



The Heather and Grass Burning Code for Wales 2008

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This document can also be found on the Welsh Assembly Government website:
www.wales.gov.uk/countryside navigate to 'farming' or alternatively search for Heather and
Grass Burning on the site.

Introduction

Fire has been part of the natural ecology of upland and some lowland environments, particularly heathland, for many thousands of years. It occurs naturally as a result of lightning strikes and it is also one of the oldest land-management tools, used for agriculture, game management and, more recently, wildlife conservation management.

A range of semi-natural habitats are subject to managed burning including in particular moorland and heath, but also some mires and other wetlands (such as reedbeds), grasslands and scrub. Carefully planned, periodic, controlled burning can be beneficial for agriculture, game management, wildlife conservation and the wider environment. It can provide improved accessibility and better food value for grazing animals and produce a diversity of vegetation structure and composition suitable for a variety of wildlife and game including upland birds such as red grouse.

However, it is a powerful tool, which needs to be used with skill and understanding if it is not to do more harm than good. Ill-considered burning can be counter-productive: damaging valuable grazing, plants, animals, habitats and historic features; altering the physical structure, chemical composition and hydrology of the soil; affecting water quality and weakening the character of the landscape. In some circumstances burning may also be unsafe, damaging, or a waste of time and resources.

Complying with the Heather and Grass etc. Burning (Wales) Regulations 2008 (“the Burning Regulations”) and other legislation, and following the recommendations in this Code, will greatly reduce risks to those carrying out burning and to the general public, and will decrease the risk of damage to property, agricultural, forestry and game interests, and to wildlife and the wider environment.

The Code is split into two parts: Part 1 summarises the legal requirements under the revised Burning Regulations and other legislation; and Part 2 gives recommendations on good practice (including a brief summary of the legal requirements relevant to each recommendation). The Code does **not** provide all the information you need in order to carry out burning safely and effectively. Further detailed guidance is given in the ‘Best Practice Guide’. Training in understanding fire behaviour, modern safety requirements,

and new techniques for the control of fire is strongly recommended even for those with some experience. Sources of further information and training are listed in Annex 3.

The Code is a revision of the previous **Heather and Grass Burning Code** (MAFF, 1992, as slightly amended in 1994). This follows a review resulting in revisions to the previous Heather and Grass etc. Burning Regulations 1986 (as amended). The review involved a formal public consultation and ongoing stakeholder involvement.

Part 1: The Law relating to burning

The Burning Regulations

The Burning Regulations control the burning of heather, rough grass, bracken, gorse and *Vaccinium* (bilberry)¹. They do not apply to private gardens or allotment gardens.

The following controls apply throughout the year:

- the burning of heather, grass etc. must **not commence between sunset and sunrise**.
- **sufficient people and equipment** must be on hand at all times to control the burn.
- all reasonable **precautions** must be taken to prevent injury or damage to persons, animals and adjacent property; and
- at least 24 hours but not more than seven days **notice** of intent to burn must be given in writing to the owners or occupiers of the land concerned and persons in charge of adjacent land. This should include dates, time, place and extent of the burn;
- All proposed burns outside designated Sites of Special Scientific Interest (SSSIs) must have a valid **Burning Management Plan (BMP)**² which is available for inspection by Welsh Assembly Government officials on request;
- All proposed burns on SSSIs or other designated sites must also produce a BMP, however if one has been produced in agreement with the Countryside Council for Wales or other designating bodies, this may be used to comply with the code;
- Formal consent from Cadw may be required for burning on a Scheduled Ancient Monument.

¹ *Vaccinium spp.* Species known colloquially as bilberry, whortleberry, whinberry, blaeberry, blueberry, cranberry and cowberry.

² The Burning Management Plan is a standard form available from your local Department for Rural Affairs (DRA), Welsh Assembly Government office on which you should record information about your proposed burn.

Railway authorities are not subject to the notice requirements in the last point above when burning cut vegetation on railway land. In the case of uncut vegetation, instead of the requirement to notify persons in charge of adjacent land, the authorities must give notice of any proposed burning at least seven days and not more than 28 days before burning is to commence by publicising details in one or more local newspapers and by other suitable means.

Burning dates

The remaining controls relate to burning during specific times of the year.

Burning is allowed only between:

- **1 October - 31 March** in upland areas (defined as land in the Severely Disadvantaged Area of the Less Favoured Area³); and
- **1 November - 15 March** elsewhere.
- **At other times** under a licence that may be obtained only in very specific circumstances.

Licences

Applications for licences to burn in the restricted period must be made in writing to your local office of the Department for Rural Affairs (DRA), Welsh Assembly Government (WAG)⁴:

- at least 28 days before burning is to commence; and
- no more than 56 days before burning is to finish.

Applications must include the date(s), place, method and area of the proposed burning and sufficient information to show that it is necessary and expedient for the purposes of good land maintenance (or in the case of railway land for pest control). No later than the date of application,

³ An interactive map showing the SDA is available on the Welsh Assembly Government DRA website: www.wales.gov.uk/countryside (navigate to 'farming' to locate a copy of the LFA map for Wales).

⁴ Application forms are available from local Department for Rural Affairs (DRA) offices and the Welsh Assembly Government website: www.wales.gov.uk/countryside (navigate to 'farming' or alternatively search for Heather and Grass Burning on the site).

written notice of it and of the information it is required to contain must be given to owners or occupiers of the land concerned and to persons in charge of adjacent land⁵.

Recipients of the notice must be informed that they may make representations to the office of DRA dealing with the application within seven days of receipt of the notice. On common land, the notice must be prominently displayed on that land.

Special provisions again apply in respect of burning by railway authorities on railway land.

Fines

Any person who contravenes any provision of the Burning Regulations commits an offence under section 20(2) of the Hill Farming Act 1946. Such offenders may be liable to **a fine not exceeding £1,000**.

Offenders who receive Single Farm Payment may also be subject to penalties under cross compliance rules relating to Good Agricultural and Environmental Condition (GAEC).

The Wildlife and Countryside Act

There are special rules for Sites of Special Scientific Interest (SSSI) under the terms of the Wildlife and Countryside Act (1981) (as amended).

In relation to land that is an SSSI, **you must not:**

- carry out, cause or permit to be carried out, any Operation Likely to Damage (OLD) (formerly referred to as a 'potentially damaging operation') specified in the notice designating the land as an SSSI, unless you have obtained the consent of the Countryside Council for Wales (CCW); or the operation is covered by the terms of a management agreement, notice or scheme; or you have a reasonable excuse as provided for in the Act; and
- knowing that land is an SSSI, intentionally or recklessly destroy or damage any of the plants, animals, geological or other landscape features

⁵ Notices may either be given to a recipient personally or left at or posted to his last or usual place of abode or business. For companies, notices may be delivered or posted to the secretary or principal officer of the company's registered or principal office. Alternatively, notices may be given or posted to agents or local representatives responsible for the management or supervision of the land to which the notice relates.

which led to the land being designated as an SSSI, or intentionally or recklessly disturb any of those animals without a reasonable excuse. (This requirement can apply to actions that take place other than on the SSSI itself, but which have the above consequences).

Burning is normally listed as an Operation Likely to Damage and could destroy or damage the special features for which a site was designated.

Under the **Wildlife and Countryside Act (1981)** it is also illegal to intentionally kill, damage or destroy any protected bird species, their eggs or nest (while in use or being built). Furthermore, for specially protected species listed on Schedule 1 of the Act, it is an offence to intentionally or recklessly disturb birds while nest building or at or near a nest with eggs or young. A similar general requirement (protecting nests as well as birds, eggs and habitats) applies under the Birds Directive. Burning when birds are known to be nesting in an area could constitute deliberate or reckless disturbance.

Failure to comply with these provisions may result in **a fine not exceeding £2,500 and penalties under the Single Payment Scheme (SPS)**.

It is your responsibility to ensure that you have identified the location and extent of any SSSIs on your land/farm holding. You should have been notified of any such sites when they were scheduled or when you took possession of the land. If you are unsure, you should consult the Countryside Council for Wales. Details are given in Annex 2.

Scheduled Ancient Monuments

There are special rules for Scheduled Ancient Monuments (SAMs) under the terms of the **Ancient Monuments and Archaeological Areas Act 1979**. Unless you have been formally authorised by Cadw through the Scheduled Monument Consent procedure, you must not carry out any operations resulting in the demolition or destruction of, or any damage to, a Scheduled Ancient Monument.

In some circumstances burning can cause damage to Scheduled Ancient Monuments especially to above-ground features, but also, depending on the severity of fires, potentially other historic features including peat soil.

Consent from Cadw may be required to burn. Failure to comply with these provisions may result in **a fine not exceeding £5000 and also penalties under the SPS.**

It is your responsibility to ensure that you have identified the location and extent of all Scheduled Ancient Monuments on your land. You should have been notified of any such monuments when they were scheduled or when you took possession of the land. If you are unsure, you should consult Cadw or the Historic Environment Record held by your local archaeological trust. Details are given in Annex 2.

Other legal requirements

Requirements specifically related to burning are also included in other legislation.

All of the following are offences that could result in prosecution:

- it is unlawful to carry out burning on a Site of Special Scientific Interest (SSSI) without consent from the Countryside Council for Wales 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 Archeological 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

Burning is also subject to **cross compliance** controls under the Single Payment Scheme (SPS)⁶.

It is a requirement of Good Agricultural and Environmental Condition (GAEC) that the Burning Regulations are followed, and Statutory Management Requirement (SMR) ‘Conservation of fauna and flora’ that any consents from CCW relating to burning on SSSIs are adhered to.

GAEC includes the requirement for scheduled monument consent from Cadw before undertaking any works on a SAM. In some circumstances this may include burning, therefore advice from Cadw should be sought in advance.

Failure to comply with these provisions may result in a deduction to your Single Payment.

Cutting or swiping as a substitute for burning is not subject to the same statutory restricted periods as burning. However, a breach of SMR ‘Conservation of wild birds’ and an offence under Part 1 of the Wildlife and Countryside Act (1981) would be committed if cutting or swiping intentionally resulted in: the death or injury of wild birds or their nests; or the intentional or reckless disturbance of Schedule 1 birds while nest building or at or near a nest with eggs or young.

For this reason cutting or swiping should not be carried out during the nesting season or when ground-nesting birds are known to be present. The use of cutting machinery on a SSSI may also be an offence if the use of vehicles has been identified as an Operation Likely to Damage and consent for their use has not been given. Other legal obligations relating to the safe use of machinery will also apply. Damage to unimproved habitats by vehicle rutting may also breach the requirements of GAEC.

⁶ For further information see the Welsh Assembly Government website: www.wales.gov.uk/countryside (navigate to ‘farming’ to locate the information regarding Cross Compliance).

Part 2: Recommendations for burning semi-natural vegetation

The Burning Regulations relate to the burning of heather, rough grass, bracken, gorse and *Vaccinium* species. Other species and types of semi-natural vegetation are also burnt including other dwarf shrubs (e.g. bell heather), other scrub species, notably gorse, and wetlands including bogs, mires, fens and reedbeds etc. It is also good practice to follow this Code if burning other species and habitats.

1 Identify situations where burning should not be carried out ('no-burn' areas)

Some habitats and areas are by nature of the terrain, species composition or difficult growing conditions, vulnerable to damage from intensive management including burning. Such damage can result in exposure of bare peat, soil erosion, impacts upon water quality and flow, including increased water colouration and run-off, and changes in species composition and habitat structure.

For these reasons, **the presumption should be that the following sensitive habitats and areas should be included in no-burn areas** unless burning of them is part of an agreed restoration or other environmental management programme. Fuller definitions of these habitats and areas are given in Annex 1.

Sensitive habitats

- **Peat bog and wet heath** including raised, blanket and valley bogs and mires in upland and lowland situations.
- **Mountain habitats** in high altitude sites above the natural limit of woodland (the 'tree-line') (about 600m [or 2000 ft]) where growth is slow and the vegetation cover often patchy.

- **Maritime heaths** with short suppressed heath and other vegetation resulting from wind-pruning and salt spray (usually within 500 m of the coast and excluding other coastal heaths not subject to significant maritime influences).
- **Woodland and scrub** (except gorse and broom) except where burning is used by trained and experienced staff as part of woodland and scrub management to encourage native woodland and scrub expansion or to benefit woodland wildlife. Also areas with natural broad-leaved tree and shrub regeneration or immediately adjacent to broad-leaved woodland or scrub.

Other sensitive areas

- Stands of **old rank (mature and degenerate) heather**.
- **Steep slopes** of 1 in 2 or greater where there is a risk of erosion, or 1 in 3 on blanket mire and wet heath.
- **Scree and other rocky slopes**.
- Severely **wind-pruned vegetation**, mostly forming a prostrate and sometimes sparse mat less than 10 cm thick.
- Areas with **eroding or very shallow soils** (less than 5 cm deep).
- Ground with abundant and/or an almost continuous carpet of **bog-mosses (Sphagnum species), liverworts and/or lichens**.
- **Wet ground** including pools, wet hollows, springs and flushes.
- Peat hags and other areas with **exposed peat, and erosion gullies**.
- Within 10 metres of **watercourses**.
- Areas with vegetation, especially heath, severely **suppressed by livestock, deer or rabbit grazing**.
- Areas where '**fire-sensitive**' species of conservation interest are known to occur or other species are known to be vulnerable, e.g. bird of prey

nest sites. These include reptiles, in particular the nationally rare sand lizard and smooth snake; certain bryophytes, ferns, juniper, lichens, and invertebrates.

- **Archeological/historic sites and features.** Burning has been part of the traditional land management, especially in the uplands, and many historic features have survived and indeed benefited from the practice. However, burning can cause significant damage to stone features and upstanding masonry. It can leave soils vulnerable to erosion which, in turn exposes underlying archaeological deposits to damage. Many historic features of local and regional importance are not scheduled but are still important components in the historic landscape. Information on these sites is available from the Historic Environment Record held by the local Archaeological Trust. Their advice should be sought before burning.

As well as the above sensitive habitats and areas, great care should be taken when burning adjacent or close to the following:

- On or near **bracken stands**. Burning is generally of no benefit and can lead to bracken spread unless followed up by control;
- On or near **Sites of Special Scientific Interest (SSSI)**. Burning is usually listed as an Operation Likely to Damage (OLD). **By law** you must consult with the local office of the Countryside Council for Wales before carrying out, causing or permitting to be carried out, any operation likely to damage specified in the notice designating the land as an SSSI, unless you have obtained consent;
- On or near **Scheduled Ancient Monuments (SAM)**. **By law** you must obtain formal consent from Cadw before carrying out any operations likely to result in the demolition or destruction of, or any damage to, a Scheduled Ancient Monument;
- On **lowland and coastal heathland** where great care should be taken to avoid damage to fire-sensitive species and their habitats, most notably the nationally rare sand lizard and smooth snake.
- On sites where access for emergency vehicles is limited, especially where there is a previous history of burns escaping control.

2 The Burning Management Plan (BMP)

Burning should be carried out under a planned **long-term programme or burning plan**. The Burning Management Plan is available as a standard form from your local office of the Department for Rural Affairs (DRA), Welsh Assembly Government.

The burning plan will include:

- the identification of **no-burn areas** (see previous section);
- identification of **priority areas** for burning where burning will be beneficial (depending on the types of vegetation present and their condition);
- the **frequency** of burning (the rotation or return periods);
- the **amount** to be burnt each year or over the period of the plan;
- the **size and shape** of individual burns;
- the **dates and timing** of burning; where and when individual fires will take place; and
- **conditions** under which burning will take place; firebreaks and other fire control, suppression and safety equipment and procedures.

These issues are considered further below and in the subsequent recommendations.

Burning regimes and practices

The burning regime and practices and the issues listed above for consideration in burning plans will differ depending on the types of vegetation present and their condition. However, the following general guidance is recommended.

- Do not burn **in no-burn areas** (see previous recommendation).
- Determine the **length of rotation** based on a range of factors including management objectives, vegetation types and condition; and the growth

rate of the vegetation to be burnt (which will be affected by factors such as soil conditions, exposure, grazing pressure etc).

- Burn **dry heath** with heather and/or other dwarf shrubs (outside no-burn areas) when between 20 cm (8 in) and 30 cm (12 in) tall.
- Allow some patches of **heather and/or other heath** to grow to about 40 cm (16 in) or more to increase structural diversity.
- Determine the total **amount to be burnt each year** according to the rate of growth of the heather/heath i.e. if 20cm is obtained in ten years in favourable districts, then on average 1/10 of the total heath area in the burning rotation should be burnt each year; if in 20 years then 1/20 each year etc. This is provided each patch does not exceed 2ha and each patch is a minimum of 50 metres apart.
- Only burn **grassland and grass moorland** if dead herbage (litter)⁷ is obvious and widespread as a result of under-use by grazing stock during previous seasons. Ideally increase summer grazing intensity unless heath or bog restoration is the objective. If dense uneaten herbage is a persistent problem try burning a smaller area. This will lengthen the rotation, which should not be more frequent than 5 years, and encourage better use of the new growth⁸.
- Consider potential **impacts on fauna, especially reptiles and nesting birds**, when burning (or cutting), particularly in March. **By law** you may burn (except under licence) between **1 October - 31 March** in upland areas (defined as land in the Severely Disadvantaged Area of the Less Favoured Area) and between **1 November - 15 March** elsewhere. Consider stopping burning earlier in spring in areas known to be important for reptiles and when nesting birds are known to be present. **By law** it is illegal to intentionally kill, damage or destroy any protected bird species and their nest while in use or being built, and eggs.

⁷ Please see Burning Management Plan Technical Guidance Notes for advice regarding purple moor grass habitats.

⁸ Please see Burning Management Plan Technical Guidance Notes for advice regarding other habitats.

Furthermore, for specially protected (Schedule 1) species, it is an offence to intentionally or recklessly disturb birds while nest building or at or near a nest with eggs or young.

- Ensure that there are sufficient **firebreaks**. Firebreak width should be at least 2½ times the expected flame length.
- Consider **cutting or swiping** as an alternative to burning, but only where the ground is not too rocky, wet or inaccessible for safe use, and where the vegetation and soil will not be damaged by the machinery. Its use is much less hampered by the weather and there is no fire risk to neighbours' property. Where used, the general guidance relating to burning should be followed.
- If using swiping to create firebreaks, or as a substitute for burning, **avoid creating regular shapes or edges**. These fail to maximise the amount of 'edge' between short and tall heather/heath, which is one of the main reasons for burning, and can be visually obtrusive and weaken landscape character.
- Limit the area within your burn plan to suit **resources** of time, labour, equipment and funds.

3 Prepare thoroughly before any burning is undertaken

Plan and consult well in advance of the burning season including:

- **Consider joining or creating a local fire protection or similar group.** These exist in some areas, and provide a formal arrangement for landowners and managers to co-ordinate their resources and provide mutual assistance if fires escape control⁹.

⁹ Contact your Local Fire & Rescue Service for details.

- Seek further **information or training** (see Annex 3) particularly if you cannot predict flame length, fire intensity, rate of spread, and other aspects of fire behaviour, or are unsure about fire control techniques.
- **Consult and co-operate** with all those with an interest in the land including neighbours, especially woodland owners, to establish or confirm a burning programme for the year. On **common land**, consult commoners and the local Commoners' Association if there is one.
This is an opportunity to reduce costs and risks through co-operative use of labour and equipment, as well as giving due notice of intentions.
- On **Sites of Special Scientific Interest**, the Countryside Council for Wales should be informed. If burning is listed as an 'Operation Likely to Damage', **by law** you will need to obtain a consent.
- If a **Scheduled Ancient Monument** is present, you should seek advice from Cadw. By law, scheduled monument consent may be required on Scheduled Monuments.
- Identify any unscheduled features by consulting the Historic Environment Record held by the local Archaeological Trust. Seek their advice on any protection measures that may be appropriate.
- Ensure that your **local fire and rescue service** is notified of your intention to burn prior to carrying out the burn.
- Make sure you have an **emergency plan** and will have back-up help available and are contactable by radio or mobile phone on the day when burning is to be carried out.
- Ensure that all **equipment is fit for purpose**. **By law** this is a requirement of the Provision and Use of Work Equipment Regulations 1998 (S.I. 2306, Regs. 4 and 5). Ensure fire lighting and fire control equipment is the safest and most effective available.
- Make sure that there is both sufficient variety of **fire control equipment** (e.g. beaters of various types, high pressure "fogging")

sprays, etc.), and spares, to cope with changing conditions, breakage or equipment failure.

- Those carrying out the burning should be **trained** in the use of the equipment.
- All staff should be trained in **safe procedures** and should use **personal safety equipment** (e.g. face visors to BS2092/BSEN166, leather gloves and fire-retardant overalls). However, they **should always keep a heat-sensitive part of the body exposed** as a vital indicator of danger.
- Teams carrying out burning should have a **first aid kit** and at least one of the team should have had first aid training.
- Ensure that additional fire suppression assistance will be available when burning vegetation where there is much **purple moor-grass** ('blow grass' or 'flying bent'). Burning scraps of straw and dead leaves from this deciduous grass can be lifted in the updraught from the fire and can start new fires.

4 Undertake burning in a safe and professional manner

All burning must be undertaken in a safe and professional manner.

By law, sufficient people and equipment must be on hand at all times to control the burn and all reasonable **precautions** must be taken to prevent injury or damage to persons, animals and adjacent property. Follow the checklist in Annex 2 and:

- On the morning of the day of burning, or the previous evening, **inform adjoining landowners** by telephone of your burning plans for the day.
- On the morning of the day of burning, telephone your local **fire and rescue service** and provide details of the location (including Ordnance Survey map grid reference) and extent of intended burning. At the end of the day let them know when all fires have been extinguished.
- **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.

- **Do not burn when it is too dry**, that is, when the moss and plant litter on the ground surface has completely dried out.
- **Do not burn if the wind is too strong**, that is, at wind speeds greater than about 15 miles per hour or 6.7 m (22 feet) per second at eye level (a forecast wind speed of Force 4 or greater). When the wind is too strong, taller heather stems thrash about continuously and even the shorter, more sheltered heather stems are in continuous motion. Ideally choose a day with a steady gentle breeze of 8 to 12 miles per hour. Such a breeze would move leaves and small twigs constantly, but would not blow dust or paper about or move small branches of trees. Variable light winds, strong and gusty winds and still days are dangerous. **Always remember that fire creates its own draught that may affect its direction irrespective of the wind.** If conditions get worse, burning should be stopped immediately.
- **Do not burn if the flames are likely to be longer than 3 m** (approx 10 feet). Whether this occurs or not will depend on the combination of fuel load and weather conditions.
- Routine burning should be **with the wind**. Back-burning against the wind may be needed for preparing firebreaks and to clear the ground for re-seeding or tree-planting. A back-burnt fire moves slowly and burns hotter, helping prevent regeneration. Preferably the wind should be blowing downhill. If this proves impossible then the next attempt should be on the level and failing this on a gentle slope.
- The aim should be to have quick '**cool burns**' which remove the dwarf shrub canopy but leave behind a proportion of 'stick' and does not cause damage to the moss layer or expose the soil surface.
- Consider **timing of burning** during the day, avoiding starting too early when still damp, but not leaving it too late. **By law**, burning may not commence between sunset and sunrise. Fires should always be extinguished before the local 'lighting-up' time.
- Keep **burn size** small and burns well distributed over the area. The size and shape of individual burns may need to vary depending on habitats and objectives.

- On **grouse moors** do not allow the **width** of individual **heath** burns to exceed 55 m (approx 180 feet) and ideally 30 m (approx 100 feet).
- When managing **heath** primarily for **grazing**, burns should not normally exceed 2ha.
- On **gorse and broom scrub** burns should not exceed 0.5 ha and no more than one third should be burnt in any one year.
- On **other habitats**, notably grassland and grass moorland, but also reedbeds and fens, burns may need to be larger although ideally they should not exceed 5 ha for grass/gorse/bracken and within individual parcels no more than a third of the area should be burnt in any one year.
- **Control the flanks** of a fire at the desired width leaving the fire front to spread in a predetermined direction, with at least one flank defined by a natural or prepared firebreak.
- **Do not burn uphill** on steep slopes.
- Do not burn unless you know how, and where, the fire will be **extinguished**.
- Avoid back-fires, or only use with extreme caution, where there is **peat**, to reduce the risk of irreversible damage to the vegetation and underlying peat.
- Have **sufficient manpower** available. Never burn alone; burning with three or more workers is safest. An active fire front should be 5-10 metres per person depending on conditions.
- 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.
- Avoid creating **dark smoke** or allowing smoke emissions which are prejudicial to **health** or which are a **nuisance** - these are all **illegal**¹⁰.

¹⁰ Environmental Protection Act 1990 and Clean Air Act 1993.

Annex 1: Definitions/Glossary

Scheduled Ancient Monuments: Historic features with statutory protection under the *Ancient Monuments and Archaeological Areas Act 1979*.

Historic features: physical remains reflecting past human activity and identified on the Historic Environment Record held by the Welsh Archaeological Trusts.

“**watercourse**” means any natural or artificial channel through which water flows, whether some or all of the time, including rivers, streams, ditches, grips, drains, cuts, culverts, dykes and sluices, but excluding mains and other pipes.

Summary listing of ‘burning sensitive’ National Vegetation Community (NVC) vegetation types.

Disclaimer

The listing is not comprehensive because the NVC does not include all types of British semi-natural vegetation. Furthermore, sampled vegetation does not always conform well to the recognised NVC categories i.e. the sample may fall between 2 NVC types, or have an unrecognised sub-community.

Sensitive Communities

All woodland and scrub communities: NVC W1-22, 23 *pro parte*, 24-25.

Peat and blanket bogs: NVC M1-3, 17-20.

Mires & flushes etc: NVC M4-14, 21-24, 25 *pro parte*, 26-38.

Wet heaths: NVC H5, M15 & 16.

Rank or old heather: occurs in many NVC heathland types, e.g. H8, 10, 12 & 18 *pro parte*.

Scree & rocky outcrops: associated grassland communities, U18, 19 & 21. OV37

Montane grassland & heaths (NVC montane MG-types, U1-17, CG10-14; H12 *pro parte*, 13-22)

Maritime coastal heaths & grasslands (NVC H7, 8d, 11; MC1-12; all SD&SM)

Source: Rodwell, J.S. (ed.) (1991-2000). *British Plant Communities*, Volumes 1-5. Cambridge: Cambridge University Press.

Vegetation class	Definition/description
Montane heath	<p>Montane vegetation above the natural tree line (generally around 600 m). Grades into sub-montane heath (below), though generally separated by the replacement of <i>Pleurocarpus</i> or feather mosses (such as <i>Hypnum jutlandicum</i> and <i>Pleurozium schreberi</i>) by species such as woolly hair moss (<i>Racomitrium lanuginosum</i>) and <i>Polytrichum alpinum</i>. Stiff sedge (<i>Carex bigelowowii</i>), <i>Racomitrium</i> or 'bushy' lichens, notably <i>Cladonia arbuscula</i> and <i>C. impexa</i> typically form a significant component. Typical dwarf shrubs are Bilberry (<i>Vaccinium myrtillus</i>), Cowberry (<i>Vaccinium vitis-idaea</i>) and Crowberry (<i>Empetrum nigrum</i>), with Heather (<i>Calluna vulgaris</i>), Bell Heather (<i>Erica cinerea</i>) and Cross-leaved Heath (<i>Erica tetralix</i>) generally absent. Includes grassland without dwarf shrubs over the altitude limit (600 m), but excludes blanket bog (on deep peat) over 600 m. Typically NVC communities U10 and H19 (plus some others more localised, e.g. U7, H13), largely restricted to northern England (outside Scotland), especially Lake District, Cheviots and Northern Pennines and locally elsewhere (e.g. Snowdonia).</p>
Western heath	<p>Sub-montane moorland and heathland with $\geq 25\%$ cover of dwarf shrubs (i.e. <i>Ericaceous spp.</i>, in particular Heather, Bell Heather, Cross-leaved Heath and Bilberry, and Western Gorse (<i>Ulex gallii</i>) (but not Common Gorse (<i>Ulex europaeus</i>)), but differing from 'Heather heath' and 'wet heath' (below) in presence of generally frequent Western Gorse and/or, in the SW and S Wales, Bristle Bent (<i>Agrostis curtisii</i>). As with other heaths, usually extensive, with irregular boundaries usually with acid grassland/mires. NVC communities H4 and H8 (grades to H12 etc. <i>Calluna heath</i> and U3 <i>Agrostis curtisii</i> and other acid grasslands). H4 ('South-western Heath') restricted to SW England and south Wales coastal fringe (following distribution of Bristle Bent except in Dorset/Hampshire where replaced by H3). H8 more widespread, especially in SW, Wales and Welsh Borders and locally elsewhere (e.g. Peak District) (following more widespread western distribution of Western Gorse).</p>

<p>Heather heath</p>	<p>Sub-montane moorland and heathland with $\geq 25\%$ cover of dwarf shrubs (in particular Heather) but differing from 'Western heath' (above) in absence or low frequency of Western Gorse and Bristle Bent and from Wet Heath by absence or low frequency of Bog-mosses (<i>Sphagnum spp.</i>). Typically NVC communities H9 (<i>Calluna-Deschampsia flexuosa</i>; especially southern Pennines and North York Moors), H10 (<i>Calluna-Erica cinerea</i>; western), H12 (<i>Calluna-Vaccinium myrtillus</i>; widespread), H18 (<i>Vaccinium myrtillus-Deschampsia flexuosa</i>; western) and H21 (<i>Calluna-Vaccinium myrtillus-Sphagnum capillifolium</i>; Lake District).</p>
<p>Wet heath</p>	<p>Sub-montane moorland and heathland with $\geq 25\%$ cover of dwarf shrubs (in particular Heather and especially Cross-leaved Heath) in wet situations where peat depth does not exceed 0.5 m. Bryophytes, including Bog-mosses generally abundant, though may be scarce or even absent in degraded stands. Purple Moor-grass (<i>Molinia caerulea</i>), Heath Rush (<i>Juncus squarrosus</i>) and Deergrass (<i>Trichophorum cespitosum</i>) may be frequent or abundant, but differs from blanket bog (below) in absence of frequent Hare's-tail Cotton-grass (<i>Eriophorum vaginatum</i>) and location on shallow peat. Typically NVC communities M15 (western), M16 (widespread, especially southern, particularly at lower altitudes) and M25 (western, especially Wales and the SW).</p>
<p>Blanket bog</p>	<p>Any vegetation on blanket or upland raised peat deeper than 0.5m. Typically dominated by ombrogenous mire vegetation composed of a mix of Hare's-tail Cotton-grass, Deergrass, Purple moor-grass, bog-mosses and dwarf shrubs (NVC communities M17, M18, M19, M20, M25). May resemble dry heath or, in degraded forms, lack dwarf shrubs and bog-mosses (e.g. NVC communities H9, H12, H18 and U6). Grades into wet and dry heath and valley mire. Most occurs in the Pennines (especially the relatively dry M19 and the degraded M20), with the wetter M17 restricted to the SW, Wales and the western Lake District. Includes associated bog pools (NVC communities M1, M2, M3).</p>

Valley mire

Topogenous (valley and basin) mire vegetation generally characterised by abundant and widespread bog-mosses and often cotton-grasses. Typical NVC communities comprise M4, M5, M6, M21 and M25 (and more locally M10, M29), though generally forms mosaic with other communities such as runnels and soakways (e.g. M6) and wet heath (which should be included in this class when part of a valley mire system).

Annex 2: Check list of actions prior to burning

Identify any area designated as a Site of Special Scientific Interest (SSSI) and seek advice from CCW to establish whether consent is required.

Identify any Scheduled Ancient Monuments (SAM) and seek advice from Cadw. Establish if Scheduled Monument consent is required.

Identify any non-scheduled historic features from the Historic Environment Record held by the Welsh Archaeological Trusts.

Seek advice on any measures to ensure features are not damaged.

Contact your local Fire and Rescue Service to notify them of your intention to burn, giving details of its location.

Annex 3: Training and sources of further information

CCW (Countryside Council for Wales)

Maes y Ffynnon
Ffordd Penrhos
Bangor
Gwynedd LL57 2DW
01248 385500
www.ccw.gov.uk

Cadw

Welsh Assembly Government
Plas Carew
Unit 5/7 Cefn Coed
Parc Nantgarw
Cardiff CF15 7QQ
01443 336000
www.cadw.wales.gov.uk

Glamorgan-Gwent Archaeological Trust

Heathfield House
Heathfield
Swansea SA1 6EL
01792 655208
www.ggat.org.uk

Dyfed Archaeological Trust

(Cambria Archaeology)
The Shire Hall
Carmarthen St
Llandeilo
Carms SA19 6AF
01558 823131
www.acadat.com

Clwyd-Powys Archaeological Trust

7a Church Street
Welshpool
Powys SY21 7DL
01938 553670
www.cpat.org.uk

Gwynedd Archaeological Trust

Craig Beuno
Ffordd y Garth
Bangor
Gwynedd LL57 2RT
01248 352535
www.heneb.co.uk

North Wales Fire & Rescue Service

Fire & Rescue Service Headquarters
Ffordd Salesbury
St Asaph Business Park
St Asaph
Denbighshire LL17 0JJ
01745 535250
www.nwales-fireservice.org.uk

Mid and West Wales Fire & Rescue Service

Fire Service Headquarters
Lime Grove Avenue
Carmarthen SA31 1SP
08706 060699
www.mawwfire.gov.uk

South Wales Fire & Rescue Service

S Wales Fire & Rescue Service
Headquarters
Lanelay Hall
Pontyclun CF72 9XA
01443 232000
www.southwales-fire.gov.uk

The Heather Trust

Newtonrigg
Holywood
Dumfries DG2 0RA
01387 723201
www.heathertrust.co.uk