ecological effects on prey and plants across a variety of landscapes. But to do so they need to be much more widespread.

Beaver restoration is a second key feature of our rewilding proposal. Beaver populations had once been robust across the American West but were decimated by 90% to 98% in the wake of settler colonialism and are now extirpated (rendered absent) from many streams. By felling trees and shrubs and building dams, beavers enrich fish habitat, increase water and sediment retention, maintain water flows during drought, provide wet fire-breaks, improve water quality, initiate recovery of incised channels, increase capture of carbon dioxide, and generally enhance habitat for many riparian (existing along the edge of fresh-water creeks, river or lakes) plant and animal species. Beaver restoration is a cost-effective means of repairing degraded riparian areas. Although riparian areas occupy less than 2% of the landscape, they provide habitat for up to 70% of wildlife species. But for beavers to repair a sufficient number of riparian areas they need to be much more widespread.

At its core, our rewilding plan for the reserve network is simple. It includes expanding the range of gray wolves and beavers and reducing livestock grazing allotments on federal lands in 11 western states. These rewilding steps will improve ecosystem structure and function, especially in riparian areas.

Considering our plan suggests reducing grazing allotments, an economically acceptable and socially just federal compensation program for those who relinquish their government grazing permits would be appropriate, provided these allotments are permanently retired. The net economic benefits would be substantial given the subsidized nature and the social carbon cost of livestock grazing on public/federal lands. Concerning the benefits, in 2014 as a typical year, receipts from grazing fees for all federal allotments were \$125 million less than federal appropriations for the program. And the cost is sure to be much higher given the increasingly obvious need to employ market-based mechanisms (e.g., carbon markets with prices that incentivize reduced emissions) to minimize carbon emissions from all sources.

Reducing grazing allotments on some federal lands would also decrease livestock vulnerability to large predators. Moreover, restoring wolves to more places in the West could assist in the natural control of overabundant native ungulates. This would allow for native veg-

etation regrowth of important species such as aspen, which support highly diverse plant and animal habitat, and are in major decline in the West—often because of browsing by livestock and wild ungulates in the absence of wolves. Restoring another keystone species, the beaver, to streams within the network would bolster and widen the ecological benefits to riparian areas.

The Western Rewilding Network would help protect and restore 44 threatened and endangered species at risk because of livestock grazing. Over time, it would restore riparian systems, streams and biodiversity; ease altered fire patterns, and provide climate-change mitigation through increased carbon storage. Restoration efforts could also be focused on land acquisitions or easements to form wildlife corridors that benefit a variety of species.

Rewilding will be most effective when the concerns of all stakeholders are considered, including ranchers, communities, hunters and anglers, recreational users, state and local governments, nonprofit organizations and private landowners. Indigenous people and their governments would be key partners. Participation could be promoted by developing action plans for managing real and perceived conflicts in cases where wolves and beavers move out of the public land's reserve network and onto private land.

Currently, wolf management policy used by some western state governments focuses on reducing wolf numbers; these



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policies rely too heavily on hysteria, misinformation and no recognition of predation as an important ecological process. If these policies continue, much more will be lost than healthy, effective carnivore populations. Continuation will threaten the foundation of scientific wildlife conservation that aims to manage native wildlife for all citizens—not just those who harbor a dislike of predators.

Although our proposed Western Rewilding Network may at first appear controversial or even quixotic, we believe that the times call for audacious action. The American West is in an unprecedented period of converging crises, including extended drought and water scarcity, extreme heat waves, massive fires triggered at least partly by climate change, and biodiversity loss with many threatened and endangered species. Furthermore, the lands in the proposed network are already owned by the public, and meat produced from forage on all federal lands accounts for only about 2% of national meat production.

President Biden's America the Beautiful plan needs bold, scientifically grounded organizing principles like those provided by the Western Rewilding Network and its three steps—restore wolves, restore beavers, reduce grazing on public lands—proposed for rewilding these federal lands. If implemented alongside fine-scale conservation efforts, the plan would invigorate essential ecological processes with minimal human

involvement needed for perpetuation, protect many imperiled species and increase resilience to climate change.

The Western Rewilding Network represents a historic opportunity to improve the ecological integrity of much of the American West and could serve as an inspiring model for other regions to do the same.

The need for such inspiration grows with each passing day. Just recently, NatureServe, a highly respected, science-based conservation organization, reported that species are going extinct faster than at any time in human history. While this claim has been leveled by reputable scientists for some time, NatureServe's analysis was very specific for the U.S. Using its well-established conservation status ranks, NatureServe calculated that 34% of plant species and 40% of animal species in the U.S. are at risk of extinction and that 41% of ecosystems are at risk of range-wide collapse. It is past time to redress the extinction crisis and prioritize biodiversity conservation. Rewilding initiatives that focus on cardinal species like the gray wolf and beaver are effective steps toward our goal.

Such a journey should matter, no matter who you are.

Let's assume for a moment that you are a person of faith. How can you love the Creator and not love the creation? And how can you stand by and bear

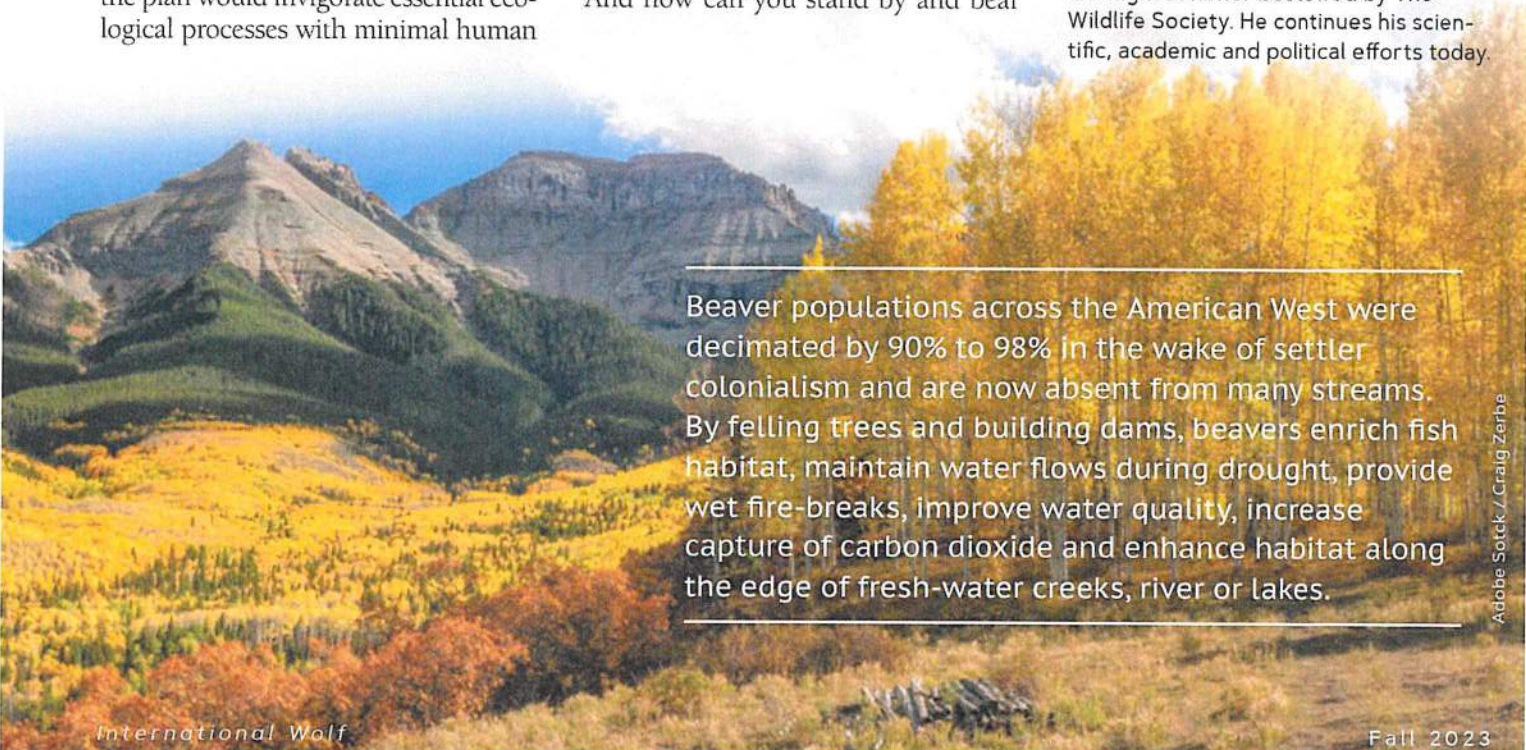
witness to the destruction of something you love without rising in defense?

Or let's assume an alternative—that you are a secular humanist. You believe that rather than faith, it is data, logic, experiments and observation that matter most. The best science, and common sense, make clear that the fate of humanity has been, and will always be, a function of healthy landscapes the world over. Yet the extinction crisis makes clear that those landscapes are at risk.

The extinction crisis matters. Restoring the gray wolf and beaver, two species with special ecological power, matters. And supporting the undergirding for the Western Rewilding Network should matter—no matter who you are. ■

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Mike Phillips has been the director of the Turner Endangered Species Fund and an advisor to Turner Biodiversity Divisions (TBD) since he established both with Ted Turner in 1997. He has conducted wildlife research throughout the U.S. and Australia, authored many dozens of articles and book chapters, and delivered more than 200 presentations. In 2006 he was elected to the Montana State Legislature as representative for House District 66, thereafter founding the Montana Legislative Climate Change Caucus. In 2021 Mike received the Aldo Leopold Memorial Award for distinguished service to wildlife conservation, the highest honor bestowed by The Wildlife Society. He continues his scientific, academic and political efforts today.



Beaver populations across the American West were decimated by 90% to 98% in the wake of settler colonialism and are now absent from many streams. By felling trees and building dams, beavers enrich fish habitat, maintain water flows during drought, provide wet fire-breaks, improve water quality, increase capture of carbon dioxide and enhance habitat along the edge of fresh-water creeks, river or lakes.

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