

The Heather and Grass Burning Code

2007 version

NATURAL
ENGLAND


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Department for Environment
Food and Rural Affairs



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1. Controlled burning is used particularly on moorland and heathland. It is used by game shooting estates to create patchworks of different-aged heather on which grouse thrive. Farmers use it to improve grazing. It is also used in conservation management, scrub and reedbed management, and in controlling vegetation to reduce risks posed by wildfires.
2. Fire has been used by land managers for many thousands of years. When used with skill and understanding, it can benefit agriculture, game birds and wildlife. But if it is used irresponsibly it creates risks for people, property and the environment.
3. The Heather and Grass Burning Code is a voluntary code. It outlines good practice on planning where to burn, and how to burn safely and responsibly. Section 3 of the Code summarises the main laws which apply to burning.
4. The Code will be supplemented by more detailed guidance notes which will be available on Natural England's website at www.naturalengland.org.uk/planning/farming-wildlife/burning. The guidance notes will be developed over time, giving specialist advice on particular aspects of burning or burning on specific habitat types.

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5. The Code was produced in close consultation with many organisations. Defra and Natural England would particularly like to thank the following for their advice and expertise:

- Association of National Parks Authorities
- Country Land and Business Association
- English Heritage
- Environment Agency
- Fire Service
- Forestry Commission
- Game Conservancy Trust
- Heather Trust
- Moorland Association
- National Farmers Union
- National Gamekeepers Organisation
- National Sheep Association
- National Trust
- Royal Society for the Protection of Birds

Section 1: Planning where and how to burn

6. This section explains what you should do before you burn. It covers:

- burning plans;
- where to burn and where not to burn;
- planning how to burn;
- equipment, skills, and training; and
- communicating with others.

Burning plans

7. Burning should be carried out in accordance with a written burning plan. Plans should cover all relevant issues raised by the Code. A guidance note on producing burning plans can be found at www.naturalengland.org.uk/planning/farming-wildlife/burning.

8. In cases where a burning plan has been agreed with Natural England (e.g. as part of a management agreement) the plan will take precedence over the Code if there is any inconsistency.

Where to burn and where not to burn

9. It will often be easy to identify land which should be included in a burning rotation because it will probably already have been burned as part of a rotation in the past. Generally, these areas should continue to be burned in line with the Code, unless (i) they are *sensitive areas*; or (ii) if burning would be unlawful; in which case you should follow the advice below.

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10. There should be a strong presumption against burning *sensitive areas*. Doing so may permanently damage the environmental interest of the land and may be unlawful. In special circumstances, the advantages of burning on sensitive areas may outweigh the disadvantages. If you feel a sensitive area on your land falls into this category, you may wish to contact Natural England for advice.

Sensitive areas

- **Woodland, woodland edges and scrub** (not including gorse and broom). These areas should not be burned, except by experienced burners as part of woodland/scrub management to benefit woodland wildlife. Fires should not be allowed to spread into stands of mature trees (even when sparsely stocked), or into recently replanted or naturally regenerating areas of native trees or shrubs.
- **Peat bog and wet heathland**. These areas (including blanket bogs, raised bogs, valley bogs or mires, springs and flushes) should not be burned other than in line with a management plan agreed with Natural England. Such plans are likely to involve careful burning on long rotations, with cool burns leaving large amounts of "stick" and not damaging the moss layer.
- **Areas where there is soil erosion**, including peat hags and other areas with exposed peat, including erosion gullies.
- Areas where the **soil is very thin** – i.e. less than 5 cm (2 in) of soil over underlying rock.

Sensitive areas (*continued*)

- **Steep hillsides and gullies** – i.e. slopes steeper than 1 in 2 (or 1 in 3 on blanket mire or wet heath).
- **Mountain habitats** above the natural tree-line (usually around 600 metres above sea level).
- Areas with **heavily grazed vegetation**, especially on heathland.
- Areas **within 5 metres of watercourses**. There can be an increased risk of soil erosion close to watercourses (e.g. once vegetation has been removed by burning, soil could be washed into a watercourse by rainwater, or the watercourse might flow with sufficient force that its banks could be eroded). Plan management activities to minimise this risk.
- **Summits, ridges and other areas which are particularly exposed to the wind** (or salt-spray) with severely wind-pruned vegetation, mostly forming a prostrate and sometimes sparse mat less than 10 cm thick.
- Areas of **late mature/degenerate heather** (and other vegetation with a noticeably uneven small-scale structure) which have not been burned for many decades and which are likely to be particularly rich in plants and insects.

11. In addition to the *sensitive areas*, particular care should be taken when burning:

- **Anywhere in a Site of Special Scientific Interest.** Where burning has been notified as an “operation likely

to damage” burning may only be conducted in line with a consent issued by Natural England.

- **Areas where bracken is present.** Burning by itself can lead to bracken spread, although it can be used as part of a wider control programme (e.g. in conjunction with chemical control measures). Avoid burning within 15 metres of bracken-dominated areas unless the burning is part of a control programme.
- **Lowland, coastal and maritime heathland.** Great care should be taken to avoid damage to fire-sensitive species and their habitats (e.g. lizards and snakes).
- **Areas with archaeological remains.** You should avoid damage to features of archaeological or historical interest. Scheduled Monuments are protected by law.

12. In some cases it would be unlawful to burn. For instance, you are only allowed to burn in the burning season (see paragraph 23), and you may only burn if you have a legal right to do so. Also, regardless of the burning season, you must not burn if it would:

- Pose significant risk to people or property.
- Disturb or destroy wild birds, their nests, or protected animals or plants. Be particularly careful if burning late in the season, when birds and other animals may be breeding. Contact Natural England if you are in any doubt.
- Breach rules which protect soil from burning-related exposure and erosion.

13. Laws relating to burning are summarised in Section 3.

Planning how to burn

14. Once you have decided what land is to be burned, you can work out your burning programme and rotations. Rotations should be flexible because they will depend on variable factors. For instance, you may know roughly how fast vegetation grows on different parts of your land, but actual growth will depend on factors such as weather and grazing pressure. Also, management objectives may change over time. The following general advice applies:

On heather moorland and heathland

- As a rule of thumb, you should base rotations on how fast vegetation grows. For instance, if you choose to burn when heather reaches 30 cm (12 in), and you estimate it will take around 20 years for plants to reach this height, you should have a 20-year rotation, with an average of 1/20th of the area being burnt each year.
- Aim only to burn areas with a 50% or greater cover of heather.
- On deep peat (i.e. more than 50 cm/20 in deep) aim to burn on long rotations of 15-25 years. If heather growth rates are unusually fast, more frequent burning may be appropriate. In such cases, try to keep rotations at 12 years or longer. Avoid rotations of less than 10 years.

On heather moorland and heathland (*continued*)

- Different areas of your land may suit different rotations – e.g. if growth rates, vegetation types or management objectives vary.
- As a general guide, aim to burn dry heath when heather is about 30 cm (12 in) tall.
- Allow some patches of heather (and other heathland vegetation) to grow to over 40 cm (16 in) to increase structural diversity and provide havens for wildlife. Aim for such areas to cover 10% or more of your land.

On grassland

- Only burn grassland and grass moorland if dead plant material is widespread as a result of under-use by grazing stock. Ideally, increase summer grazing intensity as an alternative to burning (being careful to avoid overgrazing). If dense vegetation becomes a persistent problem, try burning small areas over a longer rotation (but no more frequently than once every 5 years) and encourage better use of the new growth.

Gorse and broom scrub

- Avoid burning gorse or broom scrub more frequently than once every five years.

Cutting, swiping and baling

- Consider cutting or swiping (i.e. with a flail mounted on a tractor) as an alternative to burning (i) if the ground is not too rocky, wet or inaccessible for safe use; and (ii) where vegetation, soil and archaeological/historic features will not be unduly damaged by machinery. Cutting and swiping is much less hampered by the weather.
- Cutting and swiping are not subject to the burning season. Neither is baling heather. But these practices are subject to Part 1 of the Wildlife and Countryside Act (see paragraph 28).
- If using swiping to make firebreaks or instead of burning, avoid creating regular shapes with straight edges. On grouse moors, avoiding regular shapes increases the amount of “edge” between short and tall heather/heath, which is desirable. Regular shapes can also have negative effects on the character of the landscape.

Equipment and training

15. Always ensure you have equipped staff with the knowledge and tools to burn safely; and that you have an emergency plan to minimise risks if something goes wrong. The following general advice applies:

- Ensure you have sufficient **fire control equipment** (e.g. beaters and fire dampening equipment). Equipment should be safe and effective. You should have spares or alternatives to cope with breakage and changing conditions.

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- Ensure all workers are trained in the **use of equipment and safe procedures**. At least one member of any team, preferably the person supervising the burn, should be experienced in predicting flame length, fire intensity, rate of spread and other aspects of fire behaviour, and have broad experience of fire control techniques.
- Ensure that **personal safety equipment** is available for all workers – e.g. the most effective available fire-retardant overalls and gloves (although burners should keep a heat sensitive part of the body, such as hands, exposed as a vital indicator of danger).
- **Face visors and masks** are effective in protecting the face from heat. But they can put eyes at risk because updraughts can cause sparks to be sucked up between the visor and the face. So where sparks are likely, only ever use visors or masks if protective goggles are also worn.
- Ensure that a suitable **first aid** kit is easily accessible to all workers. At least one of the team should be trained in the prevention of burns, dehydration and heat exhaustion, and in first aid treatment should they occur.
- Always have an **emergency plan** covering how to minimise the effects of injury and other emergencies, including how to summon back-up help quickly. Ensure that all workers are familiar with the plan.

Communicating and cooperating with others

16. To reduce risks and inconvenience to others, you should:
- Consult your local **Fire Service** well in advance of the burning season on whether, and if so how, they want to be informed of when and where burning is likely to take place.
 - Consult **neighbouring land managers and commoners** if they might be affected by smoke or fire from your burning. They may wish to be informed prior to burning, particularly if there is a potential risk to their land (e.g. as may be the case when burning close to neighbouring woodland, scrub or stands of mature heather).
 - Ensure burners are equipped with a **means of contacting emergency services and neighbours quickly** if something goes wrong. For instance, they should have mobile phones (and radios if they work where phones do not) and a list of relevant contact numbers.
 - Consider joining or creating a **fire protection group**. These groups already exist in some areas, helping local land managers coordinate mutual assistance if fires get out of control, and sharing resources to help with burning. They can also perform a useful role in training and sharing experience.

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- On **common land**, consult commoners and the local Commoners' Association if there is one. Commoners proposing to burn should consult owners and other land managers.

Section 2: Burning safely and responsibly

17. This section gives guidance on how to burn in a safe and professional manner. It has sub-sections on:

- only burning when conditions are right;
- minimising risks to burners and other people;
- conducting safe, controlled burns; and
- the size and shape of burns.

Only burn when conditions are right

18. The following general advice applies:

- **Do not burn when conditions are too dry** (e.g. when the moss and plant litter on the ground surface has dried out), particularly on peaty soils. The moss and litter layer helps to protect the soil and plant roots and should not be burned.
- **Do not burn if the weather is unsuitable** for safe and controlled burning. Obtain weather forecasts as close to the time of burning as possible.
- If you are unsure about conditions, consider lighting a **small test fire** to help you decide whether to proceed with burning.
- Ideally, **burn in a steady breeze of about 8 to 12 miles per hour (Force 3)**. Such a breeze would move

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leaves and small twigs on trees constantly, but would not blow dust or paper about or move small branches of trees.

- **Do not burn in strong winds.** As a rule of thumb, try to avoid burning in winds over 15 miles per hour (Force 4 or above). At this speed, strong, taller heather stems thrash about continuously and even the shorter, more sheltered heather stems are in continuous motion. Dust and loose paper would be raised by the wind.
- **Avoid burning when there is no wind, or in particularly gusty winds.** Burning on still days increases the risk of hot, slow burns which can damage plant roots and soil. Gusty winds are unpredictable and can be dangerous. Be aware of potential changes in wind direction.
- Remember that **fire creates its own draught** that may affect its direction irrespective of the wind.

Minimise risks to people and wildlife

19. The following advice applies:

- **Burning with three or more workers is usually safest.** It can be safe for experienced burners to burn alone, but they should take particular care to ensure that back-up help is readily available. By law, there must be sufficient people and equipment to control burning during the entire period of the burn.

- Ensure workers are equipped with **sufficient tools to control burns, and first aid and emergency equipment** (in line with the section on “equipment and training” in paragraph 15 above).
- Ensure workers wear suitable protective clothing. All workers should have face masks, goggles and gloves with them. **But they should always keep a heat-sensitive part of the body exposed as a vital indicator of danger.**
- Beware of **dehydration and heat exhaustion (leading to heat stroke)**. Workers should drink cool fluids regularly so they do not reach the stage of having a dry or sticky mouth, by which time dehydration and heat exhaustion can already be advanced. Other symptoms of advanced heat exhaustion include headache, dizziness, nausea, muscle weakness or cramps.
- Beware of **particular risks** raised by local conditions. For instance, when burning Purple Moor-grass, embers can be lifted in the updraught and start new fires elsewhere.
- Do not burn if it is likely to **harm or disturb protected species**. Be particularly careful not to disturb wild birds and animals late in the burning season when they may be starting to breed – doing so is illegal.

Conduct safe, controlled burns

20. The following advice on how to conduct safe, controlled burns applies:

- **Do not burn unless you know how and where the fire will be extinguished.**
- **Conduct “quick, cool burns”.** Aim to remove the dwarf shrub canopy but leave behind a proportion of “stick”. Try not to damage the moss or litter layer or expose the bare soil surface. Always avoid burning the roots of plants because doing so will increase risk of soil exposure and erosion, and vegetation will take much longer to recover.
- Ensure there are sufficient **firebreaks**. The width of firebreaks should be at least two and a half times the expected flame length.
- **Fires must always be supervised.** Always have sufficient manpower available. The fire must be extinguished before supervision ceases with someone being responsible for a final check. All equipment and persons involved in the burning operation should be under control of one person.
- **Do not burn if the flames are likely to be too long.** This will depend on fuel load and weather conditions. If flames start to exceed 3 metres while you are burning, proceed with great caution – such fires can be difficult to control. They are also likely to be too hot, risking environmental damage.

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- **Burn with the wind.** Ideally the wind should be blowing downhill. If this is not possible burning on the level is the next-best option, and failing this on a gentle upward slope.
- **Only burn against the wind using great care.** Back-burning can be used to prepare fire-breaks and to clear the ground for re-seeding or tree planting. However, such fires move slowly and reduce the area that can be burned each day. They can produce hot burns, which can cause lasting damage to vegetation and increase the risk of soil exposure and erosion. On peat soils, use extreme caution when back-burning to minimise the risk of irreversible damage to the vegetation and combustion of the underlying peat.
- **Always protect sensitive areas by burning away from them or protecting them with fire breaks.** Burning close to sensitive areas should only be carried out with a gentle and constant wind, blowing away from the sensitive area.
- Aim to **extinguish fires before sunset** and always ensure they are properly extinguished by dusk. Start burning early.
- **Control the flanks** of a fire at the desired width leaving the fire front to spread in a predetermined direction. Consider having at least one flank defined by a natural or prepared firebreak.

Size and pattern of burns

21. The following general advice applies:

- Keep **burns small and well distributed** over the area.
- An active **fire front** should be about 5-10 metres per person, depending on conditions.
- On **heather moorland**, ideally aim to keep burns to a maximum width of 30 metres. Try never to allow the width to exceed 55 metres.
- When managing **heathland** for grazing or grouse, aim to keep individual burns to an area of less than 2 hectares.
- On **gorse and broom scrub** burns should not exceed 2 hectares. No more than one third of the gorse or scrub should be burnt in any one year.
- On **grassland, grass moorland, reedbeds and fens** burns should not exceed 5 hectares. Within individual parcels of such habitats, no more than one third of the area should be burnt in any one year.

22. This section summarises the legal requirements which apply to burning in England. Full details are in the relevant legislation.

The Heather and Grass Burning Regulations

23. *The Heather and Grass etc. Burning (England) Regulations 2007* apply to the burning of heather, grass, bracken, gorse and vaccinium (a range of shrub species including bilberry/blueberry). The Regulations provide that:

- **Burning may only take place in the burning season** (unless under licence from Natural England). In upland areas the season is 1 October to 15 April inclusive. On all other land it is 1 November to 31 March inclusive. "Upland areas" means land in the "Severely Disadvantaged Areas". You can view these areas free of charge using an interactive map at <http://www.magic.gov.uk>. If you are in doubt, you should consult Natural England.
- **Burning must be conducted safely.** Burns must be controlled for their entire duration. All reasonable precautions must be taken to prevent injury to people or damage to adjacent land and property. Burning must not start between sunset and sunrise.

24. The Regulations also prohibit various types of burning (unless under licence from Natural England) which may create a high risk of soil exposure and erosion. Each ban only takes effect over a threshold to avoid catching responsible burners and minor accidents.

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- **Single burns must not exceed 10 hectares in area.**
- In any burning season **you must not burn in a way that exposes a single area of more than 0.5 hectares of bare soil** (or two or more areas within 5 metres of each other with a combined area of more than 0.5 hectares of bare soil). This can happen particularly when hot/slow fires destroy all surface vegetation and plant litter, leaving soil directly exposed to rain and wind. An area of soil is “bare” for these purposes if no more than 2% of it is covered by vegetation or plant litter.
- In any burning season **you must not burn in a way that exposes an area of bare soil which extends more than 25 metres along the bank of a watercourse** and which is at least a metre wide at all points. (Again, soil is considered “bare” if no more than 2% of it is covered by vegetation or plant litter.)
- **Burns must not leave soil smouldering for more than 48 hours.** This may happen particularly when fires burn into peat, destroying the soil and raising a risk of secondary wildfires.
- In any burning season **you must not burn a single area of more than 0.5 hectares on slopes over 45 degrees** (or two or more areas on such slopes within 5 metres of each other with a combined area of more than 0.5 hectares).
- In any burning season **you must not burn a single area of more than 0.5 hectares where more than**

half of that area is covered by exposed rock or scree (or two or more areas of such land within 5 metres of each other with a combined area of more than 0.5 hectares).

25. Details of how to apply for a licence to burn outside the burning season or contrary to prohibitions above are available from Natural England (see www.naturalengland.org.uk/planning/farming-wildlife/burning).

26. There are slightly different rules for burning on railway land.

27. Any person who contravenes the *Heather and Grass etc. Burning (England) Regulations 2007* commits an offence and is liable to a fine of up to level 3 on the standard scale (which equates to £1,000 at the time of publication, though this figure is subject to change).

Other legislation

28. Various other laws also apply to burning. The main provisions are:

- It is unlawful to conduct any activity, including burning (or cutting or swiping) which disturbs or destroys wild birds, or other protected animals, plants and habitats. This applies regardless of the burning season. Burners should pay particular regard when burning from March onwards because, among other things, this law covers burning which disturbs protected birds while they are nest building, or at any time during nesting. [*Part 1 of*

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the Wildlife and Countryside Act 1981; and the Conservation (Natural Habitats, &c.) Regulations 1994]

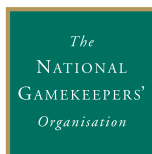
- It is unlawful to carry out burning on a Site of Special Scientific Interest (SSSI) without consent from Natural England if burning has been notified as an “operation likely to damage”. [*Section 28 of the Wildlife and Countryside Act 1981*]
- It is unlawful to burn in a way which damages a Scheduled Monument. [*Section 2 of the Ancient Monuments and Archaeological Areas Act 1979*]
- It is unlawful to burn in a way likely to cause injury, interruption or danger to road users. [*Section 161A of the Highways Act 1980*]
- All equipment must be fit for purpose. [*Regulation 4 of the Provision and Use of Work Equipment Regulations 1998*]
- It is unlawful for burning operations to endanger anyone, including the public. [*Sections 2 and 3 of the Health and Safety at Work etc. Act 1974; and the Management of Health and Safety at Work Regulations 1999*]
- It is unlawful to cause emission of smoke which is prejudicial to health or causes a nuisance. [*Section 79 of the Environmental Protection Act 1990*]

- It is unlawful to pollute “controlled waters” (e.g. through burning-related soil erosion). [*Section 85 of the Water Resources Act 1991*]

Cross compliance

29. Various aspects of law applying to burning form part of “cross compliance” requirements under the Single Payment Scheme. From January 2007 claimants for the new land based schemes under the new Rural Development Regulation (Pillar II) are also obliged to meet cross compliance requirements. These include adherence to the burning season and safety requirements of the Heather and Grass Burning Regulations, as well as aspects of other legislation such as that relating to SSSIs, Scheduled Monuments, and the protection of wild birds and habitats. Details can be found in the Cross Compliance Handbook for England (available through the Defra and Rural Payments Agency websites).

30. If you are a claimant and you, or someone acting on your behalf or under your control, fail to comply with any of the cross compliance requirements, payments that you receive may be reduced.



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