

Case Study: Wildfire risk management

Recognising and improving management of UK Wildfire risk through action research & knowledge exchange

The challenge

Vegetation fires are dangerous and costly to fight; approximately £55M a year in the UK, with up to £1m for a single, large moorland fire. Wildfires can also have significant environmental and socio-economic costs. The Peak District National Park (PDNP) has been severely damaged by peatland wildfires, requiring £16M in restoration.

Although UK Fire and Rescue Services (FRS) deal with about 70,000 vegetation fires a year, little work had been done to identify which are 'wildfires', or to map, forecast and fully cost their impact. Bringing together and coordinating the efforts of a broad range of stakeholders to address these issues was a key challenge, so too was the need to improve how wildfire is recorded. The sustained effort of the Manchester team in engaging and building the trust of stakeholders across many sectors underpinned the success of this action research, and put wildfire onto the national research and policy agenda.

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NERC-funded activity has a proven track record and such was the quality of the [FIRES] Policy Brief, that it has specifically been used to raise the awareness of wildfire issues affecting UK FRS. The key findings and recommendations of the FIRES Policy Brief are as relevant now as when it was first produced in 2010.

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Alex Bennett,
Chief Fire Officer,
Northumberland Fire and Rescue Service

The University of Manchester solution

Building a community of practice: The ESRC-NERC seminar series, Fire Interdisciplinary Research on Ecosystem Services (FIRES, www.fires-seminars.org.uk) drove knowledge exchange between academics, fire managers and policymakers, setting the agenda for wildfire research in the UK and building a momentum which helped expand the key stakeholder group, the England and Wales Wildlife Forum (EWWF). As a result, Manchester researchers were invited to participate in the EWWF, other national forums and practitioner conferences.

Making clear recommendations: The FIRES policy brief communicated knowledge gaps and policy recommendations. It was widely circulated by the EWWF to key stakeholders and contributed to official Government recognition of wildfire as a significant national risk.



The England and Wales Wildfire Forum (EWWF) is an unfunded, special interest partnership group, which acts as a strategic forum for Fire and Rescue Services, land managers, environmental and conservation groups and other stakeholder agencies in England and Wales to develop and communicate wildfire prevention, protection and mitigation strategies to Government and stakeholders. It is currently chaired by Northumberland FRS.

www.northumberland.gov.uk



What began as co-produced research with the Peak District National Park to reduce the risk of damaging peat fires has led to national impact. It's been extremely rewarding to work with CFOA and other members of the England and Wales Wildfire Forum to help get wildfire recognised as a significant hazard on the National Risk Register.

*Julia McMorrow,
School of Environment,
Education and Development*



Understanding the issues: The Manchester team worked closely with the Peak District National Park's Fire Operations Group and later with the Chief Fire Officers Association (CFOA) Wildfire Group and other members of the EWWF to develop risk assessment tools such as a wildfire risk map for the PDNP moorlands. By attending training exercises and meetings with these groups, the team incorporated operational knowledge into their research.

Team leader, Julia McMorrow, was awarded a NERC KE Fellowship, 'Knowledge for Wildfire' (Kfwf), which enabled further partnership work. Action research has included identifying and mapping wildfire from national fire statistics with the CFOA Wildfire Group; wildfire@manchester events for a 300-strong network; and wildfire threat analysis with the Forestry Commission.

The benefits

Cost and operational benefits: It is estimated that incorporating the team's risk assessment tools into the Peak Park rangers' early warning system has averted as many as five large moorland fires, costing up to £5 million to fight and threatening over £16 million in peatland restoration work. Vegetation fires behave less predictably than structural fires, making them dangerous to fight, so prevention also improves fire-fighter safety.

Partnership building: The FIRES seminar series promoted a step-change in partnership research, with Manchester setting up experimental field burns with regional Fire Services and collaborating with other universities. In her KE Fellowship project, Julia McMorrow acts as a knowledge broker between NERC researchers, wildfire management practitioners and policymakers. The University also benefits from access to new datasets and user-relevant student projects.

Impacts on national policy: A collaborative effort with the EWWF led to wildfire being included for the first time in the Government's National Risk Register and National Risk Assessment 2013. DEFRA recognised wildfire risk management in its 2012 Climate Change Risk Assessment and 2013 National Adaptation Programme

Public awareness: Based on the risk mapping and forecasting work of Manchester researchers, an interactive moorland fire risk tool was launched in July 2014 by the PDNP's Moors for the Future Partnership as part of their 'Be Fire Aware' public fire risk campaign. It is available at the National Park's visitor centres, which attract over 80,000 people a year.