Communities and Local Government

IRMP Steering Group Integrated Risk Management Planning: Policy Guidance

Wildfire

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August 2008
Department for Communities and Local Government

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Document Status

This guidance has been published by Communities and Local Government on behalf of the IRMP Steering Group.

Representatives on the Steering Group include the Chairs of the Practitioners and Business and Community Safety Fora, Chief Fire Officers Association (CFOA), Confederation of British Industry, Health and Safety Executive, Local Government Association, Fire Protection Association, and the three main uniform representative bodies as well as other key stakeholders from the "fire industry".

Communities and Local Government are of the view that an Integrated Risk Management Plan (IRMP) is best produced and implemented at a local level based upon local needs, but consider that these chapters of policy guidance will assist in ensuring a consistency in approach and quality in the way that IRMPs are produced. For the avoidance of doubt this guidance is not mandatory and has been made available for Fire and Rescue Services (FRS) to use, should they wish to, in the development of themed areas of IRMP.

Section 1

Introduction

1.1 Fire and Rescue Authorities (FRAs) are required by the National Framework to produce a local IRMP that sets out the authority's strategy, in collaboration with other agencies, for reducing the commercial, economic and social impact of fires and other emergency incidents.

1.2 Paragraph 1.6 of the National Framework 2008-2011 requires each FRA to produce a publicly available IRMP covering at least a three-year time span which, amongst other things:

- is regularly reviewed and revised and reflects up to date risk information and evaluation of service delivery outcomes
- demonstrates how prevention, protection and response activities will be best used to mitigate the impact of risk on communities in a cost effective way
- provides details of how FRAs deliver their objectives and meet the needs of communities through working with partners.

The National Framework for the FRS 2008-11 is available on the internet at: www.communities.gov.uk/publications/fire/nationalframework200811

1.3 Safeguarding the environment and heritage (both built and natural) is an essential component of this strategy.

1.4 This document is intended to guide FRAs in the preparation of an IRMP strategy for combating wildfires. The purpose is to assist the Fire and Rescue Service (FRS) in understanding the scope of wildfire considerations in the IRMP process to undertake risk analysis, develop response and prevention strategies, develop delivery mechanisms and to monitor and review and evaluate such activity. Communities and Local Government are of the view that IRMPs are best planned and implemented at a local level based upon local needs, but consider that the availability of a national IRMP methodology will assist in ensuring a consistency in approach and quality in the way that IRMPs are produced.

1.5 Forest, heathland, agricultural, and other vegetation fires have considerable direct and indirect impacts on society, the economy, health and well-being, and may impact directly upon the transport and recreation sectors. Projected climate change highlights the urgency with which fire prevention planning for wildfires should be addressed.

1.6 In aiming to successfully deliver wildfire strategies the FRS will need to work in partnership with other stakeholders. The challenge to the FRS will be identifying the most appropriate stakeholders and then working effectively together to deliver the shared goals of the wildfire strategy. The FRS should work with policy advisors, such as Natural England, Forestry Commission and Environment Agency, National Parks as well as Local Authority Officers to:

- Ensure that habitats that are susceptible to fire have appropriate fire management plans that ensure prevention designs, practices and operations
- Encourage landowners to engage with the FRS to ensure partnership working
- Provide relevant spatial data sets to increase the effectiveness of Risk Analysis Systems (RAS).

1.7 This document offers information, advice and direction in order that FRSs can pre-plan for incidents that are within their normal capability and 'extra-ordinary' events that may require the assistance of external organisations in order to find an efficient resolution.

1.8 A list of further reading and contacts is provided in Annex E.

Section 2

Scope

Legislation

2.1 The key legislation which FRAs will need to take account of in considering how to incorporate wildfire matters in their IRMP strategy are:

Key legislation
The Fire and Rescue Services (FRS) Act 2004
The Civil Contingencies Act 2004
The Crime & Disorder Act 1998
The Heather and Grass Burning (England) Regulations (2007)
Countryside and Rights of Way Act 2000 (CRoW)
Wildlife and Countryside Act (1981)
The Water Resources Act (1991)
National Heritage Act (1983)
Emergency Workers (Obstruction) Act 2006
Health and Safety at Work Act 1974 and the Management of Health and Safety at Work Regulations 1999
Highways Act (1980)
Environmental Protection Act (1990)
Climate change bill

2.2 Further detail on the relevant aspects of the legislation cited is at Annex A. In considering how wildfire needs to be taken account of in the IRMP process, FRAs will also need to take account of corporate social responsibility (see Annex B) and national and local policy (Annexes C and D).

Section 3

Risk Analysis

Habitats and species

3.1 When assessing the severity of fires that may occur, it should be noted that not all habitats and species burn, and a considerable amount of land might easily be identified as having significantly low risk. FRSs may have their own data sets that will inform this process of establishing the wildfire risk level. To support these data, or as an alternative if they are not available, data sets may be provided by other organisations, such as Natural England, Forestry Commission, Environment Agency and Local/Unitary Authorities.

3.2 The types of habitat risk eg forest, heathland/moorland, agricultural crop, grass, are identified in:

a) National Vegetation Classification (NVC), or

b) UK Biodiversity Action Plan (UK BAP) Broad Habitat Classification, or

c) Phase 1 Habitat Survey

d) European Union Nature Information System (EUNIS).

3.3 The list of Habitats in table 1 beneath, derived from Broad Habitat Classification, show those susceptible to Wildfire. The numbers in the risk rating table refer to the Broad Habitat Classification and are not related to the severity of the risk. Annex F outlines an example of species in the National Vegetation Classification.

Table 1: Habitats		
Sectors	**Risk Rating (Broad Habitat Classification)**	
	High	**Low**
Forestry	2. Coniferous Woodland	1. Broadleaves, mixed and yew 3. Boundary and linear features,
Heathland and Moorland	10. Dwarf shrub heath 9. Bracken	12. Bogs
Agricultural	4. Arable and horticulture	5. Improved grassland 6. Neutral grassland 7. Calcareous grassland 8. Acid grassland
Green Infrastructure		17. Built up areas and gardens 14. Rivers and streams, 13. Standing open water and canals,
Built Infrastructure	17. Built up areas and gardens	

3.4 These habitats can be broken down into specific susceptible species as shown in table 2 beneath. These habitats and species require climatic influences, some not visually noticeable, over days, weeks and months for the right conditions for wildfire to occur. The most important of these subtle phenomena is drought causing vegetation to lose moisture and become more susceptible to ignition.

Table 2: Susceptible species		
Sectors	**Risk species by age groups**	
	Young	**Mature**
Forestry	Pines (*Pinus species*) Spruce (*Picea species*) Firs (*Abies species*) Bioenergy plantations (*Eucalyptus species*)	Bioenergy plantations (*Eucalyptus species*)
Heathland and Moorland	Dry Heath (*Calluna species*) Wet Heath (*Erica species*) Gorse (*Ulex species*)	Dry Heath (*Calluna species*) Wet Heath (*Erica species*) Gorse (*Ulex species*)
Agricultural	Arable Crops Grasses	Arable Crops Grasses
Green Infrastructure	Grasses Dry Heath (*Calluna species*) Wet Heath (*Erica species*) Gorse (*Ulex species*)	Grasses Dry Heath (*Calluna species*) Wet Heath (*Erica species*) Gorse (*Ulex species*)
Built Infrastructure	Dry Heath (*Calluna species*) Wet Heath (*Erica species*) Gorse (*Ulex species*)	Dry Heath (*Calluna species*) Wet Heath (*Erica species*) Gorse (*Ulex species*)

Assessment of risk – ignition causes

3.5 Human intervention, either deliberate or through negligent actions, is the major cause of wildfires. Three principal reasons for the start of human related fires are:

1. 'usually started by neighbours' (farmer burning straw or rough grazing)
2. the general public (careless or malicious), and
3. vehicle and machinery exhausts (tractor, locomotives etc).

3.6 Natural occurrences for fire starting include lightning and spontaneous combustion caused by fermentation of compacted vegetation.

Public access and fire

3.7 With the number of deliberate outdoor fires increasing considerably to a peak in 2003 after years of increased incidence of arson and the dedication of large areas of specific land under CRoW, the issue of increased public access to the countryside and perceived ineffective control has generated considerable concern from landowners. The recreation and visitor economy has become one of the fast growing sectors in the United Kingdom and it is estimated that the Sites of Special Scientific Interest (SSSIs) covering 10% of the United Kingdom have 372 millions visitors per year.

3.8 As noted above the largest cause of ignition is human action. Fire is likely to start where we have access to habitats and species susceptible to fire. Areas that are most susceptible to wildfire are those that allow public access which can be broken down into spatial and linear access as shown in Table 3 beneath.

Table 3: Habitats susceptible to fire

Access type	**Description**
Spatial Access: • CRoW access land • Permissive Access.	• Parks • Woodlands and Forests • Grassland and crops.
Linear Access: • National Trails or Routes • Public Rights of Way: Footpath • Bridleway etc • Permissive Access.	• Paths • Trails • Tracks.

Making evidence-based decisions

3.9 The frequency, whereabouts and severity of previous fires can provide useful indicators when weather conditions are repeated at the same time of year. Historic records of fire can give the final areas of reported outdoor fire incidents, including:

- FDR1 and FDR3 reports (relevant outdoor categories only)
- Incident Reporting System (IRS) which is the roll out replacement of the current FDR1 and FDR3 from the end of 2007, outdoor fires, grassland, woodland and crops.

3.10 When assessing what combination of prevention, education and intervention are best applied (and in accepting that, for each place, this may vary depending upon time of year and prevailing local weather), consideration should be given to:

- Major Infrastructures – How badly these may be affected is key when planning
- Environmental Assets – Fire can be an asset or a catastrophic event for the same ecosystem depending on several factors including the time of year that it occurs
- Social Assets – Fire can disrupt damage or destroy the asset and have a range of further impacts on the community
- Economic Assets – Fire can have a direct or indirect effect on the asset and can have further impacts and long term effect
- Likelihood of Fire – The likelihood of an event occurring is a key element in any risk assessment.

Risk factors

3.11 **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) Wayleaves[1] infrastructure:
   - Overground wayleaves: power lines, communications
   - Underground wayleaves: petrol pipeline, major sewers, major water pipelines

c) Buildings (including monuments, listed buildings, residential, industrial etc).

[1] Wayleaves are agreements or permissions that allow work to be carried out at a property in a specified way. Examples of their use would be a telecoms provider such as BT or Cable & Wireless being given permission to install cables for the benefit of residents in a way that minimises damage and future maintenance costs for the building owners.

3.12 **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), and
f) Environmentally Sensitive Areas (ESA).

3.13 **Social assets**

a) Recreation and leisure
b) Cultural heritage
c) Aesthetic value
d) Health and wellbeing
e) Community cohesion.

3.14 **Economic assets**

a) Food and fuel
b) Sporting
c) Tourism.

3.15 **Likelihood of fire**

Where habitats are susceptible to fire:

- Consider using Meteorological Office Fire Severity Index (MOFSI)
- Landowners (public or private) will/should have a risk assessment that should be taken into account
- Seasonal issues will be a significant determinant in 'likelihood' eg seasonal growth factors, rainfall levels, wind intensities.

3.16 **Severity of fire**

- Type, fuel loading and vegetation complexity
- Size/area/shape

- Location (adjacent risk ~ residential, structure, transport etc)
- Topography (gradient, valleys, water courses, natural firebreaks etc)
- Proximity and availability of monitoring (allowing growth in early stages if undetected)
- Proximity and availability of firefighting resources (Including firefighters, equipment water and access)
- Sensitivity of habitats or species to fire, smoke or indirect heat radiation.

Environmental impacts

The impact of climate on fire

3.17 In the UK, one of the largest organisations helping to adapt to the change is the UK Climate Impacts Programme (UKCIP). It works with numerous sectors (including forestry, agriculture, horticulture, defence, transport, health etc) across many themes (bio-diversity, tourism and leisure, building, planning etc) and states:

"The UK Climate Impacts Programme (UKCIP) helps organisations assess how they might be affected by climate change, so they can prepare for its impact."

3.18 The UKCIP can be accessed at: www.ukcip.org.uk/

3.19 The work of UKCIP is published in the form of a set of scenarios for UK Climate Change. The most recent scenarios, published in May 2003 are known as UKCIP02. These scenarios take evidence of climate change from the UK historical record, and then use computer models to estimate the effects of climate change in the UK, for a variety of global greenhouse gas emissions profiles. See also climate change Bill at Annex A and Office for Climate Change http://www.occ.gov.uk/ .

3.20 The next set of scenarios will be delivered in 2008. The major difference between these and the earlier scenarios is that they are probabilistic, rather than presenting a single picture of the future for each emissions scenario. Further details about the new scenarios and how they will be delivered, details of stakeholder consultations and other news about their release can be found at: www.ukcip.org.uk/index.php?option=com_content&task=view&id=163&Itemid=293

3.21 It is noted that climate change is the result of many natural variances and human impacts, and can have a catalytic effect on causing fires. Three agents that will affect future fire regimes are:

- Change on vegetation or fuel complex; including species composition, vegetation structure and seasonal fire risk

- Change in the potential for fire occurrence (natural and human)
- Change in five severity and behaviour.

3.22 Further information is available in the Communities and Local Government document – Effects of Climate Change on FRS in the UK[2]. The Joint Fire Science Program in the USA has also funded research exploring and quantifying relationships among the large-scale drivers of climate and the occurrence and extent of wildfire in the various regions of the western United States. This can be accessed at: www.firescience.gov/Digest/Fire_Science_Digest_1.pdf

The impact of fire on pollution

3.23 The effect of environmental conditions upon the likelihood of, and severity of, wildfires cannot be considered in isolation. The potential effect of these fires is an important factor when planning to deal with them. Wildfire has the potential to pollute air, land and water.

3.24 Aquatic environments are considered to be the most vulnerable to pollution from emergency incidents and the aspect of the environment that the FRS can protect most readily. Consequently pollution prevention and control measures in the FRS should concentrate primarily in the protection of the aquatic environment and where feasible, protection of the land and air quality (See Environmental Protection Chapter for further details)

3.25 Where fire products are carried over inhabited areas (residential/industrial or transport routes) the FRS should be aware of the immediate danger of reduced visibility and health risks, especially to the young, old and infirm.

3.26 FRSs will wish to refer to the document produced by the Environment Agency – Working Better Together series – Protocol (No8) – Fire & Rescue Service Issues.

Fire impacts

3.27 As stated previously, fire may convey benefit to certain ecosystems at certain times of the year but it can also have detrimental effects:

The impact of fire on flora

3.28 This includes:

- Directly on the plant
- On the ability to reproduce, (proximity of pollen, ability to produce spore etc)
- On the plants predicted lifespan (if not terminating it immediately!).

[2] www.communities.gov.uk/publications/fire/effectsclimate

3.29 The recovery rate is dependent on the length, severity and heat of the fire and the type of land and flora. All types however can be devastated by wildfire and in some cases it can take 20 years to recover. The devastation of indigenous species can also offer opportunity for the invasion of pioneering or invading species.

3.30 Some species and habitats have been come fire tolerant and in some cases fire dependent to ensure their reproduction.

The impact of fire on fauna

3.31 Fire impacts directly on invertebrates, vertebrates, small and large mammals, birds and often on aquatic fauna. Fire can kill directly or by changing the environment (topsoil, litter layer and surrounding habitat) reducing or removing living areas and food sources (Gazzard, 2006). Such a loss can take up to ten years to recover. Some highly mobile species can escape fires, but many species are unable to move rapidly or have static lifestyle behaviourism such as nesting birds, pupating larvae etc.

The impact of fire on soil

3.32 Soils have a vital importance to life and organisms which should not be underestimated. Fire, however, does not alter the soil's physical properties unless heating has been severe.

3.33 Soil damage will depend on the temperature of the fire and the length of time which it burns. These two variables are directly linked to the density and vegetation type, and loose litter covering. Soil is extremely heat resistant; the damage will vary according to depth, soil type and fire severity.

3.34 Without vegetation or other cover for mineral soils, raindrop splash action, surface runoff, soil creep, and debris flows can cause serious soil erosion and nutrient loss. Fuel moisture and fire intensity can be controlled to minimise exposure of mineral soil, although some exposure of mineral soil may be necessary for germination of scrub and tree seedlings.

Human impact

3.35 Fighting uncontrolled wildfires can be life-threatening, but we should note that no lives have been lost for 25 years in the UK.

Financial impact

3.36 The Home Office reported in 2003 that replanting and restoration cost of fires on forestry, grassland and heathland sites were estimated at:

- Coniferous forestry – £3,000 per hectare
- Broadleaved forestry – £5,000 per hectare
- Moorland/grasses/heaths without sporting interest – £40 per hectare
- Moorland/grasses/heaths with sporting interest – £415 per hectare
- World heritage sites might be regarded as priceless.

3.37 Work in support of FSEC (2006) suggested that further research was required into these figures to consider the desirability of a wildfire module in the toolkit. Empirical data shows that the fires of 2003 in Wales which burnt some 700 hectares of woodland have to date cost the Forestry Commission some £500,000 in re-establishment (Farmer 2003) giving an average cost of £714 per hectare. In addition to establishment costs there may be timber value costs to consider.

3.38 The cost of 'crops' lost in fire is potentially significantly more, but less easy to quantify because season, location and crop type all impact on the value. On the 4th of July 2007, in Essex, at the farm (not delivered or including any surcharges) prices were:

- 1 tonne of Feed Wheat – £110
- 1 tonne of Feed Peas – £129.

3.39 1 hectare of farmed land might produce 7-9 tonnes of product making the very approximate calculated loss if 1 hectare of the crop were destroyed by fire to be £1000/hectare. (These figures are speculative and are introduced as an illustration of relative cost only).

Streams

3.40 Fires can have benefits for aquatic areas near forests. The removal of conifers beside streams and the re-colonisation of deciduous vegetation promote shading and simulate fish food such as insects. There is evidence that some plant species near water can become dependent upon the effect of fire in the case of alluvial woodlands, and become fire adapted or maintained by periodic burning.

Fire dependent environments

3.41 Wildfires have been for millions of years a natural part of the normal climate and of the biosphere, and have been caused by volcanoes, lightning and rockslides. This has been called a 'necessary symbiosis', in which fire and life have benefited from each other's effects. The effects of these wildfires even in the primeval period removes the myth that many habitats, even rain forests, are undistributed and stable.

3.42 Despite the negative effects of climate change, fire does have an important role in the evolution of vegetation as it moves to more suitable regions or replaces species that cannot be sustained. Fire hastens the modification of vegetation landscape in order to find new equilibriums, thus allowing species to migrate faster and keep up with their suitable climates and topography. Because of this the socio-economical effects, which are dependent upon vegetation, are considerable. There is also the concept of good fires that can be controlled without necessarily using total suppression.

Section 4

Strategies

Prevention

4.1 It is recommended that FRSs should undertake a review of local working arrangements between the FRS and the Environment Agency in accordance with the LGA/Environment Agency 'Working Better Together, Protocol number 8 on Fire and Rescue Service Issues. One of the aims of this protocol is:

"Any Integrated Risk Management Plans/Risk Reduction Plans which have either a direct or indirect impact on the safety of the community through environmental protection (pollution control), flooding and controlled burn strategies will be developed in partnership with the Environment Agency."

4.2 Natural England/National Parks and the Moorland Forum also engage in a great deal of proactive education. It would be prudent to start fire prevention work by first exploring other organisations' activities in the identified area.

4.3 FRSs are also advised to establish planning arrangements for incidents that may have an adverse effect upon the environment. Such arrangements would include plans detailing the specific measures required for sites that constitute a significant risk to the environment in accordance with Sections 7(2)(d) and 9(3)(d) of the Fire & Rescue Services Act 2004 and the Civil Contingencies Act 2004.

4.4 In addition FRSs can work via Local Strategic Partnerships (LSPs) to affect the development and delivery of Local Area Agreements (LAA) and Local Development Framework (LDF) (see Annex D). Linking together these two approaches (local service delivery and local spatial planning) can improve partnership working and reduce the future risk/hazard posed by existing and future communities.

Protection

4.5 Through groups and organisations already identified in this document, every FRS should actively work towards the most appropriate management of land in order to:

- Minimise the likelihood of fire
- Minimise the impact of fire (severity)
- Ensure optimum firefighting arrangements.

4.6 The landowner is able to use 'CRoW Regulations' to close access where the risk is 'extreme'.

Response

4.7 Provision of firefighting resources should be an outcome of completed risk analysis and consultation.

Recovery

4.8 The recovery phase starts at the same time as the 'response' and has an important effect on the successful recovery of environmental, social and economic assets. It is therefore important for the FRS to work with numerous partners to enhance the effectiveness of the recovery process and ensure effective handover to landowners to continue the work.

Competencies/training

4.9 Circumstances may occur in which professional fire crews, who are skilled in structural firefighting, are faced with situations in the rural environment that are beyond their competencies. It must be recognised that new and previously unforeseen risks exist to both personnel and equipment. There are situations in which not extinguishing (or attempting to extinguish) the fire is the most prudent action and a simple water attack may not be the most effective or suitable method of dealing with the fire. Given the potential for wildfires to be very resource intensive there is value in adopting a "control and observe" approach where no risk to others is evident.

4.10 Training strategies should be developed in accordance with the appropriate competencies described in the Integrated Personal Development System (IPDS) role maps. A structured approach should be adopted to wildfire training. The opportunity to train with partners who will assist at incidents should be taken.

4.11 The concept of the controlled-burn tactic has developed and involves a restricted or controlled use of water or foam on fires to reduce potential environmental impacts of chemicals and contaminated firewater runoff. Natural England and the Environment Agency should be contacted before any foam is used. The Environment Agency publishes guidance on pollution prevention and Pollution Prevention Guide 28[3], relates to controlled burn tactics. The guidance details the Environment Agency policy/position on controlled burns and sets out circumstances when it believes a controlled burn may be appropriate.

[3] www.environment-agency.gov.uk/business/444251/ppg

4.12 Consideration should be given to adopting the recommendations contained within PPG 28, where appropriate, in order to determine the Best Practical Environmental Option for dealing with incidents that have an impact upon the environment.

4.13 Consideration should also be given to partnerships in the following areas:

- Training with equipment and water suppliers
- Training on fire fighting strategy and tactics (in all environments)
- Training on deployment of resources.

Section 5

Delivery Mechanisms

Partners/external organisations

5.1 As indicated in the introduction the key to successful delivery of wildfire strategies is working in partnership with appropriate stakeholders to agreed goals.

Scope of organisations

5.2 There are various organisations which can partner with or otherwise assist and advise FRSs. They range from governmental organisations to local or private landowners. In seeking suitable partners, FRSs may wish to engage with organisations that have some responsibilities for managing land locally including those indicated in Table 4 beneath;

Table 4:	
Public	**Private**
Forestry Commission England	Church Commissioner
Natural England	Private Land Owners
National Trust	The Wildlife Trusts
Ministry of Defence	Woodland Trust
Crown Estates Commissioners	National Farmers Union (NFU)
Local and/or Unitary Authorities	

Government organisations

Forestry Commission England

5.3 The responsibilities and powers of the Forestry Commissioners are derived mainly from the Forestry Act 1967 and Plant Health Act 1967. Both of these acts are available from the Office of Public Sector Information (OPSI) website.

5.4 There are a number of other applicable Great Britain Acts and Statutory Instruments, including the Forestry Commission (FC) Byelaws on its Public Forest Estate.

5.5 The FC and Natural England both work to deliver the Department for Environment, Food and Rural Affairs (DEFRA) 'A Strategy for England's Trees, Woodlands and Forests'.

5.6 The FC has powers to prevent loss of tree cover and ensure that new woodlands and related operations do not harm the environment. Woodland owners, including Forestry Commission forest managers, may have to apply for felling licences, to undertake long term design plans, or in some cases seek consent before starting particular work. Their powers include investigating suspected illegal felling, insisting on replanting, or seeking other remediation. They have produced three technical notes:

- Forest and Moorland Fire Suppression
- Burning Forest Residues
- Planning Controlled Burning Operations in Forestry.

5.7 They have also prepared 'Operational Guidance Booklet 17 – Planning for the Unexpected' for wildfire and prescribed fire incidents across its Public Forest Estate in Great Britain. The booklet includes information on;

- FC Policy (links to Communities and Local Government Wildfire IRMP Guidance)
- Prevention and fire fighting strategy
- FC Fire Danger Rating (FDR)
- Fire fighting (links to Fire and Rescue Services)
- After a fire (Fire Reporting)
- Training
- Prescribed burning
- Water supplies and legislation
- Claims.

5.8 This guidance is applicable to the Forestry Commission estates in England, Scotland and Wales but not to privately-owned forests (of which there are many, making knowledge of local land ownership significant).

5.9 DEFRA has published a revised Strategy for England's Trees Woods and Forests in 2007, in which the draft delivery plan focuses on five areas of activity:

- A strategic resource
- Climate change
- The natural and historic environment
- Quality of life
- Business and markets.

5.10 Increasing the resilience of new and existing woodland to climate change is identified as one of the climate change objectives. This includes consideration of forest fires. Further details are available at: www.forestry.gov.uk/forestry/infd-7dyc7z

Natural England

5.11 Natural England was formed by bringing together English Nature (nature conservation), the Countryside Agency (landscape, access and recreation) and Rural Development Service (environmental land management). Natural England works for people, places and nature, to enhance bio-diversity, landscapes and wildlife in rural, urban, coastal and marine areas; promoting access, recreation and public well-being, and contributing to the way natural resources are managed so that they can be enjoyed now and in the future.

5.12 Natural England is working towards the delivery of four strategic outcomes, which together deliver on their purpose to conserve, enhance and manage the natural environment for the benefit of current and future generations.

- **A healthy natural environment:** England's natural environment will be conserved and enhanced
- **Enjoyment of the natural environment:** more people enjoying, understanding and acting to improve, the natural environment, more often
- **Sustainable use of the natural environment:** the use and management of the natural environment is more sustainable
- **A secure environmental future:** decisions which collectively secure the future of the natural environment.

5.13 All Natural England reserves and offices have fire plans, which set out actions to be taken in the event of a fire. These define areas of high risk, list the action procedures and show staff contacts and emergency telephone numbers.

5.14 Natural England's remit within DEFRA includes cross Government department and agency working, including with Regional Development Agencies, the Environment Agency, Forestry Commission England and Wales, National Park Authorities and the Commission for Rural Communities; and attempts to deliver an integrated approach to the natural environment. Partnerships with land managers, the scientific community, business and community based organisations at a national, regional and local level are central to the way they work.

5.15 Natural England will contribute to LAAs providing new opportunities for learning both about the natural environment and how to take practical action to conserve and enhance it. They are also responsible for the production of Guidance – "The Heather and Grass Burning Code".

County Councils and Unitary Authorities

5.16 FRAs will wish to consider liaison with County Councils and Unitary Authorities on the following:

- **Access** – Management of the Public Rights of Way network and Public Rights of Way Improvement Plan
- **Transport and Highways** – Management of roadside vegetation on major roads that may be near fire susceptible habitats and roadside signage
- **Land Management** – Management of County Parks and Conservation Areas that may include high levels of public access or fire susceptible habitats.

Local authority organisations

5.17 Similarly, the following are likely to be of assistance:

- **Recreation and Leisure Services** – Delivery of services including sports and play
- **Land Management** – Management of Local Parks and Conservation Areas that may include high levels of public access or fire susceptible habitats
- **Planning and Development** – Location of future housing settlements and green infrastructure via LDFs and granting planning permission under Local Plans and future LDFs,

Highways Agency

5.18 The effects of roadside fires on transportation links cannot be overlooked. For this reason, the existing partnerships that FRSs maintain with those responsible for roads should be utilised.

Non Government Organisations (NGOs)

5.19 A variety of these exist and some are listed below:

- National Farmers Union
- The National Game Keepers Association
- The Heather Trust
- The Moorland Association
- The Countryside and Business Association.

5.20 Their influence and knowledge of fire and its effects upon land management may be useful when pre planning. The recently formed English Wildfire Forum (and equivalent Scottish Forum) will assist with strategic linkage at national level.

Wildfire Groups

5.21 Wildfire Groups develop from distinct landscape areas reflecting common risks and cultural land management practices. Several successful partnerships of this type have been established in the UK, each with its own structure and group of stakeholders appropriate to the local situation (eg Peak District National Park, game moorlands etc).

5.22 They provide FRSs with two distinct ways of engagement with public and private organisations in the management of wildfires. Firstly at a landscape scale. Wildfire Groups in areas of identified wildfire risk define the needs and requirements of strategies and tactics and then the appropriate engagement through Local Strategic Partnerships (LSP), Local Access Forums (LAF), Community Strategies and Community Fire Safety (CFS). Wildfire Groups aim to promote awareness and further develop a partnership approach to wildfire management across the landscape working area.

Section 6

Monitoring and Review

6.1 Where monitoring and review processes relating to wildfire are not in place, these arrangements should be implemented to evaluate the efficacy of the strategy.

6.2 Partnership arrangements should include a formal debrief of appropriate wildfire related incidents to ensure lessons are learned and good practice shared.

6.3 Results of operational debriefs from wildfire related incidents and exercises should be considered as part of the IRMP process of risk analysis.

6.4 Consideration should be given to the development of a performance management system pertinent to the wildfire policy and strategy developed.

6.5 The Incident Report System will collate suitable and sufficient information to inform the continuing development of IRMPs and the risk mapping process.

Annex A

Relevant legislation

This Annex provides further detail on the legislation cited within the scope of this chapter in Section 2.

1. The Fire and Rescue Services (FRS) Act 2004

Part 2, Section 7

(1) A fire and rescue authority must make provision for the purpose of

(a) Extinguishing fires in its area, and

(b) Protecting life and property in the event of fires in its area.

(2) In making provision under subsection (1) a fire and rescue authority must in particular–

(e) Make arrangements for ensuring that reasonable steps are taken to prevent or limit damage to property resulting from action taken for the purpose mentioned in subsection (1).

Fire and Rescue Authorities (FRAs) must seek to mitigate the damage, or potential damage, to property in exercising their statutory functions. As a consequence, the actions a FRA must take in responding to an incident, which could damage property, should be proportionate to the incident and the risk to life.

Section 9 of the FRS Act gives the Secretary of State power to confer on a FRA functions relating to emergencies, other than fires and road traffic accidents (collisions).

Section 11 of the FRS Act gives Fire and Rescue Authorities the power to respond to other eventualities. This includes an event or situation that causes or is likely to cause:

- One or more individuals to die, be injured or become ill
- Harm to the environment (including the life and health of plants and animals).

Section 13

Obliges Fire and Rescue Authorities to group together, so far as practicable, to provide mutual assistance

The Fire and Rescue Services Act 2004 is available on the Internet at:
www.opsi.gov.uk/acts/acts2004/20040021.htm

2. The Civil Contingencies Act 2004

The Civil Contingencies Act 2004, and accompanying non-legislative measures, delivers a single framework for Civil Protection in the United Kingdom. The Act is separated into two substantive parts: local arrangements for civil protection (Part 1) and emergency powers (Part 2).

Part 1 of the Act and the supporting Regulations, and the statutory guidance Emergency Preparedness, establish a clear set of roles and responsibilities for those involved in emergency preparation and response at the local level. This helps to deliver greater consistency of civil protection activity at the local level; facilitate more systematic co-operation between responders; and lay the foundation for robust performance management. The Act divides local responders into two categories, imposing a different set of duties on each.

Category 1 responders are those organisations at the core of emergency response (eg emergency services, local authorities, NHS bodies). Category 1 responders are subject to the full set of civil protection duties. They are required to:

- assess the risk of emergencies occurring and use this to inform emergency planning and business continuity planning;
- put in place emergency plans;
- put in place business continuity plans;
- put in place arrangements to make information available to the public about civil protection matters and maintain Arrangements to warn, inform and advise the public in the event of an emergency;
- share information with other local responders to enhance co-ordination;
- co-operate with other local responders to enhance co-ordination and efficiency; and
- Provide advice and assistance to businesses and voluntary organisations about business continuity management (local authorities only).

Category 2 responders (eg Health and Safety Executive, Strategic Health Authorities, transport, utility companies and responsive consultees) are "co-operating bodies", which are less likely to be involved in the heart of planning work but will be heavily involved in incidents that affect their sector. Category 2 responders have a lesser set of duties – co-operating and sharing relevant information with other Category 1 and 2 responders.

Regulations under the Act require Category 1 and 2 responders in England and Wales to come together to form Local Resilience Forums, which are based on police force areas outside London (there are six Local Resilience Forums in the Metropolitan police area). These are the principal mechanisms for multi-agency co-operation between local responders and help to facilitate better co-ordination and communication, and to foster a sense of partnership.

Part 2 of the Act updates the Emergency Powers Act 1920 to reflect the developments in the intervening years and the risks we face in the twenty-first century. It allows for the making of temporary special legislation (emergency regulations) to help deal with the most serious of emergencies. The use of emergency powers is a last resort option and planning arrangements at the local level should not assume that emergency powers will be made available. Their use is subject to a robust set of safeguards – they can only be deployed in exceptional circumstances.

The Civil Contingencies Act 2004 is available on the Internet at:
http://www.opsi.gov.uk/acts/acts2004/20040036.htm

3. The Crime & Disorder Act 1998

"The Crime and Disorder Act 1998 places obligations on local authorities, the police, police authorities, health authorities and probation committees to co-operate in the development and implementation of a strategy for tackling crime and disorder in their area…."

The main aim of the Act is to reduce levels of crime and disorder. To advance this aim, the Act and the guidance sets out a number of key objectives.

1 Bringing together in partnership, representatives of the "responsible authorities" (Police and Local Authority); and statutory consultees, (Police Authority, Health Authority and Probation Committee) to effectively drive forward the work on tackling local Crime and Disorder.

2 Placing responsibilities on the Police and Local Authority to jointly conduct and publish an audit of local crime and disorder. To consult locally on the basis of audit findings.

3 To develop and implement a local Crime and Disorder Reduction Strategy based on the priority findings of the audit and the comments and views generated from the consultation.

4 Set up mechanisms for the Audit and Strategy to be monitored and evaluated annually and for the whole process to be repeated every three years.

The Crime and Disorder Act can be accessed on the internet at:
www.opsi.gov.uk/acts/acts1998/ukpga_19980037_en_1

4. The Heather and Grass Burning (England) Regulations (2007)

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".
- **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.

These regulations outline where burning can be undertaken and where it should not. 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. The regulations also advise that those who feel a sensitive area on their land falls into this category may wish to contact Natural England for advice. Sensitive areas are defined as:

- **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 haggs and other areas with exposed peat, including erosion gullies
- **Areas where the soil is very thin** – ie less than 5 cm (2 in) of soil over underlying rock
- **Steep hillsides and gullies** – ie 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 (eg 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.

The Heather and Grass etc Burning (England) Regulations (2007) can be accessed on the internet at: www.opsi.gov.uk/si/si2007/uksi_20072003_en_1

5. Countryside and Rights of Way Act (2000) (CRoW)

Part 1 – Chapter II – Section 25: Avoidance of risk of fire or of danger to the public.

This allows for the closure of land covered by CRoW if Fire Severity Index 'exceptional' conditions exist. This can be undertaken by a 'relevant authority' to restrict public access, such as the National Parks Authority (in National Parks), Forestry Commission on its voluntarily dedicated CRoW land and Countryside Council for Wales/Countryside Agency (now Natural England) on other CRoW land. They can give a 'fire prevention direction' with or without someone applying, but does not restrict access to public rights of way across CRoW land.

This excludes 'excepted land' which includes: gardens, parks, cultivated land, or land covered by buildings will not be included in the right of access.

Part 3 – Sites of Special Scientific Interest (SSSI)

Sites of Special Scientific Interest are notified under Section 28 of the Wildlife and Countryside Act 1981 as areas of special interest by reason of their flora, fauna, geological or physiographical feature.

Part 3 of the Act:

Improves the protection and management of SSSI by introducing new and enhanced powers for the conservation agencies (English Nature and the Countryside Council for Wales).

- Places public bodies under a statutory duty to further the conservation and enhancement of SSSI, and increases penalties for deliberate damage to SSSI
- Provides a statutory basis for biodiversity conservation, by placing a new duty on Government Departments and the National Assembly for Wales to have regard to biodiversity conservation and to maintain lists of species and habitats for which conservation steps should be taken or promoted
- Includes measures to give greater protection to wildlife, by strengthening the legal protection for threatened species and bringing up-to-date the Wildlife and Countryside Act 1981.

Part 5 – Local Access Forums

Local Access Forums (LAFs) are advisory bodies established under the *Countryside and Rights of Way Act 2000*. They provide independent advice on public access to land, for open air-recreation and other 'functional' or 'utility' purposes. There are over 80 forums covering almost the whole of England. There are no forums in London or the Isles of Scilly.

Local access forums have a wide remit in advising access authorities (local highway authorities and National Park authorities) and other bodies (such as Government departments, Natural England, the Forestry Commission, English Heritage, Sport England, AONB Conservation Boards, district councils, town and parish councils) on managing the public's right of access to open country and registered common land, management and improvement of public rights of way, as well as public access issues more generally within the local area.

The bodies to which it is the legal function of forums to give advice are collectively known as "section 94(4) bodies". Section 94(4) bodies are legally required to have regard to relevant advice from a forum. The Local Access Forums (England) Regulations 2007 (SI 2007 No 268) set out detailed provisions on the operation of forums and replace the earlier regulations made in 2002.

The Countryside and Rights of Way Act (2000) can be accessed on the internet at: www.opsi.gov.uk/acts/acts2000/ukpga_20000037_en_1

6. Wildlife and Countryside Act (1981)

The scope of the Act provides protection for wildlife (birds, and some animals and plants), the countryside, National Parks, and the designation of protected areas SSSIs, and public rights of way. Thus SSSI can be used to identify clearly definable areas that would be susceptible to damage from fire directly or indirectly. DEFRA currently define the purpose of an SSSI as being:

"to safeguard, for present and future generations, the diversity and geographic range of habitats, species and geological and physiographical features, including the full range of natural and semi-natural ecosystems and of important geological and physiographical phenomena throughout England".

The Wildlife and Countryside Act (1981) as amended can be accessed on the internet at: www.opsi.gov.uk/RevisedStatutes/Acts/ukpga/1981/cukpga_19810069_en_1

7. The Water Resources Act (1991)

Discharges into controlled waters are covered by the Water Resources Act 1991. Section 85 of the Act makes it an offence for a person to cause or knowingly permit any *"poisonous, noxious or polluting matter"* to enter *"controlled waters"*, including ground waters.

Section 89 relates to the statutory defences to the offence of polluting controlled waters as follows:

A person shall not be guilty of an offence under Section 85 if:

- The entry is caused or permitted, or the discharge is made, in any emergency in order to avoid danger to life or health
- That person takes all such steps as are reasonably practicable in the circumstances for minimising the extent of the entry or discharge and of its polluting effects, and
- Particulars of the entry or discharge are furnished to the Authority (Environment Agency) as soon as is reasonably practicable after the entry occurs.

All three criteria must be in place for the defence to apply.

The Water Resources Act (1991) can be accessed on the internet at:
www.opsi.gov.uk/Acts/acts1991/ukpga_19910057_en_1

The preceding three Acts are the most pertinent; however it should be borne in mind that a number of other pieces of environmental legislation may also have relevance to FRS operational activity. These include The Groundwater Regulations, Hazardous Waste Regulations, Pollution Prevention and Control Regulations, COMAH Regulation and Water Framework Directive, details of these may be found on the UK statute database at:
www.statutelaw.gov.uk/Home.aspx

8. National Heritage Act (1983)

English Heritage is the Government's statutory adviser on the historic environment. Officially known as the Historic Buildings and Monuments Commission for England, they are an Executive Non-departmental Public Body sponsored by the Department for Culture, Media and Sport (DCMS). Powers and responsibilities are set out in the National Heritage Act (1983) and they report to Parliament through the Secretary of State for Culture, Media and Sport.

English Heritage is funded in part by the Government and in part from revenue earned from their historic properties and other services. Its functions are:

- acting as a national and international champion for the heritage
- giving grants for the conservation of historic buildings, monuments and landscapes
- maintaining registers of England's most significant historic buildings, monuments and landscapes
- advising on the preservation of the historic environment
- encouraging broader public involvement with the heritage

- promoting education and research
- caring for Stonehenge and over 400 other historic properties on behalf of the nation
- maintaining the National Monuments Record as the public archive of the heritage
- generating income for the benefit of the historic environment
- acting as statutory consultee for many planning permission, listed Building consent and scheduled monument consent applications affecting the historic built environment.

9. Emergency Workers (Obstruction) Act 2006

The Emergency Workers (Obstruction) Act 2006 came into force on 20 February 2007. The Act makes it an offence to obstruct or hinder an emergency worker responding to emergency circumstances. Anyone who gets in the way of emergency workers responding to a call for help can now face fines of up to £5,000. The Act specifically includes firefighters. More information is available in Home Office Circular 003/2007, which can be found on the Home Office website.

10. Health and Safety at Work Act 1974 and the Management of Health and Safety at Work Regulations 1999

Sections 2 and 3 – It is unlawful for burning operations to endanger anyone, including the public.

11. Highways Act (1980)

Section 161A – It is unlawful to burn in a way likely to cause injury, interruption or danger to road users.

12. Environmental Protection Act (1990)

Section 79 – It is unlawful to cause emission of smoke which is prejudicial to health or causes a nuisance.

Details of the legislation indicated at the above sections 8 to 12 inclusive can be accessed from the UK statute database at: www.statutelaw.gov.uk/Home.aspx

13. Climate Change Bill

The Climate Change Bill contains provisions that will set a legally binding target for reducing UK carbon dioxide emission by at least 26 per cent by 2020 and at least 60 per cent by 2050, compared to 1990 levels. The bill is expected to receive Royal Assent in summer 2008, further details can be found on the Office for Climate Change http://www.occ.gov.uk/ and the Parliament web site at: http://services.parliament.uk/bills/2007-08/climatechangehl.html

Annex B

Corporate Social Responsibility

1 The Government sees CSR as the business contribution to their sustainable development goals. Essentially it is about how business takes account of its economic, social and environmental impacts in the way it operates – maximising the benefits and minimising the downsides. Specifically, Government see CSR as the voluntary actions that business can take, over and above compliance with minimum legal requirements, to address both its own competitive interests and the interests of wider society.

2 It is for the FRA to consider and determine the extent to which CSR applies to the service locally and the extent to which different aspects of service delivery, including those associated with the wider social agenda, discharge that responsibility.

3 Whilst FRSs have a legal responsibility to ensure that effective arrangements are in place to deal with an incident that could adversely affect the natural environment through both planning and response, a moral responsibility also exists to ensure that the quality of life of the public is improved through sustainable development.

4 Further information on CSR can be found at www.csr.gov.uk

Annex C

National policy and other relevant IRMP guidance

In addition to the National Framework, FRAs will wish to consider the following:

1. Extant IRMP Guidance notes

Guidance Note 1

Paragraph 1.2 states that the Government thinks that a modern and effective fire and rescue service should serve all sections of our society fairly and equitably by … safeguarding the environment and heritage (both built and natural).

The IRMP Guidance Notes are available on the internet at:
www.communities.gov.uk/fire/developingfuture/integratedriskmanagement/

2. Local Government Association

In their document: Fire & Rescue Service; A Shared Vision Towards 2017 they include as the first part of their vision:

- Recognition of the importance of the Fire and Rescue Service operation in a way that helps and sustains the environment.

3. Crime and Disorder Reduction Partnerships (CDRPs)

The Crime and Disorder Act, 1998 and in particular Section 17 imposes a duty on local authorities and the police to "without prejudice to any other obligation imposed upon it… exercise its function with due regard to…the need to do all it reasonably can to prevent crime and disorder in its area". There is an understanding that "no single organisation can hope to reduce the incidence of crime. Local organisations need to work together to develop comprehensive solutions to improve the community's quality of life" (Audit Commission).

In accordance with the Crime and Disorder Act, 1998 there is a Crime and Disorder Reduction Partnership for each local authority in the UK. The Police, local authority, police authority and fire authority are statutory members of the CDRP and must be involved. But CDRP's are encouraged to engage with as many local agencies and voluntary groups.

4. Environmental Health

The document "Environment Agency – Working Better Together series – Protocol (No8) – Fire and Rescue Service Issues' details the areas of mutual interest between the FRS and the Environment Agency in 5 separate annexes. These set out the principles, legislation and procedures. Detailed technical guidance is not included as this is now contained in the FRS Manual on Environmental Protection. Where such procedures do exist, this document includes a reference on where to find them in the Fire and Rescue Service Manual.

Information is included on:

- Emergency Planning
- Working Arrangements
- Pollution
- Extinguishing media
- Water Run Off
- Training
- Information Exchange.

5. IRMP policy guidance chapter on Heritage

6. IRMP policy guidance chapter on Environmental Protection

Annex D

Local policy

1. Local Strategic Partnerships (LSP)

An LSP brings together different parts of the public sector as well as the private, business, community and voluntary sectors at a local level, so that initiatives and services are jointly owned and main streamed. This is delivered through the Sustainable Communities Strategy that includes a spatial and thematic dimension (ie provision of local health and emergency services).

The spatial context will influence the emerging Local Development Frameworks (LDF) – See Section 3 of this Annex and effect the provision of housing, commercial and critical infrastructure (roads, rail, power etc).

The delivery context covers the new third generation of Local Area Agreements (LAA). Some areas might have Multi Area Agreements (MAA) meaning that LSPs are working across Local Authority boundaries to address common issues. This might require engagement at two levels to effectively work with the correct partners. See Partners and External Organisations for further details.

The Sustainable Community Strategies (SCS) are developed thorough consultation with numerous organisations. This outlines how Local Authority will deliver its priorities. Similarly SCS will influence the development of LDFs. Opportunities also exist to link SCS to environmental risks within IRMPs, LAFs, and other partnerships.

2. Local Area Agreements (LAA)

A local LAA is a three year agreement, based on local SCS, that sets out the priorities for a local area. The agreement is made between Central Government, represented by the Government Office, and a local area, (or Country or Local/Unitary Authority in MAA) represented by the lead local authority and other key partners through LSPs.

LAAs are formed from four 'themes':

- Healthier Communities and Older People Theme
- Children and Young People Theme
- Safer and Stronger Communities Theme
- Economic Development and the Environmental Theme.

Fire can have a significant impact upon each themes delivery. These themes cover some 198 National Indicators, two of which are directly related to fire. Those that are not related to fire, but to bio-diversity, climate change or social cohesion should also be considered.

To support FRS engagement in LAAs Communities and Local Government has provided a partnership working toolkit for Local Area Agreements as referenced in FRS Circular 7/2008. This can be obtained from:
www.communities.gov.uk/publications/fire/workingtoolkit

3. Local Development Framework (LDF)

The Local Development Framework should be a key component in the delivery of the community strategy setting out its spatial aspects where appropriate and providing a long term spatial vision. Local development documents should express those elements of the Sustainable Community Strategies that relate to the development and use of land. The LDF is not a statutory term; it sets out, in the form of a 'portfolio', the local development documents which collectively delivers the spatial planning strategy for the local planning authority's area.

Key to the development of IRMPs is the future linkage to urban and rural areas, especially at the urban/rural interface. Listed below are the planning policy guidance/statements that inform LDF supporting documents and links to Risk Analysis:

- 'PPS 1 – Delivering Sustainable Development': Risk Factors
- PPG 4 – Industrial, commercial development and small firms: Major Infrastructure – buildings
- 'PPS 6 – Planning for Town Centres': Major Infrastructure – buildings
- 'PPS 7 – Sustainable Development in Rural Areas: Major Infrastructure – buildings
- 'PPG 8 – Telecommunications': Major Infrastructure – Wayleave assets
- 'PPG 16 – Archaeology and Planning': Environmental and Heritage assets
- 'Planning Policy Guidance 17 – Open space, Sport and Recreation': Social assets
- 'Planning Policy Statement 9 – Bio-diversity and Geologic Conservation': Environmental and Heritage assets.

4. Local Access Forums (LAF)

As indicated in Annex A England's 81 Local Access Forums (LAFs) are statutorily prescribed bodies, introduced by Sections 94 and 95 of the Countryside and Rights of Way (CRoW) Act 2000. In carrying out its functions, a LAF must also have regard to the needs of land management and the desirability of conserving the natural beauty of the area for which it is established, including the flora, fauna and geological and physiographical features of the area. LAFs are made up of appointed members who must be representative of both users of local rights of way or access land and owners and occupiers of access land or land encompassing local rights of way.

Annex E

Further reading/contacts

Natural England – 'Current' and 'Predicted' Fire severity Index
www.openaccess.gov.uk/wps/portal/!ut/p/.cmd/cs/.ce/7_0_A/.s/7_0_G3/_s.7_0_A/7_0_G3

Arboriculture and Forestry Advisory Group – Firefighting
www.hse.gov.uk/pubns/afag803.pdf

DEFRA Guidance – Heather and Grass Burning
www.defra.gov.uk/rural/uplands/burning.htm

Arboriculture and Forestry Advisory Group – Fire fighting 803 Health and Safety Executive

Anderson, H E (1970) Forest Fuel Ignitability

Broadmeadow, M S J (2002). Climate Change: Impacts on UK Forests. Forestry Commission.

Countryside and Rights of Way (CROW) Act 2000, Fire Prevention Restrictions – Supplementary Guidance.

DEFRA (2007) Local Access Forums
www.defra.gov.uk/wildlife-countryside/cl/local-access-forums.htm
(accessed 16th June 2007)

Effects of Climate Change on Fire and Rescue Services in the UK (1/2006), Dec 2006
CLG, 06 FRSD 04166

The Fire-Climate Connection, The Joint Fire Science Program, Fire Science Digest, October 2007. www.firescience.gov/Digest/Fire_Science_Digest_1.pdf

Environment Agency – Working Better Together series – Protocol (No8) – Fire & Rescue service Issues

Farmer, B (2003). Fires on Forestry Commission Estate, Information Note. Forestry Commission

Fire Management: Voluntary Guidelines: Principles and strategic Actions (2006)
Fire Management Working Paper FM17E, Food and Agriculture Organisation (FAO):
http://www.fao.org/docrep/009/j9255e/j9255e00.htm

Fosberg M A, Stocks B J and Lynham T J (1996). Risk analysis in strategic planning: fire and climate change in boreal forest. Ecosystems Processes and Global Challenges. Fire, Climate Change, and Carbon Cycling in the Boreal Forest (Editors E S Kasischke and B J Stocks), Springer-Verlag, New York.

Gazzard, R J (2006) Fire and Rescue Services Act (2004), a lost opportunity for forest, heath land and agricultural fire management? England, United Kingdom.

Smalley, J C (2005). Protecting Life and Property from Wildfire. National Fire Protection Association. Massachusetts, USA.

Annex F

Summary of national vegetation classification

Dry lowland Heaths

- H1 *Calluna vulgaris – Festuca ovina* heath
- H2 *Calluna vulgaris – Ulex minor* heath
- H3 *Ulex minor – Agrostis curtisii* heath
- H4 *Ulex gallii – Agrostis curtisii* heath
- H6 *Erica vagans – Ulex europaeus* heath
- H7 *Calluna vulgaris – Scilla verna* heath
- H8 *Calluna vulgaris – Ulex gallii* heath
- H9 *Calluna vulgaris – Deschampsia flexuosa* heath
- H10 *Calluna vulgaris – Erica cinerea* heath
- H11 *Calluna vulgaris – Carex arenaria* (dune) heath
- H12 *Calluna vulgaris – Vaccinium myrtillus* heath

Wet heaths

- H3 *Ulex minor – Agrostis curtisii* heath (when it contains E. ciliaris)
- H4 *Ulex gallii – Agrostis curtisii* heath (when it contains E. ciliaris)
- H5 *Erica vagans – Schoenus nigricans* heath
- M14 *Schoenus nigricans – Narthecium ossifragum* mire
- M15 *Scirpus cespitosus – Erica tetralix* wet heath
- M16 *Erica tetralix – Sphagnum compactum* wet heath
- M21 *Narthecium ossifragum – Sphagnum papillosum* valley mire (with E. ciliaris)

Native Woodlands

- W1 *Salix cinerea – Galium palustre* woodland (Willow)
- W2 *Salix cinerea – Betula pubescens Phragmites australis* woodland (Willow)
- W3 *Salix pentandra – Carex rostrata* woodland (Willow)
- W4 *Betula pubescens – Molinia caerulea* woodland (Birch)
- W5 *Alnus glutinosa – Carex paniculata* woodland (Alder)

- W6 *Alnus glutinosa – Urtica dioica* woodland (Alder)
- W7 *Alnus glutinosa – Fraxinus excelsior – Lysimachia nemorum* woodland (Alder /Ash)
- W8 *Fraxinus excelsior – Acer campestre – Mercurialis perennis* woodland (Ash/Field Maple
- W9 *Fraxinus excelsior – Sorbus aucuparia – Mercurialis perennis* woodland (Ash)
- W10 *Quercus robur – Pteridium aquilinum – Rubus fruticosus* woodland (Oak)
- W11 *Quercus petraea – Betula pubescens – Oxalis acetosella* woodland (Oak)
- W12 *Fagus sylvatica – Mercurialis perennis* woodland (Beech)
- W13 *Taxus baccata* woodland (Yew)
- W14 *Fagus sylvatica – Rubus fruticosus* woodland (Beech)
- W15 *Fagus sylvatica – Deschampsia flexuosa* woodland (Beech)
- W16 *Quercus spp. – Betula spp. – Deschampsia flexuosa* woodland (Oak/Birch)
- W17 *Quercus petraea – Betula pubescens – Dicranum majus* woodland (Oak/Birch)
- W18 *Pinus sylvestris – Hylocomium splendens* woodland (Pine)

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