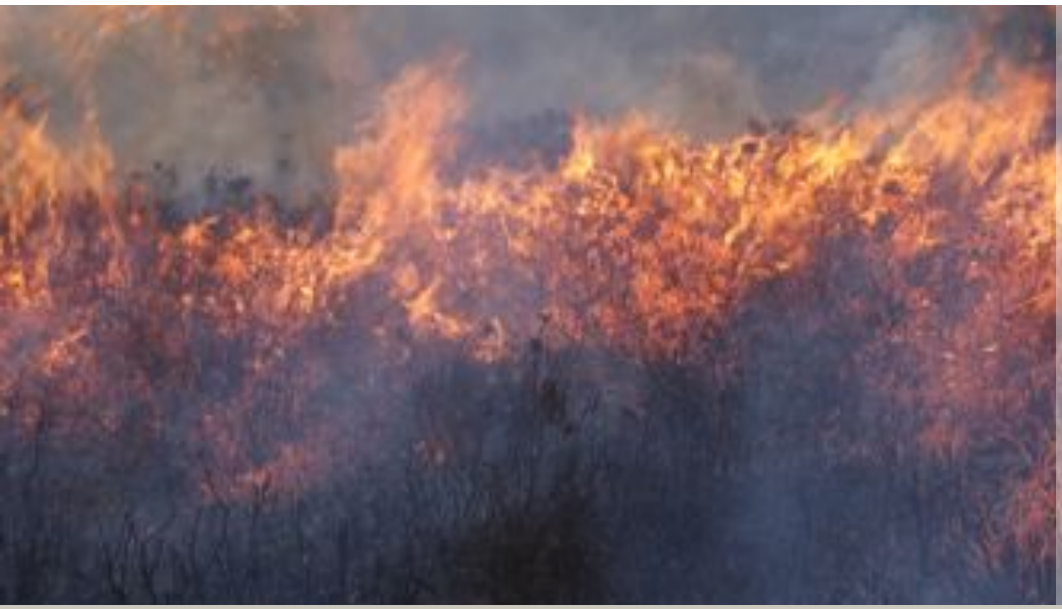
THE HEATHER TRUST

Promoting Integrated Moorland Management



Heather Management

The Heather Trust believes that burning is a vital management tool, and in many areas it is the only practical, cost effective means of managing heather. However, several moors now also include some degree of cutting in their management plans, and these properties demonstrate what can be achieved by employing the "best of both worlds". Some go one step further and manage their heather using cutting alone, and the results from this work have been surprisingly encouraging.

This summary explores some of the many areas of progress made in recent years to demonstrate the value of an integrated approach to heather management, placing an equal value on cutting and burning. It is impossible to design a "one-size-fits-all" management plan to suit all moorland, and the purpose of this Members' Briefing is to highlight some areas which have become a focus for the Trust's ongoing review of heather management.

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Comparing Cutting & Burning

Feature	Burning	Cutting
Regeneration	Burning produces fast-growing, high quality heather-dominated regeneration from all age classes of heather.	Cutting produces slower-growing and less nutritious regeneration and is most suitable for use on young to middle-aged heather.
Terrain	Burning allows management to take place on inaccessible ground where machinery would be impractical.	Cutting is limited to accessible ground only, although modern lightweight machinery is better able to access bad ground.
Speed	Burning is normally a faster process than cutting, allowing more heather to be managed in a short time period.	Cutting is often a slower process.
Weather	Burning can only take place on days when the weather and the conditions of the heather allow burning to take place safely.	Cutting has no dependency on favourable weather.
Nutrient release	Burning provides seedlings with fertiliser in the form of readily absorbed ash.	As cut stick rots it will leak some nutrients back into the ground, but this will happen more slowly than with burning and not at all where the brash from cutting is removed.
Economics	Managing remote moorland on a sufficiently large scale can only be achieved by burning.	In some situations, cutting may be considerably cheaper and more practical than burning, but only where access and machinery are compatible.
Safety and wildfire	Burning is very safe, but there is always the risk of damage being caused by a fire getting out of control.	Cutting is totally safe and straightforward around houses, forests, watercourses and public access areas.

Why Burn?

The Heather Trust believes that burning is the best way to manage heather to ensure vigorous regeneration with the highest nutritional value.

Burning can also be flexible enough to perform a range of functions beyond large and small fires, and some proponents of burning have made considerable progress in bringing the practice "up to date".

Different approaches to burning

Cool Fires

So-called "cool fires" leave plenty of heather stick and often have no impact on the under layer of moss and lichen.

A cool fire in younger heather will leave the roots undamaged and encourage heather regeneration from the rootstock. This regeneration is protected from grazing to some extent by the prickly nature of the burnt stalks.

One of the disadvantages of cool fires is that they may not act as a firebreak during subsequent management. In addition, older heather does not respond well to cool fires, since at this age the heather does not regenerate from the rootstock and excessive left-over litter inhibits growth from seed.

Ignition patterns

The most common form of burning uses a head fire. Here the fire is managed to burn with the wind and is stopped at a firebreak.

Back burning (i.e. burning into the wind) is a much slower means of managing heather, but it can be a useful technique for producing firebreaks to stop a head fire. In addition, more heat is generated by a back burnt fire, meaning that less litter is left over afterwards.

It is possible to light fires in a range of different configurations, including a circular form which draws the flames into its centre and burns itself out like a small bonfire.

More complex ignition patterns are a particular area of interest for the Heather Trust and will become the focus of future research.

Combining Cutting with Burning

There are many advantages to be had from combining cutting with burning, and cutting machinery is commonly used to complement existing fire equipment.

Firebreaks

Cutting can reinforce an existing path, dyke or stream as a firebreak to provide better control over a fire.

Cut areas can work well as firebreaks provided that the fire is lit within a few hours of cutting. If the litter has a chance to dry out, it will not stop a fire and may persistently reignite after being put out.

Having cutting machinery on hand during burning can be very helpful to reinforce firebreaks, and simply driving over older cuts can bring water to the surface to moisten fallen litter so that it does not burn.

Linking Fires

Cutting can be used to run linking passageways between fires so that grouse and young birds can move between areas on foot without encountering the many risks associated with thick, wet and possibly tick-infested undergrowth.

Passages between fires also present excellent opportunities for snaring foxes, assisting with the drive to control predators.

Where there is no predator control, linking fires or larger cuts with passageways can channel the attention of ground predators and have a negative effect overall.

Cutting as a Management Tool

Moorland management is dynamic and progressive, and while burning is widely recognised as the primary means of managing heather, good regeneration can be had from cut heather.

There are several reasons why cutting has recently gained more popularity.

Weather

In recent years, the changing climate has led to increased rainfall, which has a direct knock-on effect on heather management.

Burning is not an option in wet or damp conditions, and a wetter climate has made it more difficult in some areas to manage enough heather each year by burning alone.

Legislation & regulation

Concerns about damage caused by burning to peat, its hydrology and increasing amounts of erosion have led several government agencies, utility suppliers and NGOs to discourage the practice.

Many believe that cutting causes less damage to the environment than burning, and it is frequently put forward as a ready alternative.

Changes in land use

Over the past century, enormous areas of the uplands have been afforested with commercial woodland. Concerns about wildfire and a risk to forestry make burning a less appealing option.

Economics

Attempts to burn heather are often hampered by a lack of skilled labour, and this is associated with changing land use and rural economies.

Burning calls for long man-hours. A shortage of manpower in the uplands is also leading to an increased dependence upon specialised, costly safety equipment like fire foggers. This kit can make burning safer and more flexible, and investing in new technology can present a number of new possibilities.

Developments in Cutting

New Machinery

New machines allow heather to be “mulched” rather than simply cut, and the resulting litter can provide an excellent seedbed for subsequent regeneration from seed.

Small mulchers can be pulled by low ground pressure machines such as quad bikes and argocats, making them useful on broken ground or amongst boulders where fire would be risky and heavy machinery would be damaged.

Moorland-scale Cutting

Cutting on a moorland-scale distributes management evenly across an entire moor in a series of long single or double passes.

Single passes are often insufficient to create a firebreak, but they do create a number of possible fires which can be reinforced by additional cutting on the day. This means that when conditions are suitable for burning, a huge number of fires are pre-prepared and “ready to go”.

Large scale cutting can be extremely unattractive, and although aesthetics are less of a concern for the moorland manager, ugly geometric patterns can be controversial in the eyes of others. Thin, single passes tend to be much less controversial than wide tracks, which can appear industrial.

Micromanagement

Specific brood rearing habitats can be designed to foil raptor predation as well as allow young birds to forage and grow in safety.

These include “radiator” cuts through long heather to allow birds to forage for insects, as well as “laybys” which allow chicks and young birds to dry out after wet weather.

Several of these new techniques have been found to give ground nesting birds a real advantage, and the possibilities are limitless. Notably, many have no burning equivalent.

Specialised Habitat Management

Cutting is flexible enough to allow moorland managers to operate in sensitive areas, and this can make a real difference to some species.

Black Grouse

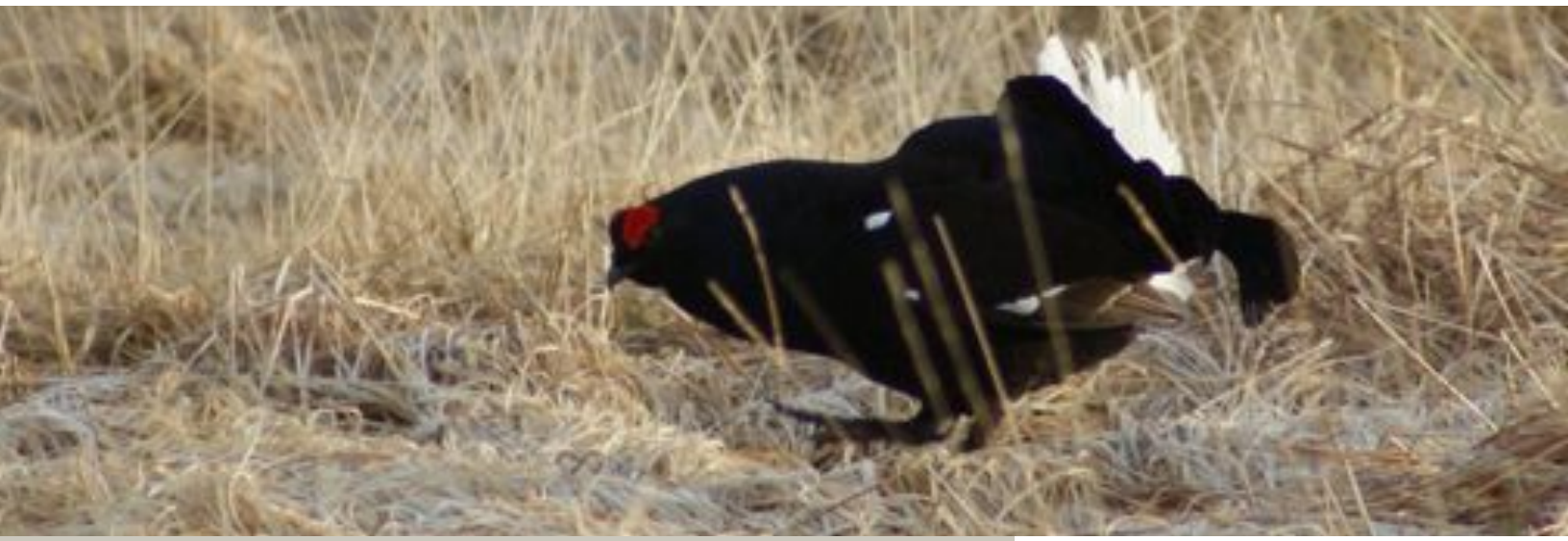
Attempts to build black grouse habitat into commercial forestry operations mean that traditional management by burning or grazing becomes impossible because of a risk to the trees. Cutting can be used to rotate ground which might otherwise be deemed unmanageable, catering for the black grouse's preference for wooded and woodland fringe habitats.

Capercaillie

Cutting heather is a standard management technique around sensitive ancient pine forests. However, RSPB studies demonstrate the value of fires put in and around capercaillie habitat, not only to produce valuable young heather and blaeberry plants, but also to encourage pine seedlings and forest expansion.

Waders

Large grid-work passages have been cut into heather mixes on moors in Coverdale and Wensleydale, creating fantastic breeding habitat for curlew.



The Heather Trust has been exploring the changing face of heather management for the past two years and we have uncovered a vast amount of information.

We are continuing to explore several themes discussed in this document in more detail, particularly relating to issues where cutting and burning complement one another to optimise habitat management. We will publish further Members' Briefings in due course.

We would be very pleased to hear from moorland managers who wish to share information relating to their management of heather.

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This is one of a series of guides put together by the Heather Trust to provide an overview on a range of topics that are relevant to people with an interest in the management of moorland.

Free for download from the Heather Trust website

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