The rate at which animals are vanishing from this planet is one of the signatures of this age, as sure a sign of human dominance as our impact on Earth’s nitrogen, phosphorus, and carbon cycles. This disappearance of animals from the world’s ecosystems is generally a by-product of human activity, not an intentional act. Animals do matter to people, but on balance, they matter less than food, jobs, energy, money, and development. As long as we continue to view animals in ecosystems as irrelevant to these basic demands, animals will lose.

If we accept that humans now shape the future of this planet, the future for existing and extirpated fauna will depend on vision as much as on science. What type of world do we want to pass on, and what role do animals have in that world?

A responsible vision must include the dominating influence of people on the planet. The near future is likely to include 8 to 9 billion people, 3 billion more people in the middle class, a doubling of the terrestrial footprint of cities, and a transformation of global food and energy systems. A vision that includes a vital future for animals requires thinking beyond “restoration” and even beyond “rewilding.” To maintain the animal diversity of the present and restore the animal abundance of the past, we must place animals squarely in a world where human systems are integrated with functioning natural systems. We cannot focus on recreating the ecosystems of the past—our impacts are making this untenable in most places—but we must not give up on nature or wilderness, either.

To begin, we need to recognize the importance of animals in all socioecological systems, pristine and human-dominated, terrestrial and marine. When we consider the benefits of a world rich with animals, we should shift some of our focus to systems where many people depend on animals. As an example, 2.6 billion people depend on ocean animals for protein.

In addition, we will have to grapple with tricky issues, such as those associated with the management of novel ecosystems and species substitution. There is also the potential application of synthetic biology, but the positive and negative impacts must be fully explored. How do we reduce the risks of ecosystem-level experimentation? When considering whether to introduce a new species into a system to replace the loss of another, for example, we must weigh the consequences of no intervention against the consequences of actions taken to recover ecological function. This is not a trivial exercise, as the ecological, economic, and cultural impact of an animal within an ecosystem is dynamic, and often obscured by complex ecological dynamics, shifting baselines (what a natural system “should” be like), and changing cultural norms. A full understanding of the relevant natural history, as well as the values of the people with a stake in the outcome, will be essential to any path forward.

This is not entirely new territory, as our successes and failures in biological control can serve as a guide. We cannot give up on the difficult species—the species that do not coexist well with people and require large areas for their survival. Conservation of these animals will hinge on recognition of their full value—ecological, economic, and cultural—by those with the power to protect them. A country with many large animals has as much right to development as a country without, and thus the global community must find pathways that would allow communities sharing their land with these animals to benefit from their presence.

Defaunation is a global issue. A world without animals represents a loss to humanity as much as a loss to ecology.

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An animal-rich future
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