

Rewilding

Giving Nature a Second Chance



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and
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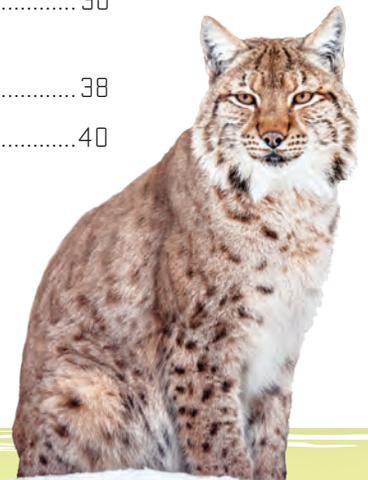
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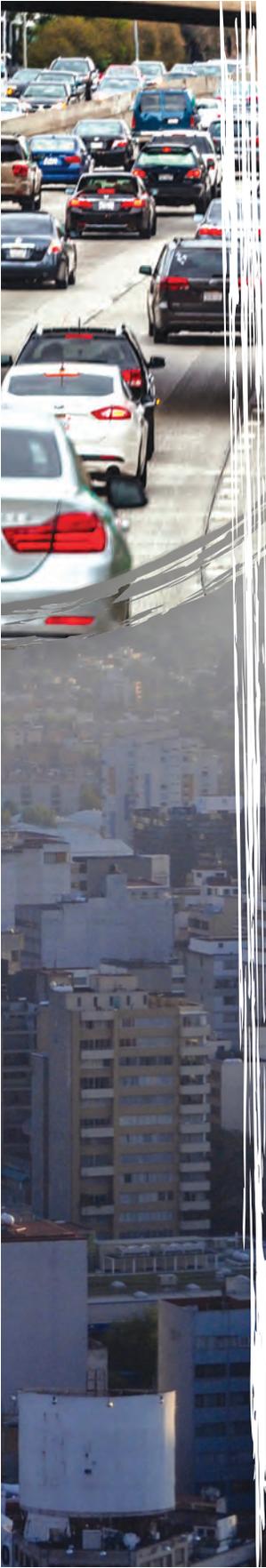
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INTRODUCTION

What Is Rewilding?

Once a city known for smog, London, England, has cleaned up its act and opened green spaces where wild deer now graze.

People make choices: we can pollute the air and crowd our roadways or we can keep our human spaces healthy and safer for animals and people too.



We can land a probe on a speeding comet or slip a spacecraft into orbit around Jupiter—but protecting the natural world here on Earth? That’s a challenge. Species are going extinct and habitats are being destroyed by pollution, the clearing of forests, and climate change. Biologists and concerned citizens work hard to halt and reverse these trends. In a crisis like this, we need bold, super-sized thinking.

Rewilding is a big, new idea. “Rewilders” are stepping back and completely rethinking the relationship between people and our living Earth.

Rewilders want to restore habitats to their natural state, easing the damage done by humans. They want to recreate wild environments that will support native species and make room for animals to move freely across vast spaces. In this way, they believe, we can help our endangered species survive ... and thrive! And in return, we will keep reaping the benefits nature has to offer: clean air, fresh water, fertile soil, and valuable natural resources.

When important species disappear from a habitat, rewilders look for ways to bring them back. But that’s not simple. Biologists debate what lived in a landscape when it was last truly wild. How far back do we turn the clock? To before the bulldozer? Before the ax and shovel? To ice age times? Can playing with nature trigger unintended surprises? Do we really want to bring dangerous creatures back to places where large numbers of people now live?

Left alone, nature will eventually bring everything into a new balance—you could call that nature rewilding itself. But even with help from us, these changes won’t happen overnight. Today, rewilders apply new ideas to conservation projects, big and small. Read on to learn about attempts to release tigers, wolves, and bears into the wild; efforts to create a safe, friendly route for butterfly migration; and projects to bring wildlife back into city spaces. Finally, we look at where rewilding is heading in the future.



Some wildlife species, such as badgers, can survive near people, even in large cities.

Back to the Wild

You sprint along a trail winding through tall bushes. What a day! Wild grasses and shrubs reach your ears and, above, the sky is clear and blue.

Ahead you hear a sudden, muffled cry, and a thump. You slow down and just miss stepping on a smear of wet blood. A dog-like animal with a scruffy tail bounds along the path ahead of you, a small rabbit dangling helplessly from its mouth. The creature pauses, locks eyes with you, and then dives into the undergrowth. That was no dog—it was a coyote!



Wild coyotes hunt their prey in many North American cities.

Hunger. Blood. Death. This is wild!

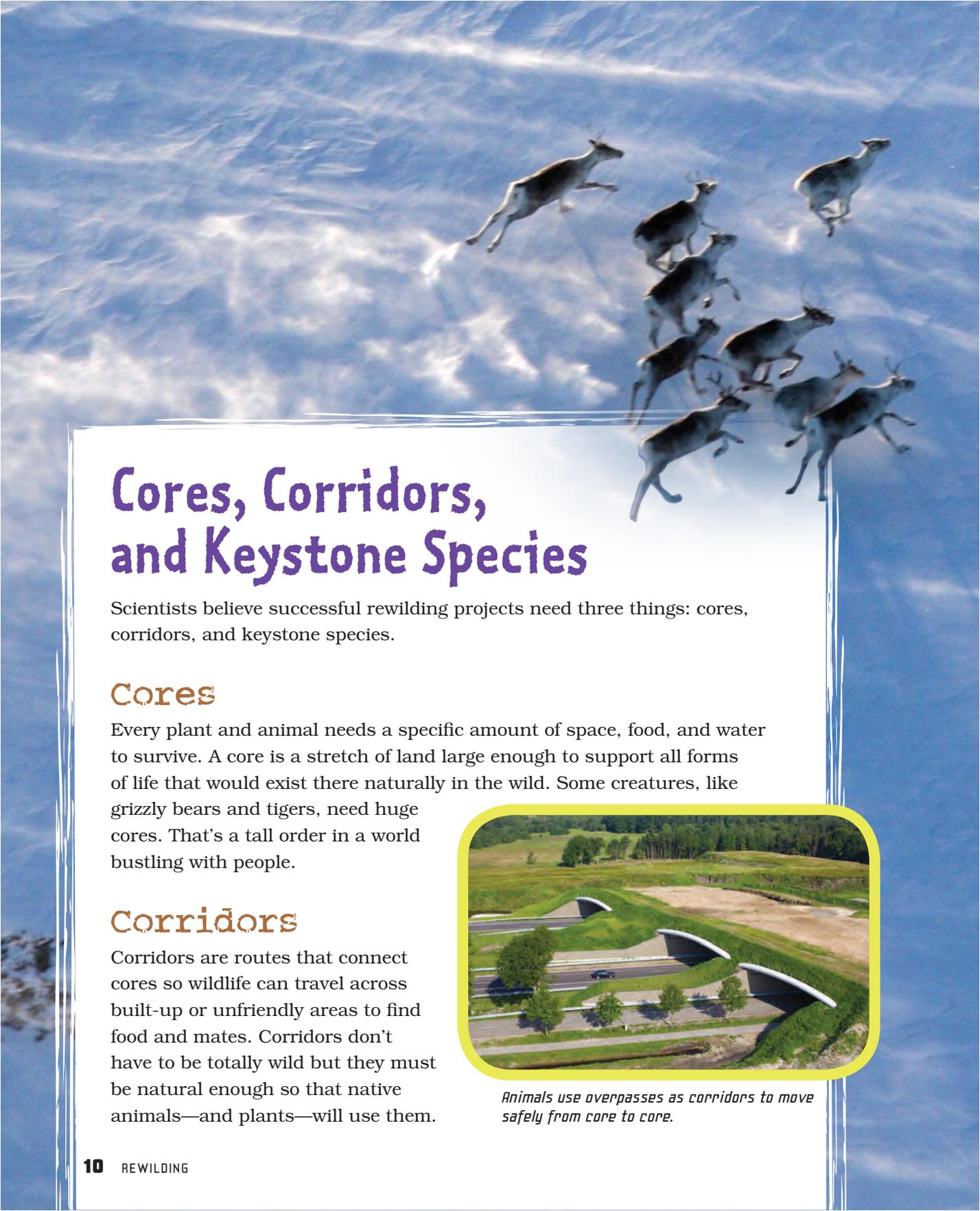
A few years ago, officials decided to let this large city park return to nature. They hand-pulled plants that had spread from nearby gardens and seeded native ones. No grass mowing, no pesticide use. They called it *rewilding*, and they said it probably wouldn't be long before wild animals moved back in. Well, they were right!

You hear a rustle in the tall grass. You glance uneasily over your shoulder. What could it be? What other animals lived here before people came along and built the city, pushing them out? Wolves? Bears?

Your heart beats so hard it pulses in your throat. But the park feels exciting now, more real, and beautiful. Maybe people can share this space with wildness after all!

▼ *Small carnivores, like this red fox hidden in tall grasses, can hunt and feed their growing families in urban areas.*





Cores, Corridors, and Keystone Species

Scientists believe successful rewilding projects need three things: cores, corridors, and keystone species.

Cores

Every plant and animal needs a specific amount of space, food, and water to survive. A core is a stretch of land large enough to support all forms of life that would exist there naturally in the wild. Some creatures, like grizzly bears and tigers, need huge cores. That's a tall order in a world bustling with people.

Corridors

Corridors are routes that connect cores so wildlife can travel across built-up or unfriendly areas to find food and mates. Corridors don't have to be totally wild but they must be natural enough so that native animals—and plants—will use them.



Animals use overpasses as corridors to move safely from core to core.

Keystone Species

In building construction, the wedge-shaped block at the top of an arch, steadying and locking all the other blocks in place, is called the keystone. In biology, a keystone species is an animal or plant that, more than most, keeps its habitat or ecosystem in balance.

Top carnivores such as cougars and wolves are keystone species because their hunting prevents the population of prey animals from getting too large and crowding out others in the habitat.

Top herbivores such as elephants and beavers are also keystone species because their trampling and dam engineering can change the landscape.

And people are keystone species too. Keystone species affect their whole habitat, even parts they don't have direct contact with.

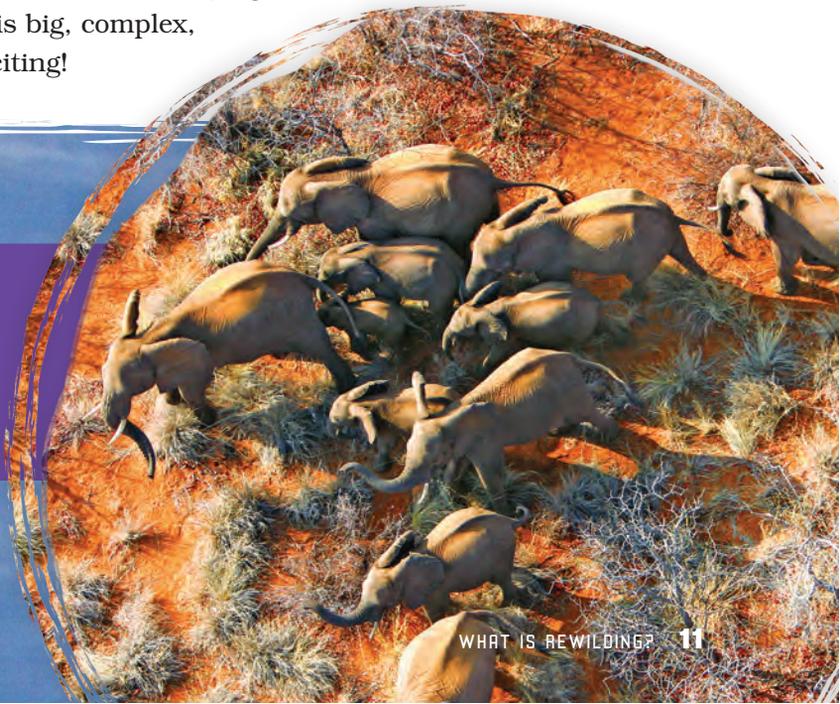
Rewilders have to work hard to keep these three elements—cores, corridors, and keystone species—in balance. That means they have to think carefully about relationships between habitats, wildlife, and people. And they have to adjust to unexpected circumstances, modify their plans, fail, and try again.

Rewilding is big, complex, risky, and exciting!



The cougar is a keystone carnivore that keeps deer numbers in check.

Herd of reindeer (top left) and African elephants (right) require vast core areas to find enough food to raise their families.



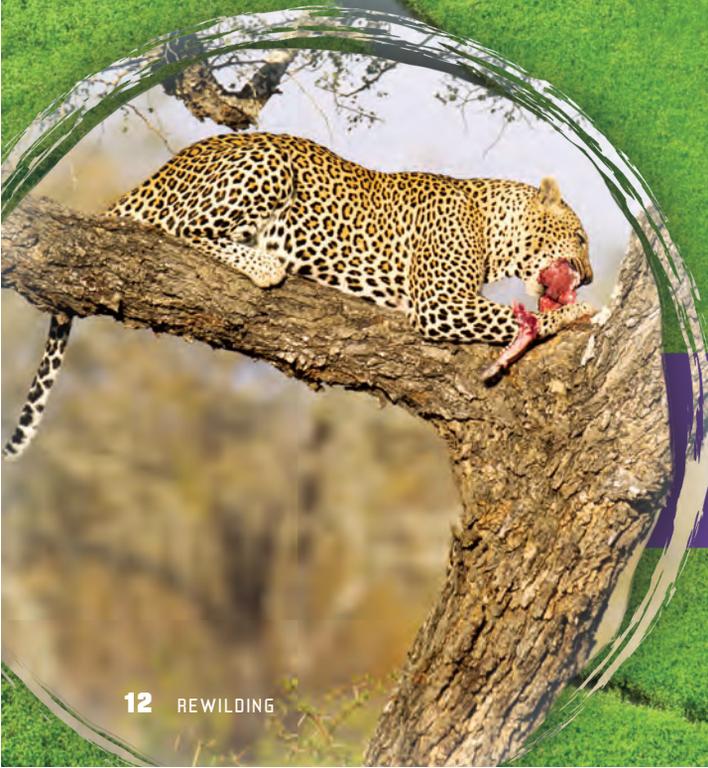
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REINTRODUCING KEYSTONE SPECIES

Wild Again



The American buffalo is an eco-engineer that tramples grasses and wallows on dry ground.



As successful keystone carnivores, leopards hunt on the grasslands, then drag their prey up trees to feed in safety.

A habitat is not fully rewilded unless the all-important keystone species—the ones that help keep the environment in balance—thrive there.

As we know, large carnivores are keystone species because they eat species further down the food web and keep their numbers in check. That may seem harsh, but it actually promotes coexistence among all the different species that share a habitat.

Large herbivores like horses and deer graze the land, keeping it from getting overgrown and containing the spread of wildfires. Larger herbivores, like elephants, trample trees and shrubs so that sunlight can reach the soil for seedlings to grow. Herbivores are also keystone species when they act as eco-engineers and change the landscape by their dam building or burrowing. Eco-engineers promote diversity in a habitat because they open up new homes and food sources for other plants and animals.

Of course, bees, hummingbirds, and other major pollinators are keystone species too, because many plants rely on them to reproduce. When a habitat's pollinators disappear or change, so do the plants that grow there and the creatures that need those plants for food or shelter.

But when it comes to rewilding a keystone species in its habitat, sometimes all our efforts fail. Rewilders want to know why, and what to do next.

Zoos can help protect and save endangered species from extinction, but can zoo animals ever be brought back to live in the wild?

And what about the creatures that have no habitat to return to—are they out of luck, or can they be rewilded into a totally new landscape?

This section looks at stories of why some significant and keystone species start to disappear, and what happens when people try to help them live in the wild again. Sometimes people's behavior has to change. It takes a lot of hard work, but even when our best efforts fail, we learn valuable lessons.



Honeybees provide a critical eco-service by fertilizing plants while collecting pollen for themselves.

A Second Chance for Trumpeter Swans: A Classic Success Story



A pair of swans circle high over a remote lake, zeroing in on their breeding site from the previous year. As they land with a splash, their wild calls echo, trumpeting their safe return.

There is a necklace of thousands, maybe millions, of small, shallow lakes and waterways across northern North America. The trumpeter swan, a keystone herbivore, once played a significant ecological role in these wetlands. Aerating lake and river bottoms with their bills and feet, these large waterfowl moved nutrients around, keeping the lakes healthy and ensuring a continuing food source for many creatures.

Last Call of the Trumpeter

Trumpeter swans were numerous when Europeans arrived in North America in the 1600s, but thousands were shot each year for their quills, feathers, skin, and fishy-tasting meat. By 1935, there were only about 70 known trumpeters left in the wild, and the species was nearly extinct. Hunting them was banned in the 1930s, but the swan numbers were slow to recover.

With close study, scientists learned the trumpeter's unique needs. The swans are shy and will abandon their young if people disturb their nests. They get lead poisoning when they swallow lost fishing gear. And the trumpeter competes for nesting habitat with the more aggressive mute swan.

