Let nature help

How nature's recovery is essential for tackling the climate crisis

Suffolk Wildlife Trust


PA Wire/PA Images

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Julie Hatcher

Peter Cairns/2020Vision

The time is now

To deal with the climate crisis, we must bring nature back on an ambitious scale

The world is starting to take note of the threat of climate catastrophe. In response, the UK government has joined many governments around the world in setting a net zero emissions target in law.

Yet we cannot tackle the climate crisis without similar ambition to meet the nature crisis head on – the two are inseparable. The climate crisis is driving nature's decline; the loss of wildlife and habitats leaves us ill-equipped to reduce our emissions and adapt to change.

Nature's incredible ability to trap carbon safely and provide other important benefits is proven. But nature in the UK is in a sorry state and important habitats are damaged and declining.

"Emission cuts must be matched with action to fix our broken ecosystems, so they can help stabilise our climate."

Rapid cuts in our emissions must be matched with determined action to fix our broken ecosystems, so they can help stabilise our climate. We must bring nature back across at least 30% of land and sea by 2030. Restoring wild places will also revive the natural richness we all depend upon, making our lives happier and healthier.

The Wildlife Trusts have a big part to play in delivering this recovery. We are already stepping up to the challenge, but we also need decision makers, communities, businesses and everyone else to come along with us.

We must act now and we must get this right. According to the Intergovernmental Panel on Climate Change (IPCC), decisions we take in the next 10 years are crucial for avoiding total climate catastrophe. We must kickstart nature's recovery and make nature-based solutions a priority.

Craig Bennett
CEO, The Wildlife Trusts

Contents

Cover: Mark Hamblin/2020Vision


Terry Whittaker


Niki Clear


Rupert Paul

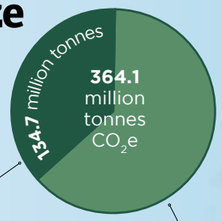

Surrey Wildlife Trust

Nature-based solutions

The UK has a target of net zero greenhouse gas emissions by 2050. Nature can make a massive contribution to achieving this, or an even more ambitious target – but only if we restore our damaged ecosystems. Here are the main areas that need attention:

The size of the prize

37% Restoring our natural systems could provide 37% of the CO_2 mitigation needed by 2030 to meet the Paris Agreement.



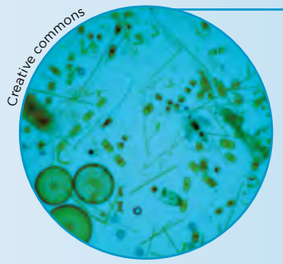
Possible contribution of UK natural systems to reducing CO_2 emissions

Total UK emissions 2018


Splashdowndirect.com

BIOMASS CARBON

All animals and plants are carbon stores. When marine animals die, they generally sink and become incorporated into sediment, where their carbon might stay for thousands of years. Human activities can impact on marine animal populations and also disturb this sediment, releasing carbon.

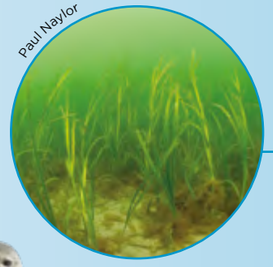

Creative commons

FOOD WEB CARBON

Phytoplankton are the basis of ocean food webs and absorb CO_2. Globally, 10 billion tonnes of carbon are transferred to seabed sediments when phytoplankton die or are eaten then excreted.

SEAGRASS

A hectare of seagrass may store two tonnes of CO_2 a year and hold it for centuries, while providing nursery habitat for young fish. But since 1985, we have lost half our seagrass meadows. Reducing water pollution and replanting would bring them back to health.


Paul Naylor


Grey seal: Chris Gomersall/2020Vision. Gannet: David Chapman. Wren: Colin Varndell

SALTMARSH

A hectare of saltmarsh can capture two tonnes of carbon a year and lock it into sediments for centuries, but we are losing nearly 100 hectares of saltmarsh a year. Coastal realignment could restore much of it, and reduce flooding and erosion.


Niall Benvie


Rob Jordan

PEATLAND

The UK's peatland soils store around 3.2 billion tonnes of carbon, but are heavily degraded and release the equivalent of 23 million tonnes of CO_2 every year. Restoring them to prevent this emission is one of the most cost-effective nature-based solutions.


Zsuzsanna Bird

GRASSLAND

UK grasslands store 2 billion tonnes of carbon, but this is vulnerable to disturbance. Between 1990-2006, arable conversion of grasslands released 14 million tonnes of CO_2. We can restore species-rich grasslands to lock up carbon and support abundant wildlife.

WOODLAND

About 1 billion tonnes of carbon are locked up in UK woodlands, mostly in the soils. Planting more woods and allowing natural regeneration could lock up more carbon, but this must be carefully planned to maximise benefits and avoid harming other habitats.


Rupert Paul


Rupert Paul

WETLAND

Wetlands can accumulate carbon for centuries, but in some areas of the UK we have lost over 90% of our wetland habitat. Restored wetlands provide rich habitat, clean water naturally and reduce flood risk downstream.

The crucial tool: a Nature Recovery Network

On land, 66% of carbon in nature-rich areas is outside protected sites. We need to identify, map and protect these ecosystems, and restore them locally as part of a national Nature Recovery Network. We also need to incentivise farmers and other land managers to improve their land for nature and contribute to this network.

At sea, we need effective marine planning and an ecologically coherent network of Marine Protected Areas.


Matthew Roberts

We need nature to be everywhere again

BLUE CARBON

Oceans absorb 20-35% of human-made CO_2 emissions every year. Carbon is incorporated into the tissues of plants and animals, and later into mud and sediments.

GREEN CARBON

Globally, plants have removed 25% of human-made CO_2 emissions. Soils contain more carbon than is stored in plants and the atmosphere combined.

What nature can do if given a chance

Restoring nature doesn't just lock up carbon; it delivers multiple other benefits besides

Healthy ecosystems on land and at sea can absorb vast quantities of CO_2 from the atmosphere and lock it away as carbon. However, human activities such as intensive arable farming, overgrazing, overfishing and irresponsible development release this stored carbon and drive nature's decline.

As a first step, we urgently need to protect important ecosystems so their carbon isn't released and they can continue to absorb CO_2. We also need to put nature into recovery across a third of land and sea, so the natural world can cope with the climate change that is already happening and contribute effectively to stabilising it.

Doing this across a mosaic of connected habitats will also deliver countless other benefits:

FLOOD PROTECTION

Healthy habitats such as protected wetlands, restored peatlands, wildflower-rich grasslands and native woodlands can slow, store and filter water, reducing the risk of flooding downstream and cleaning water naturally.

COASTAL DEFENCES

Habitats like saltmarsh and seagrass help protect us from coastal erosion and storm surges, while providing important nursery areas for fish.

HEALTHIER LIVES

Woodlands and other wild places clean the air, regulate temperature, and improve our health and wellbeing.

NATURAL RESILIENCE

Thriving ecosystems provide the pollinators, soils, nutrients, food and water that sustain us.

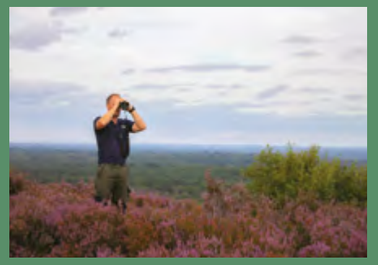
Our work on more than 100 Living Landscape projects across the UK shows that restoring nature is sustainable and feasible

We can deliver

For more than a century, The Wildlife Trusts have been saving, protecting and restoring wild places, and bringing people closer to nature.

We are involved in projects to restore and connect habitats across the country as part of a Nature Recovery Network, from re-wetting peatland to creating saltmarsh and planting seagrass. We also advise thousands of farmers and landowners on how best to care for their land so that it sustains wildlife.

Jon Hawkins



Our ground-up structure means we are the local experts

We have the know-how and expertise to work in partnership. With investment and support from governments, businesses and local communities, we can create real change for nature's recovery, so that nature-based solutions can play a massive role in achieving net zero emissions.

Lee Beel

Four flagship projects

The Wildlife Trusts are taking action to bring nature back across the UK. Here's a flavour...

Scottish Beavers, Argyll

Sarah Robinson
Director of Conservation, Scottish Wildlife Trust

"Beavers are industrious ecosystem engineers. Their dams create wetland habitats that support a wide range of other species, and they slow the flow of water, reducing flood risk downstream and keeping streams and rivers running during droughts.

"The Scottish Wildlife Trust has long championed their reintroduction and protection. In May 2009, we were one of the lead partners of the Scottish Beaver Trial, a pioneering five-year project that saw the licensed release of 16 beavers into Knapdale Forest, Argyll.

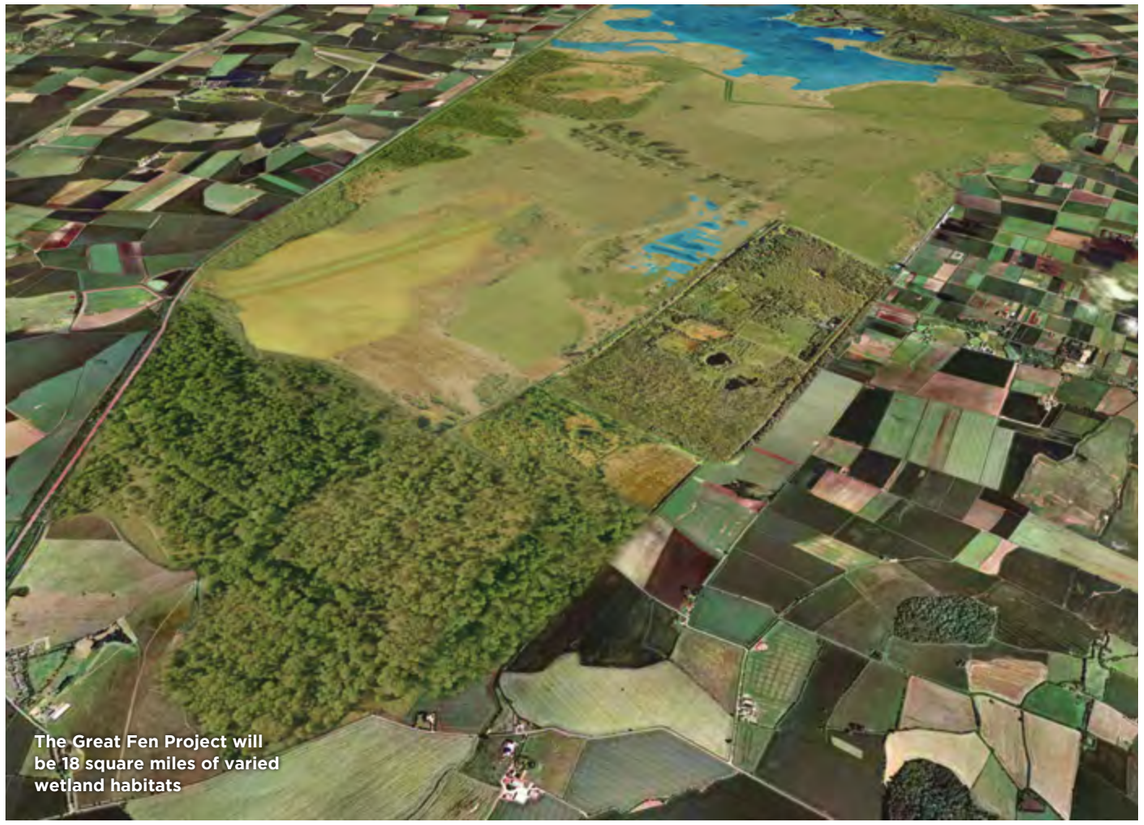
"Beaver dams boost wildlife, slow the flow of water, reduce flood risk and keep streams and rivers running during droughts."

"This was one of the largest field trials of its kind in Europe. Extensive independent scientific monitoring of their impact on the natural environment paved the way for the Scottish Government to recognise beavers as a native, protected species in Scotland in 2019. Further reinforcement of the Knapdale beavers has been carried out to boost their numbers and increase genetic diversity.

"Other Wildlife Trusts around the UK are involved in beaver reintroductions, all providing insight into the benefits beavers can bring to people and wildlife."

The Big Picture/Nature Picture Library

A beaver at Knapdale, Argyll. The project has demonstrated how these ecosystem engineers benefit people and wildlife



bluesky-world.com

The Great Fen Project will be 18 square miles of varied wetland habitats

The Great Fen Project, Cambridgeshire

Lorna Parker
Restoration Manager, BCN Wildlife Trust

"Bedfordshire, Cambridgeshire and Northamptonshire (BCN) Wildlife Trust is leading the Great Fen project to create landscape-scale change and deliver one of the largest restoration projects of its kind in Europe.

"99% of wild fen in Eastern England has been historically drained to create farmland, leading to the ongoing release of carbon as dry peaty soils oxidise or simply blow away. At the Great Fen near Peterborough, we at the Wildlife Trust are working in partnership with the Environment Agency, Natural England, local authorities and land managers to rewet farmland and restore 3,700 hectares of fen.

"This will reconnect Holme Fen and Woodwalton Fen National Nature Reserves, create a huge mosaic of wetland habitats for the benefit of people and wildlife, reduce the risk of flooding on nearby farmland, and save an estimated 325,000 tonnes of CO_2 from being released each year through peat loss.

"This huge wetland mosaic will save around 325,000 tonnes of CO_2 from being released each year through peat loss."

"Through our Water Works project, our Wildlife Trust is also aiming to change the face of farming in the Cambridgeshire fens for the better. We are working with partners and local farmers to trial innovative wetland farming techniques at the Great Fen that can help rewet the fen and halt and reverse the release of carbon.

"The Water Works project could be truly transformative for future generations farming in the fens, creating new sources of income for farmers, protecting food supplies and the natural environment, and combating climate change."

Terry Whittaker/2020Vision

The saltmarsh at Abbotts Hall Farm has been accumulating carbon for almost 20 years

Abbotts Hall Farm, Essex

Andrew Impey
Chief Executive, Essex Wildlife Trust

"Rising sea levels and increasingly frequent storms threaten both manmade defences and important habitats on our coastlines. In Essex, up to 60% of coastal marshes have been eroded in the last 20 years.

"At Abbotts Hall Farm, Essex Wildlife Trust has worked with the Environment Agency to realign the coast and create thriving saltmarsh habitat.

"When the Wildlife Trust purchased Abbotts Hall Farm in 1999, part of the sea wall was in need of repair. Instead of undertaking the costly work to maintain it, the Wildlife Trust and the Environment Agency explored coastal defence methods which took account of rising sea levels.

"After two years of studies, monitoring, and consulting the local community, new defences were installed further inland and in 2002 the old seawall was breached to allow tides to wash onto disused farmland. The managed retreat is transforming 50 hectares of previously arable land into saltmarsh abundant with wildlife, particularly migrating birds. The new habitat is also teeming with young bass, herring and 14 other types of fish feeding in the creeks within the marshes.

"This ground-breaking project shows what can be achieved when coastal realignment is carried out in suitable places and static seawalls are replaced with dynamic, carbon-absorbing tidal habitat, helping our wildlife and coastal communities stay resilient in the face of change."

"After two years of studies, the old seawall was breached in 2002 to allow tides to wash onto disused farmland."

The Yorkshire Peat Partnership

Tim Thom
Peat Programme Manager, Yorkshire Wildlife Trust

"Yorkshire has 23% of all the UK's blanket bog, a type of peatland, and Yorkshire's peatland holds an estimated 38 million tonnes of carbon in total. However, much of it is in decline – channels were historically cut to drain the peatland, and ongoing activities such as grazing and burning can continue to cause damage.

"Since 2009, Yorkshire Wildlife Trust has been leading the Yorkshire Peat Partnership to restore the blanket bog on a massive scale by surveying the habitat and working to block drainage ditches, replant bare areas with mosses and other plants, and reduce erosion.

"So far, we have completed restoration works on over 30,000 hectares of a total 86,000 hectares of Yorkshire's blanket bog.

"So far the partnership has completed restoration of over 30,000 hectares of blanket bog, out of a total 86,000."

"This vital work can reverse the loss of peat and helps keep carbon locked up. It also helps regulate water flow and reduces the risk of flooding, increasing the resilience of communities downstream.

"Many other Wildlife Trusts have similar projects to revive UK peatlands, preserving this vital resource into the future.

"As well as natural flood management and carbon storage, healthy peatlands are amazing habitats for extraordinary wildlife, including reptiles and carnivorous plants. They're beautiful places to visit too. But despite the progress we're making, restoring peatlands takes time and needs a long-term outlook with corresponding long-term policies and funding."

Matthew Roberts

Blocking ditches and eroded gullies helps rewet and protect peatland

A better way to manage our land

Our natural habitats can become long-term carbon stores if they are allowed to function well. This will take careful planning, regulation, incentives and good land management.

HEDGEROWS
The UK's hedgerows store carbon above and below ground, and connect habitats across the landscape. We need 40% more hedgerows to help reach net zero by 2050.

PEATLANDS
These vast stores of carbon need positive long-term management. Restored peatlands can capture more carbon, reduce flooding, clean our water, and allow wildlife to thrive.

COAST
Our coasts must be managed to cope with climate change. Coastal realignment can create carbon absorbing, species-rich habitats and natural defences against sea level rise and storm surges.

GRASSLANDS
Species-rich grasslands are huge carbon stores and when managed carefully, e.g. through herb-rich leys and sensitive grazing, they lock in carbon and boost biodiversity.

WETLANDS
Healthy wetlands store carbon, support wildlife and hold back flood water. Reducing drainage and over-abstraction, the return of beavers and naturalising rivers will lock up more carbon.

WOODLANDS
We need to protect our existing woodland and help it to expand and join up. Semi-natural native woods store carbon, reduce flood risk, and improve our wellbeing when we visit them.

SOILS
Soil organic matter stores more carbon than any other land system, but is threatened by intensive farming. Crop rotation, cover crops and less ploughing can restore this fundamental asset.

A better way to manage our sea

Effective management of our Marine Protected Areas network, designating a suite of Highly Protected Marine Areas and introducing Marine Spatial Planning would integrate all activities to avoid unintentional harm and maximise benefits, including the ability to absorb more human-made CO_2 emissions.

DESIGNATED AREAS
Well managed and monitored Marine Protected Areas are vital for nature's recovery at sea, and they safeguard important carbon storing habitats like seagrass meadows.

SEAWEED AQUACULTURE
Sustainable seaweed farms can store carbon and reduce the impacts of ocean acidification. They can also provide habitat and nursery grounds for young fish and crustaceans.

LOCAL TOURISM
Caring for and protecting nature can boost the local economy through increased eco-tourism, and improve people's access to nature, making them happier and healthier.

REAL PROTECTION
To give marine wildlife the best opportunity to recover, we need to deliver a suite of Highly Protected Marine Areas with the strictest possible protections.

NO-TRAWL POWER CABLES
Laying cables for offshore windfarms can damage habitats and sediments. Laying should be unobtrusive and, to prevent damage, trawling near cables should be prohibited.

RETURN OF OCEAN GIANTS
Bigger populations of species like whales and basking sharks would store more carbon. We need to protect them from pollution, industrial fishing and other harmful human activities.

BUBBLE CURTAINS
Construction at sea can cause noise pollution, harming species like harbour porpoises. Less impactful methods and noise dampening measures like bubble curtains are essential.

Nature needs our help to recover...

Luke Massey/2020Vision

Together, we can make it happen

The Wildlife Trusts have the experience and reach to deliver nature-based solutions locally and at scale.

Together with communities, landowners, and public and private partners, we have been restoring natural processes and recovering wild places for decades.

Our work on the ground is expert-led and guided by Nature Recovery Network mapping, ensuring projects are delivered in the right place and in a joined up way – with the ultimate aim of securing 30% of land and sea for nature's recovery.

We have the skills and knowledge to create thriving, connected wild places that support abundant wildlife, lock up carbon naturally, and provide other benefits including:

- cleaner air and water, with fewer pollutants such as nitrates, phosphates and particulate matter;
- cost-effective natural flood management and coastal defences;
- delivery of biodiversity 'net gain' where losses arise following development;
- connecting people and nature, for the benefit of their health, wellbeing and enjoyment of life.

The climate and ecological emergency affects us all. You can help The Wildlife Trusts make a real and lasting difference by supporting us to lock up more carbon and make nature's recovery a reality.

Find out more about nature-based solutions

naturesolutions@wildlifetrusts.org

THE wildlife TRUSTS