

Further reading

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| ATV quad bikes | AFAG701 |
| All-terrain vehicles | AFAG702 |
| Emergency planning | AFAG802 |
| Training and certification | AFAG805 |
| Watch your back | INDG145 |
| Health and safety guide for gamekeepers | INDG177 |
| First aid at work: Your questions answered | INDG214 |
| Protect your hearing or lose it! | INDG363 |

These publications are available from HSE Books - see 'Further information'.

Scottish Executive publication (www.scotland.gov.uk):

The Muirburn Code

Forestry Commission Technical Notes (www.forestry.gov.uk):

Planning controlled burning operations in forestry FCTN002

Forest and moorland fire suppression FCTN003

Burning forest residues FCTN004

Notes

Name:.....

Checklist verified by:.....

Date:.....

Further information

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This leaflet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

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Firefighting



AFAG
Arboriculture and Forestry Advisory Group

Introduction

This leaflet covers the safe working practices to be followed when involved in forest or woodland firefighting operations as an individual or part of a team.

Fire planning is not covered in this leaflet. Such planning would form part of an overall risk assessment and include identifying wildfire hazards; developing suitable arrangements and systems of work; and producing a co-ordinated approach with neighbours and Fire and Rescue Services.

This leaflet can be used as part of the risk assessment process to help identify the controls to put in place to prevent accidents during the suppression of wildfires and certain prescribed burning operations. A site-specific risk assessment will be needed as well as any generic risk assessment.

Where quad bikes or all-terrain vehicles (ATVs) are used, this leaflet should be read in conjunction with AFAG leaflets 701 *ATV quad bikes* and 702 *All-terrain vehicles*.

All operators must have had appropriate training and be competent to carry out the tasks required (see AFAG leaflet 805 *Training and certification*). Operators must also be aware of the hazards likely to be found at a forest or woodland fire including helicopters, vehicles and other equipment used for fire suppression.

Personal protective equipment (PPE)

- ❑ 1 Those on site during firefighting operations may require specific PPE which should have been identified in the risk assessment. However, use the following for general firefighting operations:
 - A brightly coloured fire-resistant cotton boiler suit (complying with EN 531) is recommended, as well as a protective neck cloth. Do not wear any synthetic or nylon clothing.
 - Protective boots with good grip and ankle support (complying with EN ISO 20345).
 - Suitable protective gloves (non-synthetic, eg leather).
 - Safety helmet (complying with EN 397), if identified as required by the risk assessment.
 - Eye protection (complying with EN 166), if identified as required by the risk assessment, to prevent eye damage from particles and embers.
 - Hearing protection (complying with EN 352) where the noise level exceeds 85 dB(A) (see HSE pocket card INDG363 *Protect your hearing or lose it!*).
- ❑ 2 Carry water for personal consumption and to wash any burns.
- ❑ 3 A specialised burn first-aid kit should be available on the site, and each person should carry a personal first-aid kit for non-burn injuries.

Cover photograph courtesy of The Press and Journal

General advice

- ❑ 4 The Fire and Rescue Service, when present, will be responsible for directing operations at a wildfire.
- ❑ 5 Expect to be in the open conducting physically demanding operations for long periods. Workers should be fit and capable of carrying out the tasks expected of them.
- ❑ 6 Watch colleagues for signs of heat stress due to physically demanding work and close proximity to the fire. Also watch for burns from radiant heat.
- ❑ 7 Be particularly aware of the hazards involved in crossing terrain during conditions of reduced visibility, due to poor light or smoke.
- ❑ 8 Watch for factors (or combinations of factors) that could create sudden changes in fire behaviour, including:
 - weather (eg change of wind direction and speed);
 - fire moving onto steep slopes;
 - the nature and quantity of fuel available to the fire (eg thick heather).
- ❑ 9 Maintain communications with your colleagues and supervisors.

Tools, equipment and machinery

- ❑ 10 There may be a wide variety of tools, equipment and machinery (including vehicles and helicopters) in use on the fireground. Operators are likely to be working under pressure, sometimes in poor visibility or with considerable background noise, so take particular care if approaching them.
- ❑ 11 Ensure that you, and anyone you are responsible for, are aware of the safety zones that apply to the tools, equipment and machinery on site.

Fire plans and fire maps

- ❑ 12 Ensure you have read and understood your organisation's fire plan and are familiar with the procedures to follow in an emergency.
- ❑ 13 Ensure you have looked at and understand any fire map, including any symbols used.

Preparing for wildfire fighting

- ❑ 14 Thoroughly check all PPE, tools, equipment and machinery to ensure they are serviceable. Put appropriate PPE on before approaching the fire.
- ❑ 15 Select tools for the expected fuel types and fire behaviour (eg conveyor belt beaters for grass and mesh for heather). Also take tools for each phase of fire suppression to the fireground, ie knock down, containment, mop up and patrol.
- ❑ 16 If using synthetic foam concentrate, wear appropriate PPE, fill tanks away from watercourses and drains and replace lids on drums. If foam concentrate touches the skin or eyes, immediately wash with water and treat according to the instructions on the product label. If serious seek medical attention.

- 17 Secure tools and equipment properly for transport. Check that total loads, including water, do not exceed your vehicle load capacity, and are suitable for the expected terrain.
- 18 Mark safe routes to and from the fireground for the Fire and Rescue Services and other personnel. Identify suitable locations for parking vehicles safely (marshalling areas). As far as possible, keep pedestrian and vehicle access routes separate.
- 19 Obtain information on the fire and assess fire behaviour yourself before approaching it. When appropriate provide information to your supervisors or fire service personnel.
- 20 Where appropriate, discuss your local knowledge of access routes, water points, potential firebreaks etc with the incident commander.
- 21 Make sure you have been given a briefing on your own role in the firefighting activities.

Table 1 The Wildfire 'WATCHOUT' safety aid

| | | |
|----------|----------------------|---|
| W | weather | dominates fire behaviour, so keep informed |
| A | ctions | must be based on current and expected fire behaviour |
| T | ry out | at least two safe escape routes |
| C | ommunications | must be maintained with your crew leader and adjoining crews |
| H | azards | to watch for are steep slopes and the amount of fine fuels |
| O | bserve | changes in wind speed and direction, humidity and cloud |
| U | nderstand | your instructions and make sure you are understood |
| T | hink | clearly, be alert and act decisively before your situation becomes critical |

Firefighting

- 22 Ensure you are booked in and booked out by the organisation managing the fire, when entering or leaving the fireground.
- 23 Fight the fire, but always put safety first (see the 'WATCHOUT' safety aid in Table 1).
- 24 Operate within your agreed level of authority and responsibility.
- 25 Operate within your physical capability, maintain a steady pace of work, take breaks and drink plenty of water.
- 26 Maintain a balanced stance when using hand tools and avoid difficult terrain or other obstacles, especially when carrying weight, eg knapsack sprayers.
- 27 Identify two suitable escape routes leading away from the fire.
- 28 Maintain a safe working distance from colleagues when using hand tools, including firebeaters, mattocks and axes.
- 29 Ensure the safety zones for equipment, including high-pressure fire fogging systems, chainsaws, tractor and chain swipe, are clear before operating.
- 30 Always stay at least 40 m away from helicopters, especially during taking off or landing. Only approach a helicopter if a clear instruction is given by the pilot. When helicopters are water bombing, all ground staff should be at least 10 m outside the target area.
- 31 Avoid working in thick smoke wherever possible, as it can cause irritation of the eyes, nose, throat and lungs and increase the risk of getting lost and confused.
- 32 Avoid working under power lines.
- 33 Ensure the fire is out before moving on to the next task or ensure your supervisor is made aware that the fire is not out in your area if given instructions to move.

Fuelling

- 34 Stop the engine and, if necessary, allow to cool before refuelling.
- 35 Petrol vapour is invisible and can travel considerable distances from spillage or fuelling sites. Maintain a safe distance from the fire and other ignition sources at all times.
- 36 Store fuel to avoid vapour ignition by the fire. Select a site shaded from direct sunlight and away from watercourses and drains.
- 37 Replace the fuel cap securely after filling.
- 38 Keep fuel from contacting the skin. If fuel gets into the eyes wash out with sterile water immediately and seek medical advice as soon as possible.
- 39 Fuel containers must be designed and approved for use with petrol or diesel. They should be in sound condition, clearly labelled and have securely fitting caps.

