



WILDFIRE RESILIENCE

Summary

Across Britain, wildfire is often treated solely as a short-term problem that requires prevention via public education and investment in emergency responses. While these measures are vital, we also need to invest in the underlying conditions that cause wildfires and ensure the long-term resilience of our landscapes.

No land is immune to wildfire in a world where our wildfire season is projected to be longer and more destructive. But landscapes that store more water, restore natural hydrology, support a diverse mosaic of habitats and have natural firebreaks are more resilient to wildfire. We need to learn this lesson fast and ensure the creation of these landscapes is central to Britain's long-term wildfire strategy.

Wildfire in Britain: our new reality

In Britain, a wildfire [is defined as](#) any uncontrolled vegetation fire which requires suppression. Wildfires can have catastrophic consequences for people, wildlife and the natural environment. They release carbon and other emissions that can have severe negative implications on [net zero efforts](#). They disrupt ecosystems, altering soils and driving animals from their home ranges. They alter people's lives, harming their businesses and causing damage to their mental and physical health.

The use of fire in land management across the world is complex. The relationship between fire and biodiversity is also complex - and differs across ecosystems. The loss of naturally dynamic habitat mosaics and the degraded state of Britain's ecosystems, as well as ongoing intensive land management practices, adds to the complexity. People in Britain have managed land using fire for thousands of years, from the burning of woodlands by Mesolithic hunter-gatherers to the management of grouse estates through rotational burning beginning in the mid-Victorian period.

As our climate changes and larger, more frequent and more destructive wildfires take hold for longer periods each year, we must adapt.

Historically, Britain's humid, mild climate and regular rainfall have [protected it from wildfire](#) and fire, while sometimes a naturally occurring, positive phenomenon elsewhere, is not a major ecosystem process in Britain. Both geological and archaeological records indicate that large fires have been rare throughout our history, and where they have occurred, are usually associated with human activity rather than natural events (such as lightning strikes).



By 2050, the average summer will be hotter and have less rainfall, with [high fire risk days](#) anticipated to double compared to the late 20th century average. Modelling indicates that [fire danger is increasing](#) across all of Britain. These trends are already emerging: 2025 was a record year for wildfire incidents across England and Wales, with nearly [1000 officially recorded](#), while almost [250 were recorded](#) in Scotland.

Britain must adapt to a new reality in which wildfires devastate swathes of upland habitat, however it is managed, every year. We must move beyond arguments that blame the increase in wildfire on any single land use, with [research](#) showing that 90% of wildfires globally are human-caused.

In the short-term, the risk of ignition must be lowered. In the long-term, the resilience of our landscapes to withstand, slow the spread of and recover from wildfire must be improved.

What causes and exacerbates wildfires?

Wildfires need an ignition source and sufficient fuel. While wildfires can occur naturally, in Britain the most common cause of wildfire is human activity. This can include open flames (including unattended camp fires or barbecues), glass bottles magnifying sunlight, controlled burns gone wrong, deliberate fire setting and careless cigarette disposal.

Centuries of drainage, intensive grazing, rotational burning for grouse shooting interests and other damaging land management practices (e.g. planting monocultures of conifers on deep peat) have degraded many upland ecosystems, reducing their capacity to retain water. This has created landscapes that are less resilient to drought and wildfire.

Prolonged periods of dry weather create the ideal conditions for a wildfire to take hold. Research carried out in the wake of the [2025 Dava Moor wildfire in Scotland](#) showed a dry winter and spring created the conditions for a hot, fast-spreading fire once human activity ignited it. [Chronic, extreme drying](#) poses the greatest wildfire risk for temperate heathlands in Britain. Dry conditions below the ground exacerbate wildfires. Degraded, compacted soils absorb less water than healthy soils. Most of our uplands have been drained, drying out soils and increasing the risk of fire. For damaged peat, the soils themselves become a fuel during a fire, burning alongside the above-ground vegetation and potentially smouldering long after flames have been suppressed.

Fire danger is increasing as a result of more frequent droughts, but it is important to recognise that whilst this is a climate-driven change, our land management is making this problem more pronounced. Our land management increases our fire risk as it can affect how far a fire will spread and other fire behaviour. Uniform habitats can help create the ideal conditions for wildfire spread.



What solutions do we need?

Preventing ignition

The most effective way to prevent a wildfire is to prevent it from starting in the first place. As the overwhelming majority of wildfires in Britain are caused by human activity, public education targeted awareness campaigns and responsible land management practices aimed at preventing wildfires is critical.

Swift response

Early detection and rapid response can prevent wildfires from taking hold. Fire contingency plans, wildfire risk mapping and danger rating systems can all help address the spread. Once a wildfire has begun, a well-coordinated emergency response is critical. Governments must be willing to fund such response planning accordingly, to save costs down the line.

Rewetting

Healthy peatlands, wetlands and functioning upland catchments retain more water, making landscapes more resilient during prolonged dry periods. On our moors and uplands, the EMBER project at the University of Leeds demonstrates the restoration and rewetting of peatland - a key priority of rewilding - makes such areas more resistant to fire.

Establishing [native woodland and vegetation](#) improves soil structure and organic matter, increasing infiltration and moisture retention while creating seasonal soil water storage capacity.

Natural process restoration can further strengthen our resilience. For example, wild beaver-created wetlands increase water retention, help reconnect floodplains and slow the movement of water through catchments, helping landscapes retain moisture during drought.

Natural firebreaks

Firebreaks are key to arresting the spread of wildfire. These can be naturally managed and maintained. Rewetting peat can form an effective wildfire break, as seen in the [Tywi Forest](#) in Wales.

A Canadian study of a pre- and post- rewilding landscape found that where beavers were reintroduced, there was [60% more open water](#) present during drought. Beavers are a key species of interest in British rewilding and are usually a priority for suitable rewilding projects. Open water prevents the spread of fire, and provides refuge for wildlife if fire does occur.

Beaver activity can lessen the impacts of drought through the leaching of water slowly from ponds into neighbouring soils, meaning vegetation remains green and less flammable, reducing fire risk. Data from Utah shows how streams are less prone to drought in [areas](#)



[where beavers are active](#). This prevented vegetation adjacent to streams from drying out, making them less likely to ignite, whilst also providing a natural firebreak.

A study of Californian wildfires also found that fires [stopped their spread](#) in areas where beavers were active, demonstrating that rewetting habitats has a measurable impact on the spread of fires and that beavers are a vital ally in fire prevention.

Broadleaf woodlands can also [act as a natural firebreak](#) due to lower flammability. Research carried out in Portugal found that replacing highly flammable monocultures with broadleaf forests reduces fireline intensity by up to five times.

Large herbivores

Rewilding often involves the reintroduction of diverse large native/proxy herbivores. Wild herbivores shape our ecosystems in myriad ways and our landscapes are ecologically poorer for their absence.

Cattle that graze over winter - like wild cattle - increased the moisture content of vegetation (making it less flammable) as well as reducing available fuel via their [grazing and browsing](#). Cattle also diversify the distribution and structure of vegetation.

Fire spreads more rapidly in monocultures and homogenous areas due to the uniformity of the fuel - diverse, heterogeneous landscapes reduce the speed at which fire spreads. Britain previously had a wild ancestor of cattle, the auroch, and various rewilding projects are reintroducing hardy breeds as proxies for this extinct animal, alongside the reintroduction of [other missing herbivores](#).

In Europe, research by Rewilding Europe has also found that large herbivores can have a positive impact on wildfires. Where semi-natural and natural herds of mixed herbivores were present, the [likelihood of larger wildfire events](#) was reduced. Large herbivores consume vegetation, thus reducing the fuel available for fire. They encourage diverse ground cover, and create natural firebreaks through the mosaic of habitats they create. These natural firebreaks prevent fire from spreading if there is successful ignition, limiting the area that is burnt.

Reintroductions of large herbivores in Australia have shown promise in [reducing the risk of fire](#), and introduction of large herbivores on this and other continents has been suggested as a way to [reduce fire risk](#).

It is important to note that no single intervention will prevent wildfire. The building of resilience across Britain requires a combination of prevention, effective emergency response and long-term restoration of natural processes that create wetter and more diverse landscapes.

Conclusion



As climate change makes hotter, drier conditions Britain's new reality, treating wildfires purely as temporary emergencies is no longer viable. While short-term measures, such as public education and improved fire danger mapping, are critical to preventing initial ignitions, long-term safety demands landscape-level adaptation.

Rewilding offers a proven, cost-effective defense. Rewilding in Britain is a hands-on, active process that has been repeatedly shown to provide numerous benefits for people and nature. [Fire-smart rewilding](#) combines process-based ecosystem recovery with spatial planning: using natural firebreaks, species diversification, and habitat mosaics to safeguard carbon stocks and enhance long-term landscape resilience. By restoring peatlands, reintroducing keystone species like beavers to rewet catchments, and utilising large herbivores to break up habitat monocultures, we can build naturally fire-resilient landscapes.

No landscape will be immune to wildfire in a warmer world, but restoring our ecosystems is our best strategy for adapting to a hotter, drier future.

Policy actions required

1. Reduce the likelihood of fire ignition through public engagement and education initiatives and targeted prevention campaigns.
2. Ensure a well-funded, well-coordinated emergency response can be deployed when wildfires take hold, with a cross-border collaborative approach between land managers, fire and rescue services, communities and governments, on response and best practice learnings.
3. Increase the long-term resilience of landscapes through encouraging a wetter and more structurally dynamic mosaic of habitats across our landscapes, including:
 - a. Support for the introduction of large herbivores, where appropriate, that can, through wild grazing patterns, promote mosaic habitat patterns and help reduce fuel continuity.
 - b. Encourage beaver wetlands in at-risk landscapes, helping hydrological restoration and increased landscape resilience.
 - c. Rewet and restore degraded peatland habitat as a priority to prevent deep peat fires. This will help with carbon storage also.
 - d. Increase funding and policy support for landscape scale actions to restore ecosystem function, delivering a healthy mix of woodland, scrub, grassland, wetlands and open habitats to lower risk and aid recovery following fire.

About us

Rewilding Britain is an organisation dedicated to the large-scale restoration of nature and natural processes across Britain. Our ambition is to see a massive upscaling of rewilding, supporting a rich and diverse mosaic of habitats and species across 30% of Britain's land and seas.



We work to support communities, landowners and policymakers in creating wilder landscapes that benefit biodiversity, help tackle climate change, and support resilient rural economies. In Scotland and Wales, we work with partners to move conversations about rewilding forwards.

We have a network of over 1,000 rewilding projects, covering over 256,000ha of land and over 500km² of our seas. Between 1 - 2% of the UK is currently rewilding and it has the [strong support](#) (83%) of the British public.

Our focus is on enabling rewilding in key areas, including uplands, peatlands, river catchments and coastal waters, where nature-led recovery can deliver substantial public goods such as carbon storage, flood mitigation, and ecosystem restoration. We advocate for bold policy change and long-term funding to support a transition to land uses that work for people, nature, and the climate.

For more information, to discuss this or arrange for a rewilding discussion or future site visit, please contact policy@rewildingbritain.org.uk