Briefing: How can Nature Reduce and Mitigate Wildfires?

June 2025

This briefing has been prepared by The Wildlife Trusts ahead of the House of Lords debate on reducing the risk and mitigating the effects of wildfires, due to take place on 12th June.

Summary

According to the National Drought Group England has experienced the driest March, April and May since 1893, drastically increasing the risk of wildfires. Scientists predict that climate change will continue to increase both the frequency and intensity of wildfires. Evidence shows that poor land management practices and environmental degradation exacerbate fire risks, while healthy ecosystems and nature restoration offer long-term strategies that reduce the regularity and severity of wildfires.

What Causes Wildfires?

1. The Climate Crisis – Rising temperatures and prolonged dry spells increasingly characterise the UK summer, drying out vegetation and increasing fire risks.

- For example, the area burnt by wildfires so far this year in the UK is already higher than the total for any year in more than a decade.
- The UN predicts climate change and poor land use will increase the frequency and intensity of wildfires, with a global increase of extreme fires expected to increase by 30% by the end of 2050.

2. The Nature Crisis – Healthy and diverse ecosystems can reduce and mitigate fire risks, by providing on-land water and a mosaic of different habitats. However, because many of these ecosystems have become uniform and degraded, they have become more flammable.

- Over 80% of the UK's peatlands are dry and damaged, making them significantly more flammable and at risk of releasing vast amounts of carbon when burnt.
- Creating diverse landscapes with a mosaic of species and habitats such as marshes, wetlands and woodlands act as natural firebreaks. However, land alteration such as clearing scrubs for grazing has created increasingly uniform landscapes, much more susceptible to fires.

3. Human Activity – Although wildfires can start naturally (e.g., lightning), human actions are responsible for most cases.

- An estimated 90% of wildfires worldwide are caused by human activity, whether accidental or intentional.
- While natural ignition sources like lightning and negligent human activity cannot be completely avoided, sustainable land management and effective nature restoration can significantly reduce the spread and intensity of wildfires.

How can nature mitigate the impacts of wildfires?

1. Rewetting peatlands – Healthy peatlands are significantly more resistant to wildfires than degraded peat; they retain significantly more moisture.

- Rewetted peat creates the conditions for fire-resistant vegetation like Sphagnum Moss to grow, which can absorb 20 times its weight in water.
- For example, after a fire in 2018, the Staffordshire Wildlife Trust found that rewetted peat mitigated the intensity of the fire. In contrast, nearby degraded and dry peatland was scorched, releasing over 11,000 tonnes of carbon dioxide.

- Healthy peatlands provide significant co-benefits beyond reducing the risk of wildfires, such as carbon storage, regulating water flow and quality, and reducing the impact of floods.

2. Restoring woodlands – Restoring and managing woodlands with the right species can help reduce flammability and build natural resilience in the landscape.

- Replacing monocultures and conifer species with native broadleaf species like oak, birch, and beech, supports cool and moist habitats, reducing fire risk.
- Creating a mosaic of trees of different species and ages has been shown to reduce fire risks while creating the conditions for nature to thrive with new sources of food and habitat.

3. Reintroducing Wildlife – Wildlife can play a vital role in creating and managing landscapes more resistant to fire.

- Reintroducing grazing native mammals in heathlands, such as red deer, at the Surrey Wildlife Trust site in the Pirbright Ranges has significantly reduced fire risk. The deer graze on invasive and flammable species, like silver birch, creating natural fire breaks and reducing fire risks.
- Beaver reintroductions in the US have been found to reduce the severity of wildfires and to protect ecosystems after the blaze by capturing debris and ash and shielding downstream fish and drinking water.
- Reintroducing species can help manage landscapes and reduce fire risks while increasing overall biodiversity without the need for intensive human intervention.

Nature restoration – the solution, not the problem

As wildfires become more common as climate change accelerates, there have been some attempts in the media to suggest that nature restoration is contributing to the increased fire risk., This narrative is misleading and not supported by the evidence:

- Decades of environmental degradation and poor land management have left many landscapes dry, uniform, and therefore much more susceptible to wildfires.
- Nature restoration reverses these conditions by increasing landscape moisture, biodiversity, and ecosystem resilience. This reduces long-term wildfire risks and has a host of other benefits, such as flood resilience, carbon storage, and support for the Government's 30 by 30 biodiversity targets.
- Nature restoration approaches tend to reduce 'managed burning' in our peatlands. These burns carry significant risks:
    - So-called "controlled burns" can quickly escalate into uncontrollable wildfires, with 68% of wildfires in the English Uplands caused by managed burning that got out of control.
    - Burnt peat encourages the growth of flammable and monocultural vegetation such as Molinia grass, increasing long-term fire risks.
- We must be careful not to scapegoat restoration efforts, as these approaches combat the root causes of increased wildfire risk, namely the climate and nature crisis while creating long-term resilience within the landscape.

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