

**Fire Interdisciplinary Research on Ecosystem Services: Fire and Climate  
Change in UK Moorlands and Heaths**

***SEMINAR 4***

***Economic impacts of wildfires and adaptive land management to reduce wildfire  
risk and impact***

Losehill Hall, Peak District National Park, 13<sup>th</sup> May – 14<sup>th</sup> May 2009

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**Day 1, Session 3: Policy Panel and Discussion**

**Rapporteur: Gina Cavan (University of Manchester)**

**Policy Panel members:**

Jon Stewart, *Natural England (NE)*

Trevor Johnson, *Scottish Wildfire Forum (SWF)*

Malcolm Hay, *Heather Trust (HT)*

Richard Campen, *Peak District National Park Authority (PDNPA)*

Mark Jones, *English Wildfire Forum (EWF)*

This report provides a short summary of the questions posed to the policy panel, their responses, and subsequent discussion.

**1. What priority does wildfire currently have in your organisation and what single thing would do most to move to it up the policy agenda? For instance, loss of life, significant economic loss, extending FRS definition of ‘property’ to include open moorland with an asset based on costs of ecosystem services which would be lost.**

*Colin Legg, University of Edinburgh/ Julia McMorrow, University of Manchester*

*Trevor Johnson, SWF:* The level of response to wildfire varies dramatically between regional Fire and Rescue Services (FRS). In Scotland there is a significant wildfire risk in the majority of FRSs. They have been slow to adapt to more appropriate methods to fight wildfire and to act with partners to prevent wildfires. The Forum is trying to raise the profile of wildfire, which is a challenge as it isn't at the top of the Department of Communities and Local Government's agenda. A collective voice is emerging with fire groups and training. The FRS have started to train officers to fight moorland wildfires in Scotland. A mutual understanding is needed with rural funders.

*Mark Jones, EWF:* Wildfire has a low priority in England, for example, it does not even feature under on the Regional Risk Register in Essex. Flooding does because of

loss of lives and property. Wildfire needs to be treated more seriously. The priority changed slightly last year due to considerable timber and wheat losses. There is no emotional argument against wildfire in the UK. Business arguments won't win. It will take more destructive wildfire events to move the priority up the agenda, particularly incidences of loss of life caused by wildfire.

*Jon Stewart, NE:* Natural England do not have a policy about wildfire but it is an emerging issue. Natural England have a policy on climate change and there is interest and understanding that wildfire is an increasingly important issue with climate change. For the issue to develop there is a need to provide evidence of damage and costs. Also more evidence is needed of losses to ecosystem services.

*Malcolm Hay, HT:* We have been saying for years that fuel loads are dangerously high, but provincial approaches are the problem. It needs addressing at a national level. Satellite images show all fires on a national scale. Could they also show the fuel load build up? If we could provide evidence at this national scale it may help bring it up the agenda in national organisations.

*Penny Anderson, PAA:* Argued that there has been knowledge and evidence that wildfires damage the blanket peat for about 30 years – what other evidence is needed?

*Jon Stewart, NE:* Noted that a cross-sectorial approach is important. While we have an idea of the environmental damage caused by wildfire, it is very difficult to put an economic cost on the damage. The ideas are there but hard evidence is needed.

*Trevor Johnson, SWF:* Financial evidence would raise wildfires up the agenda, but needs a common stance and clear statements not an academics debate.

*Mark Jones, EWF:* It would help to be able to quantify the risk wildfire poses to ecosystem services, since the economic crisis may make FRS concern about damage to the environment decline, or even disappear off the radar, relative to risks to life and property.

*Malcolm Hay, HT:* The UK is charged with protecting its habitats. The UK will run foul of European laws if we don't protect the natural environment.

*Andy Elliott, Dorset CC:* Agreed with the last point. The partnership approach and EU-LIFE Urban Heaths Project in Dorset came about because they were threatened with costs from EU Government for not adequately protecting the habitat.

**2. Recently a panel of scientists and policy advisers identified wildfire risk as one of the 25 most important risks to biodiversity in this century in the UK. What policies are in place to mitigate or adapt to that risk? [and, what is the policy on wildfire prevention with climate change? ]**

*Aletta Bonn, Moors for the Future*

*Jon Stewart, NE:* There is no specific policy for wildfires. Fires are included in normal biodiversity action plans. Wildfires are not very prominent in these BAP plans, for instance for blanket bog. Thus, there is a need to get wildfires as a key issue on the agenda of groups implementing Biodiversity action plans.

*Richard Campen, PDNPA:* The PDNPA does not have a specific policy. It is an important priority because PDNPA are trying to protect assets, and there is investment in the ecosystem services debate and what role the NPA play. The National Park management action plan is to 2010. There is an opportunity for partners to contribute to priorities and raise public awareness. Partnership working and facilitation is important because the PDNPA do not own much of the land.

**3. What conflicts does the panel foresee between the management of wildfire risk and land management, for example with management for carbon, biodiversity or public access?**

*Julia McMorrow, University of Manchester*

*Richard Campen, PDNPA:* There are conflicts between ownership, visitors and others (e.g. heath education), and their expectations. There are so many different interests, it is difficult to make significant progress. There is a biodiversity focus for management, but carbon, soil and flood management are moving up the agenda.

*Julia McMorrow, UoM:* Would it make a difference if we were able to demonstrate that the moorland has an economic value, thereby helping the environment to be classed as 'property'?

*Malcolm Hay, HT:* The paradox is that without heather moor management we would have more wildfires. The amount of unmanaged moorlands is very worrying, especially vast tracks of semi-abandoned land with their higher fuel load and therefore higher risk of wildfire. On managed land, there are not as many conflicts.

*Mark Jones, EWF:* FRS do not have a policy for biodiversity. He agreed that it is the build up of fuel load that is worrying. If fire risk on land were treated in the same way as in a factory, the owner would be fined for neglect. That can't happen for land. In Florida, controlled burns are carried out by the authorities if the land owner fails to do them and the cost is charged to him. They value fire-dependent species and the concept of 'good fire' which bring benefits to land such as reducing fire load. The grouse is regarded as a 'fire-bird'.

*Rob Gazzard FC:* Wildfire has recently come on the Forestry Commission radar as a result of a conference where UKCIP scenarios were discussed. It has a planned adaptation policy for wildfire, anticipating climate change, rather than waiting for it to happen.

*Jon Stewart, NE:* Natural England have not explicitly brought wildfire into management plans, apart from one area. Some guidance is needed to formalise this, certainly in plans for uplands or other at-risk areas.

**4. *If prevention is better than cure, do we need more burning to decrease the number of fire threats and reduce fuel load?***

*Richard May, Moorland Association*

*Richard May, MA:* To elaborate on the question, the Moorland Association is prepared to take management actions such as burning fire breaks, but it is not permitted. They need a decision-maker to give them the go ahead.

*Malcolm Hay, HT:* totally agreed.

*Richard May, MA:* The five owners in the eastern moors of the PDNP are extremely worried about fire risk and would put in fire breaks in at no cost to the public. Management plans do not allow burning – someone needs to change this. Who should he go to?

*Trevor Johnston, SWF:* Agreed that they have the same issue in Scotland. Collective action was needed.

*Mark Jones, EWF:* Managed burns also fulfil a training function for firefighters. He would like to see more partnerships between land managers and FRS to implement this more widely.

*Penny Anderson, PAA:* Each moor has very different characteristics, such as its vegetation types, distance to towns, etc, and therefore each require a different risk assessment. We need to understand this spatial variability. What about producing some fire prevention guidelines e.g. measurements of width of fire breaks and widths for moorland, which could be added to the Natural England guide? Or a separate best practice guide on wildfire risk management similar to the restoration best practice guide which has just been made available? She is carrying out a project for the National Trust on GIS modelling of optimum location for new fire breaks in the upper moors of Derwentdale, i.e. how to manage moorland for reduced fire risk, which does not have to involve grouse.

*Steve Gibson, Northumberland FRS:* We can learn from our European colleagues. In Catalonia upland agriculture has collapsed allowing a build up of fuel load. They have identified critical areas requiring management.

*John Dold, UoM:* It's alarming that there could be catastrophic fires soon in the UK due to large areas of unmanaged moorland with a high fuel load. It will probably take a catastrophic fire to change policy. We need a national policy for managing fuel load. A 3m fire breaks does not necessarily stop a fire; embers can cross it and start spot fires. Evidence is needed to indicate how large fire breaks should be. It is also possible to mow and harvest fire breaks instead of burning.

*Chris Ruddy, Pennine Helicopters:* The time taken for land owners to call out helicopters is frustrating. Perhaps a carbon offset scheme run by a large company could be used to pay for the initial outlay of helicopter charges?

*Malcolm Hay, HT:* That is a good idea. Having farmed land reduces fire risk, but there is no incentive to manage unproductive land at present.

*Rob Gazzard, FC:* Forestry is a multiple value operation. i.e. managing for not just timber production, but also for social and aesthetic values. Having a well-managed landscape is very important as it reduces costs to the tax payer. Is the entry level HLS scheme appropriate or should there be a similar business approach to hill-farming?

*Jon Stewart, NE:* In theory it makes perfect sense to save public money where possible. In practice though, the management that is needed in semi-natural areas is carried out by people who can't themselves acquire the economic benefits. The major

economic value in the uplands is probably in water, carbon sequestration and tourism. A lot of the money from these activities is not available to those who actually manage the land, hence the argument for public subsidy. Entry-level schemes are there to provide environmental and social services. There will be exceptions such as a profitable grouse moor where public subsidy is not required, but subsidy is likely to be required across the uplands to overcome the disjunct between those who manage the land properly and those who benefit from this good management.

*Malcolm Hay, HT:* Where there is a fire on well managed grouse moors or deer forests, land managers provide all terrain vehicles (ATV) such as Argocats to help the FRS. In poorly managed areas, there are no such resources to help them. Perhaps there could be a scheme where farmers and land managers are given a subsidy for managing the land to reduce fire risk, or a practical incentive such as an ATV for every so many years of management on condition that they turn out to assist FRS? At the moment there is no such incentive. We are all going to regret this when the catastrophic fire that everyone predicts actually happens.

*Alasdair Hamilton, SAC:* In response to Chris Ruddy's point about carbon sequestration; for Bleaklow given the area of peat, a loss of 1m as in the Fylingdales fires and carbon trading price of £20 per tonne, it would only give £70,000.

*Chris Ruddy, Pennine Helicopters* This would still be a valuable way of funding rapid helicopter response.

*Sean Prendergast, PDNPA:* We should focus on the demonstrable factor that because helicopters were used we *didn't* lose that amount of carbon. Can we count the carbon *saved* from extinguishing wildfires as a carbon offset to fund management of future wildfire risk? One problem is that official carbon offset schemes for the UK are to be in developing countries.

*Aletta Bonn, MFF:* A Kyoto requirement is five years of data before you can join a carbon offsetting scheme. There is three years data on carbon budget for Bleaklow so far.

*Jon Stewart, NE:* We have looked at this in some detail, but have not yet been able to prove the case for one of the official carbon trading schemes. However, it could be an unofficial scheme sponsored by an airline or local companies.

*Kath Longden, PAA:* The water companies and Environment Agency could be approached about an ad hoc carbon trading scheme.

*Jon Stewart, NE:* Water companies such as United Utilities would require the evidence that restoration is delivering on carbon reduction to justify investment to Ofwat.

*Penny Anderson, PAA:* But for wildfire the evidence of short term damage to water quality is obvious from peat erosion of fire scars. It's in their interest to stop the fire quickly before peat is exposed.

*Albert Simeoni, Univ Corte, Corsica:* In Corsica, the Total oil company pay for replanting of trees in a carbon sequestration programme.

**5. With an increasing amount of visitors to our moorlands and heathlands, and the elevated risk of fires this brings, what do the panel consider the best way to reduce or manage the risk of ignition?**

*Gareth Clay, Durham University*

*Trevor Johnson, SWF:* A collective prevention message is needed. The new Scottish legislation on open access is an opportunity. There is still some debate about using education and public information to reduce fire risk. Sociological research is needed on behaviour, and the impact of education on fire risk, and therefore how best this can be done. This would then allow us to move forward and use education to reduce risk of ignition. There is much that can be done using non-regulatory approaches to change people's behaviour.

*Malcolm Hay, HT:* The access issue is much less of a problem in Scotland compared to England where moorland areas are very close to cities. Policy-makers response to issues that might be created from opening access in Scotland is that we need to educate people more. The question is how. He suggested that fires are a result of ignorance rather than criminal activity, including people losing touch with the countryside.

*Mark Jones, EWF:* Noted that education is definitely needed, teaching people to be vigilant, diligent, and risk reducing behaviours. For example, in Australia you cannot buy disposable barbeques because they are seen as a fire risk. In England, the local FRS visits school children two to three times during their education. A joined-up policy is needed with smoking e.g. the smoking ban can help because there will be fewer lighters or matches. Wildfire will always be marginalised a policy group because when weather conditions get high enough to trigger more frequent access bans, these regular higher temperatures will also bring more serious problems such as respiratory disease which will over shadow it.

*Jon Stewart, NE:* Supports that education is the most important way of reducing risk. United Utilities and National Trust are providing classrooms to provide a connection to the moors. Wildfire can be part of that education process. There will always be some arsonists who will not respond to education campaigns. You also need rigorous enforcement, as in Dorset. It does produce a reduction in arson. Natural England has just brought a successful prosecution of three people in the Peak District who pleaded guilty to starting a fire. The key thing is collecting effective evidence.

*Richard Campen, PDNPA:* In Greece, it is believed that fires were started to gain planning permission, since land can be developed once it is burnt. Education is a high priority task for the PDNP as it is surrounded by a very large population. The National Park Authority is developing education services which are run in partnership, as Jon Stewart said for Longdendale with United Utilities. Yet direct face-to-face education campaigns are only reaching a small number of people, around 12,000 young people a year. There are other means for instance targeting school children and teachers. Sustaining the message of a campaign without people becoming saturated is a challenge. Fire events make people listen. The PDNPA is also trying to engage with communities to get them to take responsibility for their own local area.

*Penny Anderson, PAA:* Education campaigns in the Dorset case are much more focussed, with more money and targeting of specific users. We need that scale of activity to make a difference.

*Chris Ruddy, Pennine Helicopters:* Fires in the Peak District often start around trig points. Asked if there should be more effort to get the Police on board when we suspect someone may be about to set a fire?

*Jon Stewart, NE:* Noted that there is a strong argument for having a policing or ranger presence as this reduces risk of ignition. Perhaps people should be excluded at times of high fire risk when the threshold above which rangers can be present is exceeded?

*Sean Prendergast, PDNPA:* Commented that suspending access to moorland would not stop fires. In the PDNP it had not prevented fires. It could even have increased them. You cannot physically surround the moors and close them off. Even during the Foot and Mouth disease period people used the moors. People seem even more determined if they are closed. If anything it adds to the thrill. Progress can be made if the Police take on a targeted role focussing on the half a dozen suspected arsonists and analysing their pattern of activity. It will be interesting to see what impact the prosecution of the three 19-year old youths from Batley will have on the usual cluster of fires at the Crowden Valley and Strines this year. Such action will have a far bigger impact on fire risk.

*Aletta Bonn, MFF:* Could we study the example of national parks in Mediterranean countries and have a curfew at certain critical times of the day or in certain places instead of complete closure, to see if it achieved a reduction in fires? We also have to consider the huge economic impact of moorland closure to the tourism sector, as evidenced by Foot and Mouth Disease, which has to be offset against the gains of reduced fire risk.

*Sean Prendergast, PDNPA:* The records for the PDNP show that there was no significant difference in fire occurrence when access was suspended. Fires occurring away from the paths were still occurring, so it wasn't just that the public rights of way like the Pennine Way were still legally open. The Foot and Mouth year was an exceptionally bad fire year.

*Jon Stewart, NE:* Suspension of access, alone is unlikely to be successful. It needs to be combined with other measures such as warden presence and enforcement.

*Richard May:* In the PDNP grouse moors investment in fire kit and experience is very significant. Keepers can call up help from each other and will work 24/7 to fight a fire. The Bleaklow 2003 fire did not start on a managed grouse moor so that resource wasn't available.

*Alasdair Hamilton, SAC:* Commented that in Australia, rangers have policing powers and can issue on-the-spot penalty notices. If the person cannot offer ID, the Police are called. They were reluctant to take it on but have found that it works.

*Malcolm Hay, HT:* The policing idea has never worked in Scotland in the countryside. They don't have the time or the inclination because they are not trained and are too busy with urban incidents. It is better to use wardens or gamekeepers. In Tayside, a pilot scheme has created special police constables to deal with it instead.

*John Dold, UoM:* Can we really expect education to be highly effective if wildfire is not high on the public agenda, if it's not yet perceived as a problem?

*Sean Prendergast, PDNPA:* There is a need to target the very young. The vast majority of visitors to the PDNP come because they value the environment so they are a willing audience that we need to target. It is pointless to waste money trying to educate those people that do not use the Park.