Risk ManagementC ontrol Measure:

Toolkit for Practitioners and Advisors

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1. INTRODUCTION

PURPOSE AND AUDIENCE

The purpose of this document is to provide landowners, advisors and those interested with control measures that can help reduce the likelihood and severity of vegetation fires in the United Kingdom. It should be read in conjunction with Vegetation Fire Risk Management. The control measures were designed and consulted upon by a wide range of stakeholders within South East England Wildfire Group and England and Wales Wildfire Forum.

LAND MANAGEMENT APPROACH

A key consideration is the acceptance of a managed, rather than a 'natural' environment, which requires regular active management to reduce the wildfire risk. Therefore non/minimum-intervention practices may not be appropriate in areas of fire risk. This guidance has been designed to reflect the unique character of each site as well as the landscapes they fit within.

BACKGROUND

Vegetation fires are a natural part of the normal climate and of the biosphere. This has been called a 'necessary symbiosis', in which fire and life have benefited from each other's effects. In the past have been caused by volcanoes, lightening and rockslides but now the major cause is man made. Therefore the wildfire risk can not be eliminated but the scope, scale and impact of incidents can be reduced.

WHAT ARE VEGETATION FIRES?

Vegetation fires can be wildfire incident or prescribed burning operation that uses vegetation as their fuel. They can occur over a wide range of land uses (forestry, military training areas, areas of conservation, road and rail networks, green infrastructure and agricultural land), habitats (woodland, dwarf scrub heath, grassland etc.) and cover a few square metres or tens to hundreds of hectares.

Wildfires Incidents

The majority of vegetation fires are small incidents, many of which go unreported to landowners and/or Fire and Rescue Services. Some of these events have the potential to develop into larger scale wildfire incidents that can consume considerable natural resources

as well as social, economic and environmental impacts. Major incidents occur when a number of factors become aligned. Wildfires are of concern because they have the potential to be spatially highly dynamic and can occur over large areas. Additionally incidents can be resource intensive and occur over prolonged periods.

Prescribed Fires

Prescribed burning (sometimes called controlled fires) is a tool to manage vegetation variety of habitats. However it does have the additional benefit of reducing fuel loading. As with other management practices prescribed burning will only be appropriate on a limited number of sites due to ecological and operational limitations and impacts on surrounding risk factors.

2. INTRODUCTION TO CONTROL MEASURES

The use of control measures is common practice amongst organisations and part of good business management. In many cases they are integrated within other processes, documentation and operations, thus reducing costs and management burden. The risk control process requires the assessor to either eliminate, or reduce, or isolate the hazard.

Table 1 provides a matrix of mandatory and other control measures defined by the four contingency phases: preparedness, prevention, response and recovery. Risk based control measures reduce impact by placing a stronger emphasis on preparedness and prevention before the incident to reduce or limit the likelihood and severity. This also improves the effectiveness and reduces the cost of response during the incident and recovery afterwards.

Table 1 – Control measures

Contingency Phase	Control Measures	
	Mandatory	**Other**
Preparedness	• Fire plans/maps	• Wildfire Management plan • Species selection • Design planning • Prescribed fire management and operation plans* • Training (prescribed fire operations) • Standard Operating Procedures (SOP) • Partnership working • Define a competent person/s
Prevention	Not applicable	• Fire and fuel breaks • Fire belts • Vegetation fuel management practices • Visitor management • Fire patrols during susceptible periods • Appropriate awareness raising
Response	Not applicable	• Improving initial attack • Supporting FRS Incident Commanders • Long duration incidents
Recovery	• Vegetation fire reporting systems	• Salvage of crops and facilities • Restoration of habitats and species • Rebuilding or repair of property

Note: * Only used when prescribed burning operations are considered.

3. MANDATORYCONTROL MEASURES

If a site has a hazard with a risk level greater than low it will require mandatory control measures. This consists of a fire plan/map and vegetation reporting system.

FIRE PLANS/MAPS

A fire plan is a map containing useful information to fire fighters during a wildfire incident. Ideally they provide a simple and clear spatial interpretation. Where a Wildfire Management Plan is necessary, the fire map should cascaded down relevant information. Fire maps should complement or help define Fire and Rescue Service risk information[1] and use their fire map template. Suggested map details can be found in Appendix A.

Fire maps should only include control measures (e.g. fire & fuel breaks) relevant to fire suppression. The key to an effective fire map is to use clear symbols that are logically presented, avoiding too much detail and/or risk becoming cluttered with too much information. Remember that Fire and Rescue Services resources from outside your local area will be using your map and should be your key audience.

VEGETATION FIRE REPORTING SYSTEMS

It is important that all wildfire incidents and prescribed burning operations are recorded. This ensures an evidence-based approach to future decision making, further increasing the effectiveness of site management plans, Environmental Statements, grant funding etc. A record of vegetation fires should be accurately mapped out, ideally on Geographic Information System (GIS), to inform future risk planning.

[1] For example in Hampshire Fire and Rescue Service this is called Site Specific Risk Information (SSRI), but other services will have similar processes.

4. OTHER CONTROL MEASURES

Other control measures are the basis requirements for sites with a risk rating of medium or above. Listed below are the definitions of other control measures within their appropriate contingency planning phases.

PREPAREDNESS

Wildfire management plan

The aim of the management plan should be to reduce fuel loadings in the short and long-term and identify critical issues. The plan should be developed in parallel with a fire map using it as a spatial layer to effectively communicate information. This must include identifying hazard areas and risk factors (see Appendix B) as well as defined appropriate control measures to reduce the risk. The plan can be used as mitigation in Environmental Statements, management plans and help gain grant aid.

When evaluated and integrated into other management plans themes (e.g. recreation and public access, nature and heritage conservation, forestry and farming, heritage etc.) it may be easy to identify management synergies to reduce implementation and management costs as well as the operational resources required. Planning should focus on three key areas to help build wildfire resilience: species, design planning and management practices.

Species selection

The selection of fire tolerate species, such as broadleaves trees (e.g. Oak, birch, ash, sycamore, alder etc.) and conifers such as larch, can increase wildfire resilience, especially in risk locations. They can used strategically to break up higher risk species (see 4. Risk Management: Table 2 – Susceptible species) or in extreme cases replace them. It should be remembered that climatic changes, pests and diseases and other factors could influence long-term species selection and this should .

Design planning

The aim of design planning is to reduce the scope, scale and impact of wildfire incidents. This should be considered and undertaken at the landscape, site, management unit and sub-compartment levels to be fully effective. This can be achieved by scoping and analysing

evidence and providing an 'opportunities and constraints map' of the design plan. This should be undertaken in association with Wildfire Prediction System (WPS) to indicate the location of successful fire suppression.

Resilience can be achieved by the successful integration of; appropriate species, vegetation layout, management systems and practices, ride and road infrastructure and prevention networks. Any opportunities could be integrated with other objectives (i.e. landscaping, recreation, heritage, access and recreation and biodiversity and production forecasting etc.).

- **Avoid single vegetation fuel management practices –** Ideally several practices should be used to avoid the development of large areas of monoculture species (e.g. heather dominated heathland, or pine-dominated woodlands) and even aged classes.
- **Compartmentise risk –** The approach for high-risk species is to manage them into 'compartments', restricting their potential for fire spread, especially near risk factors. This is critical not just within the site, but also when working at a 'landscape scale level', whether adjoining land may have high-risk habitats and species.
- **Prevention network –** Includes the designing of fire and fuel breaks, fire belts and other features into an integrated network of defence (for more details see Primary Prevention below). The use of the Wildfire Prediction System is vital to calculate the appropriate location for successful fire suppression aided by the prevention network.

Training

It is strongly advised that any person undertaking a response to wildfire incidents (including suppression of fires) and/or undertaking prescribed burning operations should have appropriate training using appropriate safety measures (i.e. Personal Protective Equipment, LACES, WATCHOUT etc.). Reducing the likelihood of injury and fatality must be the overriding priority in planning. Poorly trained and/or inadequately resourced staff could be at significant risk of injury as well as potentially increasing the likelihood of wildfire, damage to property, infrastructure, assets etc.

Standard Operating Procedures (SOP)

In order to ensure effective working across the land management and fire sectors, as well as between neighbouring landowners and Fire and Rescue Services, Standard Operating Procedures (SOP) are used. They provide detailed, written instructions to achieve uniformity

of the performance of specific functions. They cover the four phases of emergency planning; preparedness, prevention, response and recovery.

Partnership working

For work at the landscape scale it is critical that landowners working together, with the Fire and Rescue Service, to increase their resilience to wildfire incidents. This may include ensuring that wildfire plans complement adjoining land holdings, conducting an inventory of fire fighting resources or working on media campaigns to raise awareness.

Competent person/s

Landowners can significantly help Fire and Rescue Services during responses to wildfire incidents by pre-identifying staff that can work along side them by defining a 'Competent Person'. They will be integrated within the Incident Command team, usually in the Command Support team. They should provide the following:

- Empowered and with the authority to make high level decisions.
- Holding suitable skills, experience and qualifications relating to wildfire incidents and contingency planning.
- Ensure that the Incident Commander has the most effective knowledge possible of on site hazards, resources and opportunities to improve fire suppression.

PREVENTION

Fire and fuel breaks

Breaks are an import element of management planning considerations for sites susceptible to wildfire incidents. The following points should be remembered:

- **Passive defence only –** Breaks can aid communications, suppression fires, anchor points, sectoring, but on their own will not stop wildfires.
- **Require active fire suppression –** They must be combined with offensive and defensive fire suppression to provide opportunities to control incidents.
- **Two categories of breaks: natural and man made**, with two distinct types of breaks: fire and fuel. This are defined in Table 10.

Table 10 – Definition of fire and fuel breaks

Break type	Description	Category	
		Natural features	Man made features
Firebreaks	Humus, organic and litter layers are removed down to a mineral soil (i.e. sandy or rocky soils).	Severely burnt areas, natural features such as rocks, rivers, streams, ponds/lakes, soil erosion etc.	Roads, tracks and paths, fence lines, drainage ditches, plough lines, scarped or bulldozed lines, berms etc.
Fuelbreaks	Vegetation is annually reduced to ground level	Previously burnt areas, vegetation species and habitats that are less susceptible to fire e.g. willow, larch, wet lands etc.	Mown fuel breaks (i.e. forage harvester or tractor and flail) and natural features (i.e. mature broadleaved woodland)

Fire belts

A fire belt is a strip of vegetation in which species less susceptible to the spread of fire are grown. The following points should be remembered:

- As with fire and fuel breaks, fire belts can be either natural or man made. Trees species such as broadleaves (i.e. birch, oak, alder etc.) and larches should be planted or regenerated to provide fire belts.
- Fire susceptible species such as gorse, broom, thicket stage conifers (i.e. pine, spruce or firs) or heather should be regularly removed or suppressed within fire belts.

Siting of breaks and belts

Defined by the fire map the aim of breaks and belts is to form an inter-linking network that surrounds the perimeter of the site and compartment at risk. The following should be remembered:

- Breaks and belts should exploit natural and man made features that are not flammable. Within the site breaks should be considered in conjunction with roads and rides.
- Fire belts should aim to divide or compartmentalise high-risk vegetation i.e. thicket stage conifers, scrubland or heather and gorse beds.
- It should be noted that breaks and belts are not considered effective unless they are regularly and appropriately maintained. It should be remembered that vegetation that causes fire embers (spotting) in wind would require a layering of breaks to be effective.

Width of breaks and belts

Size and width of break and belts are dependent upon the risk and the likelihood and severity of the vegetation to fire. The following should be remembered:

- The taller the vegetation the wider the break should be. A factor of 1 to 3 is a recommended minimum (i.e. for 2.5m high gorse requires a fire or fuel break of +7.5m).
- Ideally a break should allow unimpeded access to a fire appliance measuring 3m wide by 3.5m high.
- Consideration should be given to allowing fire appliance to pass another stationary vehicle, sometimes in an emergency.
- Fire belts should be a minimum of five rows of trees, or ten to fifteen metres wide.
- Where high-risk vegetation is adjacent too, or within the influence of risk factors (listed in Appendix B), the break width should be widened proportionately to the vegetation's structure and the severity of the impact.

Increasing break or belt resilience

Consider the following management practices to further increase resilience:

- **High pruning** – The lifting of tree branches along woodland edges next to breaks is advisable. High pruning of edge trees is recommend to a height of 3.5m and will allow fire appliances unhindered access and stop the development of ladder fuel fires.
- **Brashing –** Young conifer woodlands can benefits from brashing to remove fuel ladders within the crop. Again this will restrict the development of ladder fuels and can be undertaken strategic locations to reduce costs i.e. next to fire and fuel breaks.
- **Enclosed ride and roads –** Where woodlands have enclosed the road and ride networks the removal of edge trees is advised. Typically edge removal can be integrated into ride side 'scallops' making them easy to maintain.

The operations stated above also have considerable benefit for recreation, biodiversity, tree form and vigour as well as tree health.

Vegetation fuel management practices

The management of vegetation is the principle method of reducing the risk of wildfire incidents. Active management should aim to reduce fuel-loading and increases resilience. Table 9 provides an example of management practices as control measures. The appropriateness of these practices is dependent upon the sites risk rating.

Table 9 – Advised appropriateness of vegetation fuel management practices to risk levels

Risk assessment	Manual and mechanised vegetation cutting	Prescribed burning operations	Grazing	Sustainable Forest Management
Unacceptable	Yes	No	No	Yes
High	Yes	No	No	Yes
Medium	Yes	Yes	Yes	Yes
Low	Yes	Yes	Yes	Yes

Manual and mechanised vegetation cutting

The use of vegetation cutting can provide instance results to help prevent the spread of wildfires as well as an important response during incidents. Where the terrain permits mechanised cutting, using a tractor and flail mower (or forage harvester where residues require removal), can help create mosaics or patterns of low fuel loading in grass and heathland landscapes.

Cutting vegetation low removes most of the fuel but does not to stop regeneration. Cutting firebreaks parallel to the previous years can increase vegetation diversity where space permits. Ideally cutting will link the network of fire or fuel breaks, as well as other natural or man made barriers and other prevention control measures.

A tractor and side arm mounted flail is an extremely cost effective approach to reducing fuel loadings along linear routes, such as improving fire and fuel breaks, compartment edges or overgrown tracks. The use of forestry harvesters can help tackle larger scrub, but the use of blocks of broadleaves trees as natural barriers (i.e. fire belts) should be encouraged.

On sites where the access or operation of mechanical equipment is limited or not possible, (i.e. wet heath), manual cutting using chainsaw and clearing saws should be used. Careful targeting of this approach is required to ensure the most benefit from labour intensive

operations. In both manual and mechanical cutting the removal of arising is recommended (i.e. burning in low risk periods, chipper and trailer or forwarding off of the site), in order to remove possible surface fuels and improve access by foot or vehicle.

Prescribed Burning: Management and Operation Plans

The use of prescribed burning to manage vegetation fuel loading can be beneficial or damaging depending upon its application. Both management and operational plans should be drawn up in advance of its use. Prescribed fire management plans define the long-term approach resulting in an uneven age mosaic or patchwork of vegetation that is beneficial to reducing fuel loading and other needs. Commonly these plans are integrated within site management plans.

An operational 'burn plan' is defined from management plan and focuses on preparedness, prevention and possible response needed before and during the operation. This reduces the risk of the burning goes 'out of control' and becoming a wildfire incident. It also reduces the potential damage to species, personnel, property, equipment etc.

Prescribed burning is not appropriate for sites with unacceptable or high levels of risk. This can be resolved by adding and implementing control measures such as manual or mechanised cutting of fire breaks around the burn area, changing land management practices, improving initial attack or additional training etc. This should be detailed and recorded in the burning plan, operation risk assessment and working methodology.

Grazing

Grazing aims to remove some vegetation and favouring targeted species (i.e. grasses). The practice can break up ages classes of targeted species, forming an intimate mosaic at the management unit level. There are four distinct phases within grazing:

- **Vegetation removal –** removal of trees, gorse and other vegetation
- **Fence erection –** including water feeders and other infrastructure
- **Grazing –** introducing and sustaining livestock on site
- **Continued vegetation removal –** removal of regenerating trees and woody species.

The beginning of the grazing phase marks the most effective control of fuel loading, but has the potential to diminish over time. This is due to the regeneration of woody vegetation

(such as gorse, young conifers etc.), grasses or heather and if there are inappropriate levels of livestock. Additionally the targeted removal of species such as grasses can increase the dominance of other hazardous fuels such as heather, that burn at higher temperatures and have more severe fire intensity.

The correct level of grazing is also important, under and over grazing can have a serious impact on wildfire resilience as well as site ecology. Therefore it should be noted that despite grazing helping to restrict some types of vegetation fuel loadings, it still poses a risk.

The use of livestock, such as cattle, horse, goats, deer and other exotic species, provides animal handling and welfare hazards. Fencing may also restrict quick access especially during initial attack and limit some fire suppression tactics.

Implementing other control measures can help mitigate the hazards e.g. manual or mechanised cutting of fire breaks, prescribed burning, planting of fire resilient woodlands, training, improving initial attack, animal rescue plans etc. This should be detailed and recorded in the operation risk assessment and working methodology. It is advised that grazing, as the primary control measure, is not appropriate for sites with high-risk ratings or adjacent to or near Risk Factors (see Appendix B).

Sustainable Forest Management

Species and age classes

Thicket stage conifers aged between 5 to 20 years are at the greatest risk. Beyond this period the risk to semi-mature and mature conifer trees reduces. The use of Eucalyptus is increasing and special consideration should be made to increase its resilience to wildfires due to its vulnerability to fire.

Inappropriate forestry systems

Non/minimum intervention woodland management is not advised as an appropriate practice for sites at risk from wildfires. There should also be consideration on the amount and location of standing and fallen deadwood retained within woodlands as these provide vulnerable coarse fuels.

Active Woodland Management

This is regular commercial thinning of conifer and broadleaf woodlands, but this can be undertaken in scrubby vegetation as well. Through planning and design it can significantly reduces the risk of wildfires in a cost-effective manner. Thinning operations can reduce the venerability of thicket stage trees as well as under-managed woodlands. This should also integrated along with ride side vegetation maintenance to help promote biodiversity, economic and recreational benefits.

In extremely vulnerable sites (i.e. within areas of lowland heath, grasslands or edges of plantations) it is advised to 'brash' and prune of trees branches, in order to remove the risk ladder fuels from surface fires. This reduces the risk of fires in the canopy (an effect called 'crowning' leading too extremely hazardous 'crown fires'), but should be used strategically in order to be cost effective, especially in larger woodlands.

Dynamic forest mosaics

Dynamic forest mosaic approach can be used on open habitat sites to help create sustainable landscape areas. It uses patchworks or mosaics of open areas and woodland to promote nesting and shelter for birds by clear felling copses, which are replanted and/or naturally re-generated. This process replicates natural disturbances such as storm damage, wildfires etc. in a controlled, planned and productive manner. This provides compartments of low fuel loading and risk, especially when combined with a network of breaks and belts. This can provide excellent habitat for nesting birds, invertebrates and other species with the benefits of edge trees for breeding, foraging and shelter. The approach is achieved by conventional forestry practices and can be a cost effective or cost neutral.

Fire Patrols

This control measure seeks to ensure that there is effective patrolling of known risk areas during susceptible periods. Patrols need evidence to ensure that their resource is targeted effectively and incidents, including ignitions, are recorded and communicated effectively.

Appropriate Awareness Raising

When using press and other media to raise awareness of wildfire it is vital that messages do not inadvertently create incidents. Therefore a subtle balance must be struck between providing the most effective information to prevent fires and not encouraging further

incidents. Successful awareness raising should be undertaken in partnership with other landowners and agency's.

RESPONSE

Improving initial attack

It is critical that there is a rapid response to wildfires in order to reduce the size and scale of incidents. Improving Initial attack aims to improve suppression by tackling wildfire as soon as possible after ignition by Fire and Rescue Services or other responders. It should be remember that there is only one initial attack. For example this can be achieved by:

- Early and accurate identification of the seat of the fire by reconnaissance, patrols and the public.
- Raising awareness of the critical information need from the public and employees when calling the FRS
- Using pathfinders to bring FRS resources quickly to the seat of the fire.
- Improving access for FRS using a well laid out ride and road network.
- Improving FRS orientation using pre-mark access points and locations on fire maps.
- An effective prevention network of fire and fuel break to restrict the growth of the fire the scope and scale of the fire.

Where the landowners or managers uses there own fire suppression assets for initial attack it is vital that equipment and training is appropriate and meets health and safety requirements.

Supporting FRS Incident Commanders

Land managers can provide Incident Commanders with vital information and knowledge about topology, hazards, equipment and other tools etc. Ideally this information should be past to the Command Support Officer in the first instance to ensure that it is recorded and used in the most appropriate manner.

Long duration incidents

If you own a large land ownership, or if you are adjacent to one, planning should be made for possible long duration incidents. This will include ensuring your staff have appropriate relief's, welfare and rest. Also you should ensure and plan for suitable areas to accommodate a large number of emergency resources over a number of days.

RECOVERY

Its should be noted that the recovery starts at the same time as the response phase and is determined by the effectiveness and efficiency of preparedness and prevention.

Salvage of crops and facilities

Operations to remove burnt crops, such as timber can possibly use existing markets, but where crops are spoiled, such as food or severely burnt timber, they might have limited scope. When salvaging burnt crops it might be prudent to monitor for possible recovery over a number of years rather than remove them immediately. This may benefit from some types of forestry systems (such as those aiming for Continuous Cover Forestry) and/or still provide suppression of ground flora that produces fine fuels.

Restoration of habitats and species

On sites where the area burnt is severe and requires the restoration of habitats and species, the following should be considered:

- Building into the restoration greater wildfire resilience by using wildfire management plans. During the incident note what did work and build upon this experience.
- Link to existing replanting and reseeding operations to reduce costs.
- Select species that are more resilience to fire.
- Consider restorations at the site and landscape scale to ensure greater resilience is achieved in partnership with adjacent landowners.
- Consider if the habitat and species you are restoring is appropriate given future challenges and resources.

Rebuilding or repair of property

The replacement and repair of property should consider increasing wildfire resilience in the future terms of its location, design, materials used and its function. This should be considered before a 'like for like' replacement.

APPENDIX A – FIRE MAP DETAILS

Logistics and communications – i.e. main roads, two and four-wheel drive route, dead ends, hard standing etc.

Habitat risk rating – i.e. Using Tables 1 and 2 provided in the toolkit define a simple, clear and intuitive system to define to risk presented by habitats and species e.g.:

Young Conifer Plantation	= Dark green solid fill	= High Risk
Other Conifer Plantation	= Dark green hatched fill	= Low Risk
Broadleave Woodland	= Light green hatched	= Low Risk
Lowland heath	= Purple solid fill	= High Risk

Site hazards and risk factors – Site hazards i.e. slope, valleys, exposure to weather, drought sensitive, effectiveness of land management and operations.

Risk factors i.e. major infrastructure (transport, property and under/over ground wayleaves), and assets (environmental, social and economic) etc.

Spatially these hazards can be either or a combination of area, linear and point hazards (e.g. Unexploded Ordnance (UXO), power lines/pylons electric sub stations etc.).

Orientation features – i.e. local place names, numbered or referenced access points (AP) and rendezvous points (RVP), referenced orientation bollards etc.

Water supplies – i.e. hydrants, open water, rivers, steams and emergency supplies etc.

Site and land owner details – i.e. duty officer contact details, site details, important warning notices (e.g. UXO, grazing livestock) etc.

Map legend - i.e. the relevant items listed above, map scales (miles, kilometres and hectares), Ordnance Survey grid references (six figure), site reference names number, date of map etc.

APPENDIX B – RISK FACTORS: INFRASTRUCTURE AND ASSETS

Major Infrastructure

Major Infrastructure adjacent to habitat type, including:

a) Transport Infrastructure

- Airport flight paths
- Motorways or important 'A roads', and
- Railways and associated facilities and structures.

b) Wayleave infrastructure:

- Overground wayleaves: e.g. power lines, communications
- Underground wayleaves: e.g. fuel pipeline, major sewers, major water pipelines

c) Buildings:

- monuments,
- listed buildings,
- residential and commercial, industrial etc.

Environmental assets

Areas of ecological importance, including:

a) Sites of Special Scientific Interest (SSSI)

b) Special Protection Areas (SPA)

c) Special Areas of Conservation (SAC)

d) Ramsar (Wetlands)

e) National Nature Reserves (NNR)

f) Environmentally Sensitive Areas (ESA)

g) Scheduled Ancient Monuments (SAM)

Social assets

a) Recreation and leisure

b) Cultural heritage

c) Aesthetic value

d) Health and wellbeing

e) Community cohesion.

Economic assets

a) Food, fibre and fuel produce

b) Sporting

c) Tourism

GLOSSARY AND ABBREVIATIONS

Contingency planning	A pre-established plan to mitigate an unusual situation which has the potential for harm, which incorporates the best use of local as well as remote facilities and resources.
Contingency phases	The four contingency phases are preparedness, prevention, response and recovery.
Control measures	An intervention technique to reduce risk. This could include the use of PPE, specialist equipment, working practices etc.
Duty of care	Health and Safety at Work Act 1974 and its regulations and the Occupiers Liability Act 1957 and 1984. A common duty of care is a duty to take such care as in all the circumstances of the case is reasonably safe in using the premises for the purposes for which he is invited or permitted to be there.
Emergency	An event or situation which threatens serious damage to human welfare in a place in the UK, the environment of a place in the UK, or the security of the UK or of a place in the UK.
Fire Suppression	All the work and activities connected with fire-extinguishing operations, beginning with discovery and continuing until the fire is completely extinguished.
Harm	This includes death, physical or mental ill health, damage to property, loss of production/service, or any combination of these.
Hazard	Something with the potential to cause harm. Accidental, delibrate or naturally occurring (i.e., nonmalicious) event or situation with the potential to cause death or physical or psychological harm, damage or losses to property, and/or disruption to the environment and/or to economic, social and political structures.
Impact	The scale of the consequences of a **hazard**, **threat** or emergency expressed in terms of a reduction in human welfare, damage to the environment and loss of security.
Incident	Event or situation that requires a response from the emergency services or other responders Note: emergency (or major incident) refers to a specific type of incident requiring special deployment by one or more category 1 responder.

Preparedness	Process of preparing to deal with known risks and unforeseen events or situations that may have the potential to result in an emergency.
Preparedness phase	Ongoing phase focussed on preparedness for emergencies and disasters.
Prescribed burning	Controlled application of fire to vegetation in either their natural or modified state, under specified environmental conditions which allow the fire to be confined to a predetermined area and at the same time to produce the intensity of heat and rate of spread required to attain planned resource management objectives (prescribed fire). Please note this term has replaced the earlier term "Controlled Burning".
Prevention	Actions to avoid an incident, to intervene for the purpose of stopping an incident from occurring, or to mitigate an incident's effect to protect life and property. Includes measures designed to mitigate damage by reducing or eliminating risks to persons or property, lessening the potential effects or consequences of an incident
Recovery	Process of rebuilding, restoring and rehabilitating the community following an **emergency** or **disaster**, continuing until the disruption has been rectified, demands on services have been returned to normal levels, and the needs of those affected have been met.
Recovery phase	Phase focussed on recovery, commencing at the earliest opportunity following the onset of an emergency, and running in tandem with the response phase.
Response	Decisions and actions taken in accordance with the strategic, tactical and operational objectives defined by emergency responders. At a high level these will be to protect life, contain and mitigate the impacts of the **emergency** and create the conditions for a return to normality. See also **preparedness** and **recovery**.
Response phase	Phase in which decision making and actions are focused on response to an actual emergency or disaster.

Risk	A measure of the likelihood that the harm from a particular hazard will occur, taking into account the possible severity of the harm.
Risk Management	The process of analysing the level of risk, considering those in danger, and evaluating whether hazards are adequately controlled, taking into account any existing control measures.
Risk Assessment	A careful consideration by competent people of the hazard associated with a task. The potential effect of each hazard, how severe it might be and the likelihood of its occurring, should be considered to determine the effort required to make the work site as safe as reasonably possible.
Severity	Measure of the possible consequences of the **hazard.**
Site Management Plans	The long-term planning of land uses. Ideally planning integrates a range of site constraints including, but not exclusive to: recreation and access, biodiveristy, heritage, landscape, crop production etc.
Vegetation Fires	A fires that uses vegetation as the main fuel source. Includes wildfire incidents and prescribed burning, as well as the use of suppression fires.
Wildfire	Any unplanned and uncontrolled fire which regardless of ignition source may require suppression response, or other action according to agency policy.
Wildfire Prediction System	United Kingdom evolution of the Campbell Prediction System.