

SCIENCE: THE STATE OF THE UNIVERSE.

Lions and Cheetahs and Elephants, Oh My!

LET THEM RUN WILD. IN NORTH AMERICA.

By C. Josh Donlan

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Elephants: not just for zoos, anymore

As the first Americans strolled onto their open real estate 13,000 years ago, at the end of the Pleistocene epoch, their continent quickly lost much of its grandeur. More than 60 North American species weighing over 100 pounds went extinct, including the continent's own elephants, lions, camels, and cheetahs. The cause was likely overhunting; the result was elephants trotting in the circus ring rather than roaming the land. Meanwhile, most of the Earth's remaining large wild animals in Africa and Asia are threatened with extinction in the coming century.

"Rewilding"—bringing elephants, cheetahs, and lions out of captivity to run free in parts of North America—could help save these megafauna from global extinction. More important, it would restore to the continent biological functions lost millennia ago. The big guys would help stop the march of the pests and weeds—rats and dandelions—that will otherwise take over the landscape. And they would promote the natural processes that generate biodiversity. For example, for more than 4 million years before its extinction, the American cheetah preyed on the deerlike pronghorn, a relationship that helped engender the pronghorn's astonishing speed. Rewilding would also give environmentalists, often caricatured as purveyors of doom and gloom, something sunny to strive for. And it would bring more tourists back to the U.S. national parks, where the number of annual visits has been declining since 1987.

Sound crazy? A bit of rewilding is under way. Until the late Pleistocene, the 110-pound bolson tortoise was widely distributed across the southwestern United States. Today it survives only in a small part of northern Mexico and is critically endangered. It could easily be brought back to protected sites like Big Bend National Park in Texas and private ranches in the southwest. One ranch in New Mexico is already considering hosting a small group of tortoises. There have been no objections to bringing back these plant-eaters, which are the size of coffee tables.

Horses originated in North America 50 million years ago. Today feral European horses run wild in the west and are widely viewed as pests. Instead, they could be treated as proxies for the American species that went extinct in the late Pleistocene. Camel species, too, used to live here. The Bactrian camel, now endangered in the Gobi desert, could come back to replace the related, extinct species that once roamed. The second, more controversial phase of Pleistocene rewilding would involve releasing small numbers of African elephants, cheetahs, and lions out of captivity onto private properties in the southwest. The challenge would be to give these animals large areas of habitat—and, in the case of carnivores, live prey. The latter idea, of course, is a bit of a mind bender, especially for cattle ranchers and sheep ranchers. But it's worth imagining. Five species of elephants once roamed North America in the late Pleistocene; today Asian elephants are in grave danger. Introducing managed elephant populations in the United States could help stave off these threatened extinctions and restore lost ecological function to North America if the animals eat and suppress the woody plants that threaten grasslands (as they do in Africa today).

Lions would be the ultimate in rewilding for North America. The predators likely once played an important ecological role here, as they do in the Serengeti. American lion populations would augment the endangered groups in Asia and Africa. And the tourism possibilities are evident to any safari lover. Rewilding could yield national ecological history parks, covering the parts of the Great Plains where the human population is shrinking and jobs are few. As in Africa, perimeter fencing would limit the movements of the big mammals, ensuring that

they won't eat anyone's sheep or cows. Surrounding towns would benefit from the increased tourism, much as the towns surrounding parks like Yellowstone do. One day, a system of reserves across the continents of Africa, Eurasia, and the Americas could use the fossil record as a guide to restoration and offer the best hope for long-term survival of the large mammals by allowing them to adapt, in evolutionary terms, to climate change, emerging infectious diseases, and human impact.

Sure, the costs and risks of bringing back the megafauna are significant—they include angry ranchers, scared passersby, and unanticipated effects on other plants and animals. But without rewilding, we settle forever for an American wilderness that is diminished compared with just 100 centuries ago. And in the event of global climate change that affects Africa in particular, or economic and political strife there, we risk the extinction of the world's remaining bolson tortoises, camels, elephants, cheetahs, and lions. Safari trip to Texas, anyone?