Tackling the Climate Emergency

Introduction

As climate breakdown accelerates and nature loss continues, we face an unprecedented threat to our way of life and our children's future. As floods, wildfires and other extreme weather events become ever more common, it is clear that we are starting to see the effects of too much carbon dioxide in the atmosphere. To tackle the climate emergency, it is vital that we reduce greenhouse gas emissions to near-zero at breakneck speed. But to reach 'net zero' emissions we also need to mop up the excess carbon that we have already put into the atmosphere and store it safely, so that it cannot heat up the planet.

Nature is our best ally in this fight against climate change. But nature in Scotland is in serious trouble - Scotland is ranked 212 out of 240 countries and territories for the state of its nature, half of our species are in decline and 1 in 9 species face extinction.

THE SCOTTISH REWILDING ALLIANCE

Bags of mulch and dams holding back water as part of peatland restoration works at Mar Lodge estate.
James Shooter / scotlandbigpicture.com

Rewilding is the large-scale restoration of nature until it can take care of itself - and us - again. Rewilding can include restoring habitats, kickstarting natural processes and reintroducing missing species of all sizes. Rewilding is increasingly being used to address biodiversity loss as well as climate change. Research has found that rewilding ecosystems that have been altered or degraded may make an essential contribution to reversing global biodiversity decline and accelerating climate change mitigation through carbon sequestration.

Trees, peatlands, saltmarshes and other ecosystems are already perfectly adapted to soak carbon dioxide and store it. Individual species – by helping keep a balance within their ecosystems – can also play a vital role in the process.

Rewilders across Scotland are already doing their part to help Scotland respond to the climate emergency. There are now over 150 rewilding projects across Scotland, from community woodlands to landscape-scale partnerships. Communities, charities, farmers, landowners are restoring woodlands, peatlands, wetlands, rivers and seas – and saving wildlife from red squirrels to bumblebees to wild cats. More than three-quarters of Scottish people support rewilding.

We are calling on the Scottish Government to declare Scotland a Rewilding Nation and empower many more people to help tackle the climate emergency.

Five ways rewilding can tackle the climate emergency

1. Rewilding our land pulls carbon out of the air and stores it in trees, peat and other habitats

Restoring and protecting native woodland, peatlands, heaths and species-rich grasslands over seven million hectares of Britain could capture and store 53 million tonnes of carbon dioxide per year. That represents more than 12% of current UK greenhouse gas emissions.

Natural regeneration – letting trees self-seed – can help us create healthy, natural woodlands. Protecting land from overgrazing can lead to trees and scrub bouncing back surprisingly fast.

Similarly, the way that many of our peatlands are currently managed leaves them dry and damaged, and leaking millions of tonnes of carbon into the atmosphere annually. Re-wetting these peatlands to their natural state would allow natural processes to function properly again, turning them from a carbon source to a net carbon sink.

Rewilding scrub and grassland helps these habitats seqester and store large volumes of atmospheric carbon dioxide, with carbon sequestration rates similar to those for newly planted native woodland.

2. Rewilding our seas locks up carbon and stores it in marine habitats

Protecting and rewilding our seas is vital to allow marine wildlife to thrive – and it's also a crucial tool in the fight against climate breakdown. Carbon is stored in marine and coastal ecosystems such as seabed sediments, mangroves, saltmarshes, seagrass, shellfish and kelp. Globally, the rewilding of these key blue carbon-sequestering ecosystems could deliver carbon dioxide mitigation amounting to 1.83 billion tonnes. Despite covering less than 1% of the planet's seafloor, seagrass meadows account for up to 18% of total carbon storage in the ocean and can trap and store carbon up to 35 times faster than tropical rainforests.

Yet in Scottish waters, destructive bottom-trawling and dredging is disturbing sea sediments, risking the release of millions of tonnes of carbon. We need to properly protect at least 30% of Scotland's seas, allowing them to heal and rewild while supporting local economies.

Volunteers at Seawilding, the UK's first community-led native oyster and seagrass restoration project - *Seawilding*

3. Reintroducing missing species can help with carbon storage

Much of the discussion around 'nature-based solutions' to the climate crisis focuses on restoring habitats. But the crucial role that wildlife plays within those habitats in drawing down carbon from the atmosphere is often overlooked.

The role that some species play in helping lock up carbon has been described by some scientists as 'animating the carbon cycle'. By reintroducing certain key species that are missing from damaged ecosystems, we can also help address the climate emergency.

4. Rewilding can mitigate against flooding and wildfires

Rewilding can also help us deal with the effects of climate breakdown and increasingly extreme weather. Nature is a powerful tool in helping reduce flooding: by allowing more trees and scrub to grow on denuded hills, we can help slow the flow of water downstream. Similarly, we can stop water from flowing so fast by 're-wiggling' rivers (which slows the flow of water), and by reintroducing beavers. Beavers are amazing ecosystem engineers: they create 'leaky dams' across streams, so that during a flood more water is held back upstream.

Natural regeneration and large scale expansion of native woodlands is urgently needed to build wildfire resistance and resilience in our landscapes. Because rewilding aims to create ecosystems with a variety of native vegetation, wetland habitats, key species of wildlife, and healthy water-retaining soils, it reduces the likelihood of wildfires. Research shows that broadleaf and mixed woodlands are highly resistant to wildfire, are low fire risk, and provide resilient habitats. Restoring bogs and peatlands results in wetter habitats and raised water tables, making them more difficult to burn. Evidence shows that natural and restored ecosystems like wetted peatland and native woodland - complete with large herbivores expressing natural grazing and browsing patterns - are more fire resistant and resilient than degraded landscapes.

5. Rewilding helps species adapt to climate change

Research suggests that rising temperatures as a result of climate heating are causing climate zones across the northern hemisphere to move northwards and upwards in elevant at an unprecedented rate. Climate zones in Britain are moving northwards at up to 5km a year - hundreds of times faster than our natural environment experienced during the natural climate warming at the end of the ice age. For our wildlife, this could be catastrophic as some species prove unable to shift across the land or sea at the same rate as the climate zones they depend on. Similarly, tree species face a climate bottleneck that could impact on timber production, carbon storage and biodiversity conservation.

Rewilding key areas and connecting them up through a mosaic of nature-rich habitats will allow wildlife to move, and habitats to adapt, as climate zones shift north. This has the potential to save a significant number of species from climate-driven decline or extinction. Creating diverse, natural woodlands will help protect trees from the effects of the climate emergency.

Declare a Rewilding Nation

Thousands of people across Scotland have signed the Rewilding Nation Charter, calling for Scotland to be declared the world's first Rewilding Nation - for nature, climate and people.

They share our vision of Scotland rich in wildlife, where our hills are draped in a complex tapestry of native woodlands and healthy peatlands; grasslands bloom with flowers, and wetlands thrum with life; great, green seagrass meadows carpet the ocean floor; and vast oyster beds buttress our wild coasts.

A Scotland full of vibrant communities, where nature's restoration inspires and supports local enterprises and repeopling; people of all ages can find rewarding jobs; and nature-rich landscapes are accessible to everyone – reawakening our connection with the wonders of the natural world.

"Our only hope as a planet is for initiatives like this to become commonplace. Rewilding Scotland is incredibly important for its own sake, but it would also allow us to look outwards and say "Look at what we've achieved and join us".

Fred, Inverness

"A place for my child to be proud of, and showing my child that things can change for the good despite all of the critcial issues in the world at the moment."

Tim, The Black Isle

"It's about hope – and a bold, positive and forward-looking transformation so that we start working with nature, rather than against it, on land and at sea."

Lyn, Kinross

"A better future for all creatures great and small, including us."

Shidrati, Edinburgh

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