

# Rewilding: boosting bio-abundance

Large charismatic animals may capture the conservation headlines, but the true richness and functionality of nature lies in its intricate web of interactions. In restoring the way entire ecosystems work, rewilding enhances both the size and diversity of wildlife populations.

## Looking beyond the icons

Rewilding is often presented in oversimplified terms. When it comes to European rewilding, images of charismatic wildlife species such as bison, wolves, bears, and lynx frequently take centre stage in media and social feeds. While large keystone species play a critical role in ecosystems, they represent just one piece of a far more complex puzzle. Their presence is often highlighted for visual impact, sometimes at the expense of a broader understanding of ecological function.

Given that nature operates as a complex, interconnected web, conservation efforts that focus solely on specific species can distract from the bigger picture. Saving one charismatic animal can divert attention and resources away from addressing more fundamental aspects of biodiversity decline, such as the widespread loss of abundance – the sheer number of individuals, small and large, in water and on land.

While biodiversity loss is widely discussed, declines in bio-abundance are neglected. With its focus on improving ecological functionality, rewilding forces us to think about restoring ecosystems at landscape scale, with associated benefits for abundance. Rewilding is about revitalising entire natural systems so that they can then look after themselves. By enhancing natural processes – such as natural grazing, predation, scavenging, and

the free flow of water – it can not only breathe new life into populations of thousands of species, but also result in huge numbers and abundance of those species.

### Counteracting the new normal

Beyond a single lifetime, changes to the natural world become harder to comprehend. "Shifting baseline syndrome" is a concept whereby each generation grows up accepting a more diminished natural world as normal.

Remember when clouds of moths would gather around a light bulb in the evening? When gardens would be filled with butterflies and the sounds of birdsong? Too many of us feel we still see a lot of wildlife, not realising that what we are seeing is just a small remnant of what we once had. The creeping, frequently unnoticed loss of abundance is a challenge, because it can lower the urgency of conservation efforts. This is also known as "nature amnesia".

### Size matters

If you were to wade into Scotland's Firth of Forth today, you'd find a barren seabed and murky waters. Without historical context, this might seem normal. Yet, 250 years ago, this estuary was a thriving marine ecosystem, home to vast oyster reefs. At its peak, 30 million oysters were harvested annually. Given that each oyster could filter 200 litres of water per day, that's

6 billion litres of water-purifying molluscs removed each year. Overexploitation led to the local extinction of the species and completely removed this essential function from the sea, negatively impacting a whole host of other wildlife.

The abundance – or scarcity – of certain species can have interesting and profound ecological consequences. In the Danube Delta, great cormorant colonies can grow so large that ammonia from their droppings kills the very trees they nest in. The stands of deadwood that are created force the birds to move on, allowing both the habitat and fish populations to recover before the cycle begins again.

### All creatures great and small

To fully restore natural processes in our landscapes and seascapes, we shouldn't overlook the smallest contributors. From hamsters, marmots and crayfish, to dung beetles, trout and butterflies, to invertebrates and bacteria in the soil – every species contributes to the delicate balance and functionality of wild nature.

Consider the humble rabbit, for example. Despite its diminutive stature, this expert burrower plays a vital role in shaping the landscape of its native Iberian Peninsula.

Rabbits are more than just grazers – they are ecosystem engineers. Their feeding habits help keep encroaching

shrubland at bay, creating open spaces that a wide range of other animals can use, while they also fertilise the soil and promote vegetation that sustains other species. Their burrows provide vital shelter and nest space for both invertebrates and vertebrates alike. Studies have shown that species such as lizards and wheatears (a ground-nesting bird) thrive in areas where rabbit warrens are present, boosting both their abundance and diversity.

Rabbits are a vital link in the food chain and sustain a range of predators, including endangered species such as the Iberian lynx and Spanish imperial eagle. Even in death, they play an important role – their carcasses provide nourishment for scavengers adapted to smaller carrion, such as cinereous and Egyptian vultures.

### Reasons to be optimistic

Beyond Europe, many of nature's grandest spectacles are well documented – the wildebeest migrations of the Serengeti, or the chinstrap penguin colonies in Antarctica, so vast they are visible from space. Europeans often look on in awe at these extraordinary gatherings of wildlife.

Yet hints of bio-abundance remain closer to home. Winter roosts of brambling, a small but striking finch breeding in the northern parts of Europe, can still be found wintering in central Europe five-million strong; starling





LÁSZLO NOVÁK

A winter roost of bramblings.



HENK BOGAARD / ISTOCK

A starling murmuration.



PIETRO BRUNETTI / NATUREPL.COM

Humpback whales.



MILAN PABISIC

A mayfly swarm.

murmurations above reedbeds at dawn and dusk momentarily darken the sky; and on the Tisza River in Hungary, the spectacle of Tiszavirágzás, or "Tisza Blooming", sees millions of mayflies erupt in synchrony in May, dancing above the water in a fleeting yet breathtaking natural phenomenon.

While there are huge global issues to think about when considering biodiversity decline overall, such as pesticide use, soil health, and a changing climate, wildlife is resilient and can bounce back if we remove some of our human induced pressures and give it the space and freedom to roam. Today, many of our larger species are making a comeback across Europe. Reintroductions and better protection are leading to burgeoning populations of wolves, beavers, bears, and lynx, which are regaining lost ground and restoring ecological balance in the process.

In our seas, humpback, fin, and minke whales are steadily rebuilding their populations following the widespread ban on commercial whaling. Their resurgence brings unexpected benefits for both marine ecosystems and the climate too. Through a process known as the "whale pump", these giants fertilise surface waters when they defecate after deep-sea feeding. This stimulates blooms of phytoplankton, microscopic organisms that capture vast amounts of atmospheric carbon and produce masses of oxygen in return.

## Supporting wildlife comeback

The European Wildlife Comeback Fund is a grant programme set up by Rewilding Europe to scale up reintroductions of keystone species. In 2024, the fund helped various rewilding initiatives reintroduce and reinforce populations of a wide range of wildlife, from Eurasian lynx in Poland and griffon vultures in Italy, to wildcats in Scotland and Atlantic sturgeon in Sweden.

While the historic hunting of whales has declined, thereby reducing a "top-down" pressure on these incredible cetaceans, we also need to consider the effects of "bottom-up" processes and the sheer abundance of smaller species on which whales feed. Antarctic krill, for example, are sensitive to climate change and habitat loss from retreating sea ice, but are also harvested en masse by humans. There may be strict limitations on catches, but this still leads to almost half a million tonnes being removed from Antarctic waters every year. If we can ensure the abundance of smaller marine species such as krill, they can support the recovery of marine megafauna, which means we can unlock the potential of natural processes that can help to combat the climate crisis.

### The return of a legend

A century ago, the European bison was on the brink of extinction, with the last wild individual shot in the early 20th century and only 52 alive in captivity. Their recovery is one of Europe's great conservation success stories – around 7,500 free-roaming individuals were recorded in 2021 at the last census, and if it wasn't for the war in Ukraine making it difficult to keep track of populations in the east, that number would likely be even higher today. While the largest herds are currently found in eastern Poland and Belarus, reintroductions in West Pomerania on the Polish side of



European bison.

the Oder Delta, the Romanian Southern Carpathians, and Bulgarian Rhodope Mountains have restored this keystone herbivore to landscapes that have been without them for generations.

The impact of the bison is profound. No other large herbivore in Europe matches their ability to shape habitats through browsing, grazing, wallowing, debarking trees and trampling. They ensure landscapes remain open and dynamic. By creating a patchwork of meadows and woodlands, they support a wealth of other species – but this positive impact doesn't function in isolation. Bison can help to shape ecosystems, but smaller species are equally important. We need an abundance of bees, dung beetles, and worms working alongside them, pollinating plants, recycling nutrients, and rejuvenating soils. Keystone species, little and large, working together to improve ecosystem health.

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### Towards abundance in Europe

Scaling up rewilding efforts across Europe will help fragmented and depleted wildlife populations reconnect, further strengthened by reintroductions and reinforcements. By allowing floodplains to flood, wetlands to be wet, forests to be more than stands of trees, and soils to be free from herbicides and pesticides, we welcome the wild back in. As species continue to recover, the benefits will extend far beyond conservation, enhancing ecosystems, climate stability, and human well-being, in ways we may not yet fully understand.

And beyond the science lies something just as important: the sheer wonder of abundance. The joy of witnessing species in numbers we can barely imagine.

Let's say "yes" to nature documentaries filled with endless herds of wildebeest or monarch butterflies draping forests in orange. But let's also say "yes" to European rivers teeming with salmon, to grasslands roamed by mighty herds of wild horses, to woodlands erupting with birdsong and summer nights alive with the sound of crickets and nightingales.

Europe's wild heritage may be depleted, but it isn't lost. Through rewilding, we can supersize populations of myriad wildlife species across the continent, enhancing and safeguarding the critical role they play in nature and the benefits they deliver to us.

## 5 unsung wildlife heroes



**EUROPEAN HAMSTER:** Soil engineer, seed disperser, and prey for a variety of animals including buzzards, foxes, and owls.



**DUNG BEETLE:** Nutrient recycler, fertiliser, and pollution controller (by burying dung they help to reduce the amount that gets washed into waterways).



**EUROPEAN RABBIT:** Home provider (through burrowing), important grazer (helping to maintain a vegetation mosaic), and prey for a variety of animals, such as the Iberian lynx and Spanish imperial eagle.



**EUROPEAN FLAT OYSTER:** Water filterer, reef creator (that provide a home for other marine organisms), and pollutant remover (oysters can removing excess levels of nitrogen caused by agricultural run-off).



**ATLANTIC STURGEON:** Natural barometer, riverbed disturber, and nutrient cyclist.