

DEFRA WILDFIRE REVIEW

REPORT FROM THE WILDFIRE WORKSHOP

held in Nottingham on 8th February 2019

BACKGROUND

1 Proposal

- 1.1 The proposal for the workshop that was agreed with Defra is at Enclosure 1.
- 1.2 The aim of the workshop was to capture the key lessons learned from wildfire incidents that took place in 2018, so that these lessons can inform Defra's review of wildfire.
- 1.3 A diverse audience was attracted to the workshop and this allowed discussion of the lessons learned from the range of incidents. 30 people attended and the list is at Appendix 4.

2 Workshop Materials

- 2.1 The workshop considered four case studies based on incidents that took place in different parts of England & Wales, during 2018. Presentations were based on case study reports that were circulated before the workshop. The reports are at Appendices 5 - 9.
- 2.2 An additional case study report for a fire in Dorset (Appendix 9) was included in the papers for the meeting.

3 Workshop Programme

- 3.1 After an introduction by the chairman of the England & Wales Wildfire Forum, presentations were given about each of the four main case studies. A discussion followed about the issues that had been raised, including the lessons learned from each incident.
- 3.2 The final presentation was given on behalf of the Wildfire Group of the National Fire Chiefs Council to provide a perspective from the Fire & Rescue Services (FRS).

c/o Northumberland Fire and Rescue Service, West Hartford Business Park, Cramlington, NORTHUMBERLAND, NE23 3JP

3.3 To provide a framework for general discussion, eight questions had been circulated before the workshop, and these were then considered. The final session of the workshop aimed to collate some suggestions for the issues that Defra's wildfire review should consider.

INTRODUCTION

4 Wildfire Governance

- 4.1 The Chairman outlined the existing governance structures for wildfire with an emphasis on the arrangements in England. It was noted that The Home Office was the lead government department for wildfire and that the focus of this department was on the response and prevention capabilities provided by the FRS. Defra, with Natural England, has an important role in controlling the management of the fuel, and The Cabinet Office is concerned with risk and resilience through the National Security and Risk Assessment (NSRA) and the Local Resilience Forums.
- 4.2 Concern was expressed that currently there appeared to be insufficient liaison between the different parts of government and this risked there being no overview of all wildfire issues available to government.
- 4.3 The roles of the National Fire Chiefs Council Wildfire Group (NFCC WG), the England & Wales Wildfire Forum (EWWF), with its 29-member organisations, and the 17 Fire Groups were also referred to.

5 Letter to Government

- 5.1 At the height of the wildfires, in July 2018, a letter was sent to The Home Office and Defra on behalf of the EWWF to offer support with learning from the ongoing incidents.
- 5.2 The letter suggested that the incidents in 2018 had highlighted a range of issues, which were considered during the workshop.
- 5.3 To provide a starting point for improvements in the preparation and planning for wildfire, the letter concluded with four recommendations:
 - Developing a Fire Danger Rating System
 - Support Fire Groups
 - Develop a Wildfire Strategy
 - Develop guidance for the management of open land

6 Workshop Plan

- 6.1 The workshop considered four case studies that represented a range of wildfire incidents that occurred during 2018.
- 6.2 As the workshop was commissioned by Defra, the focus was on land & habitat management, not on fire service response.

- 6.3 The workshop would assess the effectiveness of planning and preparation on the impact of the fires on:
 - the habitat,
 - the services provided by the land,
 - the local communities, and
 - other users of the land affected by the fire.

6.4

6.5 It was stressed that wildfire should not be seen purely as a problem for the fire and rescue services. The managers of the land should take responsibility for planning and preparation for wildfire, with a view to managing the fuel load, providing fuel / fire breaks, making arrangements for access to the land and to water supplies.

7 Case Studies

- 7.1 The completed Case Study templates, together with the NFCC WG briefing note, are in the appendices. The presentations given during the workshop are available in a <u>Dropbox folder</u>; these may be moved to the EWWF website if presenters give their approval for this.
- 7.2 A summary of the discussion that took place after each presentation is at Appendix 1. For ease of comparison, a short description of the fire and a summary of the lessons learned have been included at the start of the report from each Case Study.
- 7.3 Details from the presentation given on behalf of the National Fire Chiefs Council Wildfire Group and the extra case study report are also included in Appendix 1.

8 Workshop Questions

- 8.1 Eight questions had been circulated before the workshop, and these would be used to provide a guide when considering each of the case studies and a general discussion that would be held during the afternoon session:
 - 1. What went well?
 - 2. What did not go well?
 - 3. Was the planning for the wildfire incident effective?
 - 4. Would changes to the management of the land improve the preparation for wildfire?
 - 5. Was the liaison between the Fire Service, the landowner, the land manager and other interested parties effective?
 - 6. Are any policy changes required to reduce the risk of damage from wildfires?
 - 7. Was the level of training adequate for the people from all organisations that responded to the fire?
 - 8. Was the equipment available to fight the fire adequate for the task in the early and/or the later stages?

9 Wildfire Review – Proposed Topics

- 9.1 As a final part of the workshop, a short discussion took place to consider the issues that should be included in Defra's review of wildfire.
- 9.2 The proposals are set out in Appendix 3.

10 Conclusions

- 10.1 There is a lack of awareness of the threat from wildfire.
- 10.2 Climate change predictions indicate the conditions that produced the fires in 2018 are likely to occur more often; wildfire threat levels are increasing.
- 10.3 Wildfires have the potential to have a serious, negative impact on carbon storage and the delivery of Defra's 25-year Environment Plan and Clean Air Strategy.
- 10.4 Public health issues must be considered as part of planning for wildfire.
- 10.5 During the 2018 wildfires, fire behaviour was often beyond the capacity of the FRS to control. Fuel management must be considered to reduce the intensity of fires below the threshold of control by FRS.
- 10.6 Planning and preparation for wildfire should become a routine part of land management. Development of guidance about the wildfire risk in standing crops should be considered.
- 10.7 Wildfire is not confined to remote, rural areas. There is a greater risk to people and property from wildfires in the rural–urban interface.
- 10.8 There is a need for a national strategic direction that could be addressed by developing a national wildfire strategy.
- 10.9 Development of an effective Fire Danger Rating System would provide warning of periods of high fire risk. This would allow the FRS to prepare to respond to wildfire incidents and land managers to plan their prescribed burning programmes.
- 10.10 Fire Groups should link to Local Resilience Forums so that planning for wildfire incidents could take place with other sectors.
- 10.11 The deployment of Wildfire Tactical Advisers for the first time at incidents during 2018 was deemed to be successful. Air assets could be used more effectively.

Simon Thorp

Chairman 2nd April 2019

Appendices

- 1 Summary of the Case Study Discussions
- 2 Questions and Responses
- 3 Defra Wildfire Review Proposed Topics
- 4 Attendance List

Case Studies

- 5 Otterburn, Northumberland
- 6 Little Marlow, Buckinghamshire
- 7 Cwmcarn, South Wales
- 8 Winter Hill, Lancashire
- 9 Ferndown, Dorset

Enclosure

1 Workshop Proposal



WILDFIRE WORKSHOP

8th February 2019

SUMMARY OF THE DISCUSSIONS ABOUT THE CASE STUDY AND NFCC PRESENTATIONS

This summary records some general comments that came from the discussions, which apply to all wildfires, before considering each of the four case studies in turn. This is followed by a record of the lessons learned from the extra case study in Dorset and the discussion that took place around the presentation on behalf of the NFCC Wildfire Group.

GENERAL ISSUES

- The impact of wildfires on carbon storage needs to be quantified.
 - The loss of carbon during a wildfire, especially from peatland, provides justification for wildfire mitigation in advance of a wildfire.
- Wildfires have the potential to impact on the delivery of Defra's 25-year Environment Plan and the Clean Air Strategy.
- The role of prescribed burning as a wildfire mitigation measure must be considered in the debate about burning.
 - From a wildfire perspective, burning and other management practices have the potential to reduce the fuel load and thus reduce the intensity of the fire that has to be controlled.
- Land Managers should be included in the development of wildfire management and wildfire response plans.
 - Their local knowledge is an important resource.
 - Land managers will be more likely to take responsibility for wildfire mitigation measures, if they have helped to develop a wildfire management plan.
 - Their local knowledge would provide invaluable advice during the response to large wildfires or major incidents.
- Within the FRS, there is too much dependence on water.
 - More emphasis should be placed on other mitigation measures and forms of control.
 - Land managers may be able to provide equipment that will offer alternative control methods, for example: cutting equipment.
- The differences between upland and lowland fires should be highlighted.
 - \circ $\;$ Upland fires are likely to be more extensive with more difficult access.
 - Lowland fires are likely to be closer to people, property and critical national infrastructure.
- A review of the use of air assets is needed.
 - \circ $\;$ It is important to be able to make best use of very limited resources.

- The lack of two-way radio communications between the ground and the helicopter experienced at Winter Hill must be addressed.
- Helicopter water pick-up
 - This process has bio-security risks, including the potential to spread pollutants between different water bodies, which is of particular concern when drinking water reservoirs are used.
 - Weed attached to bucket from previous collection can be transferred to a reservoir.
 - A solution is to pump water from reservoir into temporary water tanks for collection by helicopter
 - Weed infestation can prevent the Bambi bucket sinking into the water.
- After a fire, it is important that analysis of the fire starts as early as possible, before the ash gets washed away.
- As part of a wildfire management plan, particularly on sensitive areas, the location for control lines¹, and the equipment to be used to create them, should be agreed in advance.
- During the Winter Hill incident, 40km of firebreaks had to be constructed quickly using diggers. The estimated cost of reinstatement is £40,000.
- If wildfire management planning, including the consideration of alternative approaches, takes place in advance of fires starting, it will minimise the need for damaging intervention.
- Livestock should be considered as one of the management tools for reducing fuel load. The role of small-scale farmers should be included, as well as the larger enterprises; they could be part of the solution.
- Ignition by dry lightning is rare, but it occurred in 2018.
- Traditionally, there are three sources of ignition: men, women & children, however it should be recognised that ignition can be deliberate or accidental.
- Closure of access land² was not achieved under the Fire Safety Index (FSI), in spite of the extreme conditions. There is a belief in the wildfire community that the FSI is not fit for purpose.
- There is a need to encourage an active upland and lowland agricultural sector. The local knowledge available within this sector is very valuable; farmers are able to deliver the agreed management for wildfire.
- Management does not always provide a negative contribution; for example, burning is capable of providing benefits, if it is used intelligently the right techniques, in the right place at the right time.
- The impact of climate change, as well as mitigation and adaptation measures, on wildfire risk should be assessed.
- Work to reduce the impact of wildfire should be linked to the impact on carbon release from wildfires and the delivery of Defra's 25-year Environmental Plan.
- Research should establish how much carbon is released during the fire, and over the longer-term.

¹ Control lines are the boundaries, natural or manmade, that firefighters employ to control how and where a fire spreads.

 $^{^2}$ The Countryside & Rights of Way Act 2000 allows closure when the FSI reaches level 5.

OTTERBURN

Steve Bray, Defence Fire and Rescue

Short Description

700ha fire on the Otterburn range. Fuel: heather and peat. Firefighting activity restricted by the presence of unexploded ordnance.

Lessons Learned

- 1 There is a much-improved understanding of the wildfire risk on site as a result of this fire and it has highlighted the difficulty of managing such an incident effectively. Better communications have been established between the Ministry of Defence and Northumberland FRS control regarding information about fires onsite.
- 2 The wind had a major impact on this fire, frequently changing direction, this caused numerous reviews and amendments to the Tactical Plan (TP) evacuations and relocation of teams due to smoke hugging the ground and rapid increases and decreases in the rate of fire spread. In these conditions, lookouts played a vital safety role to ensure the protection of operational personnel and to inform changes to the TP.
- 3 The Environmental Impact Assessment highlighted the following issues: potential for water pollution, smoke plumes and impacts on areas of natural conservation the impacts were assessed as medium.
- 4 Consideration was also given to protecting a Site of Special Scientific Interest (SSSI) area within the impact area, however getting water into that area was deemed to be to hazardous due to the unexploded ordnance. The wind direction continued to change frequently and a wind-driven, fast-moving, surface fire subsequently developed and burned across the SSSI. In this case the SSSI is a marsh-peat bog area (M18 Habitat).
- 5 The difficulties of fire in peat particularly effective water application on to the fire.

- The fickle wind caused problems.
- Control lines proved not to be wide enough.
- A network of man-made control lines should link to existing wet areas.
- Raising water tables in blanket peat (rewetting) would assist the control of fire.
- Bracken encouraged fire spread, but belts can act as a firebreak, when the vegetation under the bracken is formed from grass.
- The key environmental impacts resulting from the fire were the smoke and impact on the water catchment.
- Communications: The Ministry of Defence was slow to contact Northumberland FRS, at the start of the incident.

- As a result of the Yellow warning contained in the Daily Hazard Assessment (DHA)³, the use of pyrotechnics was banned. High explosive shells were not banned and these were thought to be an ignition source.
- Air assets were an important tool for tackling this fire. However, due to the risks from unexploded ordnance, no flying is allowed below 200m over the impact area, which restricts the use of water-bombing.
- Water applied to control the fire on damaged peat was not effective. The water tended to drain away quickly through the fissures in the peat.
 - Investigation is planned about the possibility of using a water / peat mix for firefighting.
 - The fibrous material in the water might plug the gaps in the fissures. As a result, water would be retained to control the fire.
- Landmarc manage the range for the MoD; training in prescribed burning is planned for their staff.

LITTLE MARLOW

Rob Gazzard, Forestry Commission

Short description

30 ha fire in standing, corn crop that spread quickly. Trunk road closure, evacuation of houses, loss of residential and commercial property to fire and damage to commercial and property and disruption of critical national infrastructure.

Lessons Learned

- 1 The importance of the initial weight of response and the subsequent prompt call for specialist resources, notably water carriers and high-volume pumps.
- 2 Recognising the potential effects high temperatures and increased wind speeds can have in relation to the operational and suppression tactics needed to be deployed in order to bring about the safe resolution of the incident. In particular, the early implementation of the safety protocol LACES (Lookouts, Awareness, Communications, Escape routes and Safety zones), to improve and manage safety at wildfire incidents.
- 3 Identifying the part vegetation has in relation to wildfire incidents, especially dry standing crops, vegetation used in hedgerows and combustible materials using fencing, all of which have the potential to increase the rate of fire spread.
- 4 Wildfires can be fast moving incidents, which depending upon location can adversely impact on critical national infrastructure e.g. major roads, as well as residential and commercial properties on the rural-urban interface.

³ The DHA is issued by the Natural Hazards Partnership and is available to Category 1 responders. It is circulated to all members of the EWWF.

- In the eight years to March 2017, arable fires accounted for 12% of the number of fires, and 11% of the total area. <u>See the FC Wildfire Statistic in England publication.</u>
- Technically, the conditions in 2018 were the result of a prolonged dry period, not a drought.
- This fire started on the 11th day of the Amber warning issues in NHP's Daily Hazard Assessment.
- As a result of the fire, the A404, the link between the M40 & M4 motorways, was closed for 2 hours during a peak rush hour period.
- The fire moved quickly and had a long flame length.
- Embers from the fire spread it to neighbouring properties.
- Fire crossed the road to reach a residential area.
- The overhead cables that provide power to an important electricity sub-station were lost.
- Currently, planning and building regulations do not include any consideration of the wildfire risk.
- This incident should be seen as a wake-up call about the potential seriousness of wildfires in an agricultural situation.
- A risk assessment approach to wildfire risk would be beneficial for agricultural situations as much as anywhere else.
- Guidance about the wildfire risk in standing crops might beneficial.
 - This could be investigated with other organisations, for example, NFU, CLA.
 - Wildfire buffers (fuel breaks) around corn crops could be considered.
 - Strips of alternative crops planted for agri-environment benefit could act as fuel breaks.
 - The development process should consider how control lines could be constructed quickly using agricultural equipment,
- As a result of there no longer being any burning of stubble, within the agricultural community there is less experience of the potential impact of fire and knowledge of how to manage it.
- Farmers Weekly Interactive published a report of the fire⁴.

^{• &}lt;sup>4</sup> https://www.fwi.co.uk/news/horrific-field-fire-rips-through-standing-crops

CWMCARN

Craig Hope, South Wales Fire & Rescue Service

Short description

Large amounts of brash were left on steep slopes following clear felling of forestry in response to a tree disease outbreak. It was very difficult to control.

Lessons Learned

- 1 Forestry harvesting practices can have an impact on the wildfire threat.
- 2 Command, control and incident planning at large area multi-day incident is complicated.
- 3 Welfare of firefighting crews, and organising their reliefs, needs careful consideration.
- 4 The health and safety considerations associated with the use of heavy machinery at wildfire incidents requires preparation.
- 5 Use of the police to keep people away from the location of the incident should be considered to prevent further ignitions.

- Leaving large amounts of brash⁵ after forestry activities is a questionable practice.
 - Natural Resources Wales (NRW) is starting to use a risk assessment approach and this would have identified the risk from forest brash.
- Earth moving machinery can be used to construct control lines.
 - Contractors should be trained in advance to operate safely in a wildfire situation.
 - NRW owns some equipment and has stand-by contracts with earth-moving contractors.
- FRS command & control organisation needs to be set up to deal with long-term incidents on multiple sites.
- This incident highlighted that the FRS is unable to put out large (or extreme) fires.
 - Fuel management must be considered to reduce the intensity of fires within the threshold of control by FRS.
- Arson is identified as the source of ignition for 96% of wildfires in south Wales.
- Efforts to reduce the amount of arson have been successful.
 - This has led to unintended consequences: the reduced number of wildfires has increased the fuel load and resulted in fewer, but larger fires.
 - Previously, arson fires replaced prescribed burning
- Some land next to residential areas has no management
 - Cutting firebreaks is important to protect residential property from wildfire

⁵ In a felled area, brash consists of the tops and small-diameter branchwood left lying on the ground after the merchantable wood has been extracted.

- South Wales FRS has been doing this work.
- This work is justified as being similar to fitting smoke alarms in residential properties.
- Gorse on slag heaps stabilises the slope.
 - If gorse is removed by wildfire, the slopes can become unstable, increasing the risk of landslips.
- A media blackout policy had been trialled to discourage arson, but it was found that the information vacuum is filled by others.
- A helicopter has been contracted to be on stand-by in Wales for many years.
 - Until 2009, the helicopter was controlled by the Forestry Commission.
 - Thereafter, South Wales FRS have had control.
 - The contract cost is paid by NRW.
 - It was noted that the same helicopter was working on wildfires in the north of England as well and had to move backwards and forwards between different locations.

WINTER HILL

Steve Gibson, Northumberland Fire & Rescue Service

Short description

A large complicated incident, on the fringe of a large urban area, with three separate fires covering 800ha. Water catchment, nationally important telecommunications masts.

Lessons Learned

- 1 Fires of this type can demonstrate extreme fire behaviour. The FRS have a maximum capacity for suppression that was breached in this incident.
- 2 The primary factor for the development of this incident was the availability of fuel.
- 3 Topography cannot be changed, but the fuel can be managed; a strategic approach to fuel management should be adopted.
- 4 The continuous arrangement of the fuel, without fuel breaks, limited tactical options and made it impossible to contain the fire.
- 5 The difficulty of access to the moorland hampered firefighting activity and air support was not available for this incident. It would have helped to have a helicopter with a water bucket to provide another control option.

- The high impact of the incident was linked to the proximity of a densely populated area.
- There was extensive air pollution across Greater Manchester.
 - The Saddleworth moor fire contributed to this.

- The fires demonstrated a high rate of spread, which was estimated to be about 1000m/hr.
- Key Facts & Figures
 - Incident duration 41 days.
 - Helicopters dropped 400T (400,000 litres) of water.
 - 35km of hose were laid.
 - 950 fire appliance mobilisations took place.
 - 40 partner organisations were involved.
- It was noted that in 2018, the UK had third largest area of wildfire in the EU⁶, although the reported area excludes fires less than 30ha.
- The presence and condition of fine fuels is important, as they play a primary role in fire development.
- Challenges of the incident:
 - Dry conditions before and during the incident.
 - Continuous vegetation no fuel breaks.
 - High fuel loads, which increased the rate of spread of the fire.
 - Steep slopes increased the intensity of the fire and the rate of spread.
 - The fire behaviour was beyond the capacity of the FRS to control.
- The size and scale of this sort of incident makes it extremely complex to manage and requires national support.
- The deployment of Wildfire Tactical Advisers at this incident was deemed to be successful and welcomed by Lancashire FRS.
- When considering restoration after this fire, the Winter Hill Partnership wants to ensure a diversity of the vegetation to avoid recycling the wildfire problem.
- The risk to public health came from two sources: smoke and the release of heavy metals from historic deposits.

ADDITIONAL CASE STUDY (not discussed during the workshop)

FERNDOWN

Andy Elliott, Dorset & Wiltshire FRS

Short description

Fire covered 13.4ha of lowland heath during a high-risk wildfire period.

Lessons Learned

- 1 Not relying on technology to provide key information such as site mapping etc. Hard copy maps were provided by the Wildfire Tactical Advisor and proved invaluable. Hard copy maps will now be provided to the Command Support Units.
- 2 A review of the Pre-Determined Attendance for wildfire incidents is required to ensure that adequate resources are mobilised based on weather conditions and wildfire risk.

⁶ EU Forest Fire Information System (EFFIS)

 $http://effis.jrc.ec.europa.eu/static/effis_current_situation/public/index.html$

- 3 The challenges of a dynamic incident such as a wildfire for the initial Level 1 Incident Commander, effectively turning up to a Level 3 incident as first Officer in Charge.
- 4 The importance of local knowledge of wildfire risk and the benefits of working with local partners such as the Urban Heaths Partnership who can provide specialist equipment.

NATIONAL FIRE CHIEFS COUNCIL – WILDFIRE GROUP

Paul Hedley, Chair, NFCC Wildfire Group

Wildfire Tactical Advisors (WTA)

- The WTA concept has been developed by the NFCC Wildfire Group.
- WTA were first deployed at the Winter Hill & Saddleworth incidents.
- The WTA role has been acknowledged by National Resilience, but no funding has been provided.
- WTA can attend incidents, but they can also provide advice remotely.
- WTA can provide advice about involvement of other organisations at the incident.
- A briefing about WTAs was given to the National Resilience Board in January. The briefing has been made available to delegates following the meeting.

WTA are seen as a national wildfire asset. In future, it is hoped that National Resilience will assume responsibility for coordinating WTA availability

Other issues

- A review of Integrated Risk Management Plan⁷ (Guidance on key legislation, such as the Climate Change Act is now out of date) is required and a review of the Community Risk Register⁸ is underway; the EWWF, fire groups and partner organisations could have a role in supporting this work.
- A review of aerial assets is planned. It was noted that, currently, no military assets are available to support FRS at wildfire incidents.
- It was suggested that the Environmental Land Management scheme tests & trials programme should include planning for wildfire, and there should be WTA input into this work.

⁷ An IRMP is an assessment of all risks to life and injury to the community, resulting in a long-term plan to make the Fire and Rescue Service more responsive to locally identified needs.

⁸ A CRR lists possible risks, their probability of occurring and potential impact.



WILDFIRE WORKSHOP - QUESTIONS

1 What went well?

- 1.1 The incidents raised the profile of wildfire and provided organisational learning.
- 1.2 Good partnership working was demonstrated, both during and after the incidents. 40 organisations were involved at Winter Hill.
- 1.3 In the north of England, there was good cooperation with NE, and flexibility was demonstrated over the management of designated sites. The incidents broke down barriers.
- 1.4 DEFRA seconded wildfire advice from Forestry Commission at the beginning of the Major Wildfire incidents.
- 1.5 Suppression worked well within the constraints of each incident.
- 1.6 South East England Wildfire Group's #WildfireAware social media campaign was successful in raising awareness of what to do if the public found a wildfire incident and was adopted by Forestry Commission and DEFRA.
- 1.7 Coordination with Local Resilience Forums (LRFs) was patchy, although it was reported to be working well in Shropshire. There is uncertainty within LRFs about the priority to be attached to wildfire.
- 1.8 Inter-operability principles within the Fire & Rescue Services worked well, however, the major incident at Saddleworth highlighted problems in Incident Command on large, landscape-scale incidents.
- 1.9 Issues from incident debriefs
 - 1.9.1 The debriefs that took place after Otterburn and the Winter Hill incidents demonstrated the value of an effective debrief.
 - 1.9.2 The Otterburn incident has introduced policy changes in the Ministry of Defence.
 - 1.9.3 The input of the Wildfire Tactical Advisers was valuable but they should be engaged early to provide advice about who to contact, and assist with PR activity.

2 What did not go well?

- 2.1 The incidents demonstrated the need for risk assessment & planning for wildfire.
- 2.2 The was no national or strategic planning for wildfires in place.

- 2.3 There was a lack of awareness about the scale of the wildfire threat and the risk to landscape. As wildfire occurred in many locations, wildfire represents a threat to the delivery of Defra's 25-year Environment Plan.
- 2.4 Mobilisation of air assets did not take place soon enough. Mobilisation was hampered by restricted helicopter numbers, and one machine trying to support fire suppression in the north of England and South Wales at the same time.
- 2.5 The land management sector did not plan ahead for wildfire.
- 2.6 The restrictions on the ability of land managers to manage fuel load were seized upon by the press and used to add sensation to reports which served to damage relationships.
- 2.7 At Winter Hill, the Woodland Trust identified that there is a need for crossboundary working and planning. It would be better if planning took place by habitat / landscape area.
- 2.8 The incidents highlighted the failings of the Fire Severity Index (FSI) published by the Met Office for Natural England and Natural Resources Wales.
 - 2.8.1 Even at the height of the wildfire incidents the FSI did not trigger the closure of open access land.
 - 2.8.2 The FSI is viewed as being not fit for purpose.
- 2.9 Local knowledge was not always considered.
- 2.10 The construction of firebreaks provided new access routes onto the moor which could not be controlled.
- 2.11 There is not enough involvement with Local Councils; if they had a greater understanding of the wildfire threat they might be able to contribute to mitigation measures.

3 Was the planning for the wildfire incident effective?

- 3.1 In England, wildfire management planning is a requirement for new Countryside Stewardship applications for lowland heath and upland, but not everyone is in this scheme. Many are still in Higher Level Stewardship and other land uses are not included i.e. arable and forestry.
- 3.2 Wildfire resilience should be seen as one of the public goods that land managers provide, as part of regulating services for Ecosystem Services and Natural Capital
- 3.3 The internal guidance provided for Natural England advisers was reported to be inadequate.
- 3.4 The training and exercises carried out by the South East England Wildfire Group had helped to raise preparedness for wildfire in the region.

- 3.5 Different approaches to wildfire planning are required for different habitats, for example: arable, lowland, upland or the rural-urban interface.
- 3.6 The new Environmental Land Management scheme in England should include wildfire as part of Land Management Plans.

4 Would changes to the management of the land improve the preparation for wildfire?

- 4.1 Yes!
- 4.2 Any changes should enhance the use of local knowledge in planning.
- 4.3 As a result of raising the water table, peatland restoration can reduce the risk of damage from wildfire. The restoration work on Kinder Scout was cited as an example.
- 4.4 Through wildfire risk reduction by improved land management practices, public values can be protected
- 4.5 There is a need for guidance on Wildfire Risk Assessment and Wildfire Management Plans.

5 Was the liaison between the Fire Service, the landowner, the land manager and other interested parties effective?

- 5.1 During the longer-term incidents, communications improved over time.
- 5.2 Arrangements should be in place to ensure good communications from the start of incidents.
- 5.3 Engagement of fire researchers came late at the major incidents; the importance of early involvement to gather information about the fire and its impact was stressed during the workshop.

6 Are any policy changes required to reduce the risk of damage from wildfires?

- 6.1 Government support should be provided for better planning and preparation for wildfires.
- 6.2 The role of the Fire Safety Index as the trigger for closure orders under the Countryside & Rights of Way Act 2000 should be reviewed.
- 6.3 Planning and building regulations should take wildfire into account to increase resilience through better design.
- 6.4 The introduction of wildfire management zones might be appropriate to restrict the spread of fires.

7

Was the level of training adequate for the people from all organisations that responded to the fire?

- 7.1 Land managers need an understanding of FRS procedures & fire behaviour.
 - 7.1.1 Generally, there a poor level of training for tackling wildfires, although there are examples of good practice in some locations.
- 7.2

8 Was the equipment available to fight the fire adequate for the task in the early and/or the later stages?

8.1 Not considered during the workshop.



DEFRA WILDFIRE REVIEW

PROPOSED TOPICS FOR CONSIDERATION

1 Review Structure

- 1.1 Project Board membership
 - 1.1.1 The EWWF is willing to provide input and/or support.
- 1.2 Role of EWWF
 - 1.2.1 Interaction with Scotland and Northern Ireland should be an important part of the review; the EWWF can assist.
 - 1.2.2 The review should consider whether the EWWF could be better organised to better meet the needs of government.
 - 1.2.3 Greater relevance will justify greater involvement from government departments with the work of the EWWF.
- 1.3 Role of Fire Groups
 - 1.3.1 These groups have an important role to play in planning for wildfire and coordinating a response between the public and private sectors.
- 1.4 Role of Local Resilience Forums
 - 1.4.1 For large scale incidents, that could involve evacuations and impact on national infrastructure, links between fire groups and LRFs could assist development of appropriate plans.

2 Planning & Preparation for Wildfire

- 2.1 Fire Service The Home Office
 - 2.1.1 Provision of wildfire firefighting equipment
 - 2.1.2 Training
 - 2.1.3 Wildfire Tactical Advisers
 - 2.1.4 Development of Wildfire Response Plans
- 2.2 Land management Defra. Consider:
 - 2.2.1 The use of Risk Assessments, Management Plans.
 - 2.2.2 Support for fire groups.

2.3 Local Resilience Forums – The Cabinet Office

- 2.3.1 Links to Fire Groups
- 2.3.2 Awareness raising about the wildfire threat.
- 2.3.3 Planning for large scale wildfire incidents.

3 Engagement and outreach.

- 3.1 The review could include workshops or seminars to engage with people who:
 - 3.1.1 Are responsible for managing the 'at risk' areas and/or
 - 3.1.2 Will be called upon to respond to incidents.
- 3.2 How can the EWWF help?

4 Wildfire & the National Risk Register

4.1 Support for wildfire as an increasing threat - as identified by current climate change predictions.

5 Wildfire & the National Adaptation Programme

- 5.1 The National Adaptation Programme (NAP) sets the actions that government and others will take to adapt to the challenges of climate change in the UK. It sets out key actions for the next 5 years
- 5.2 NAP Objective 14: To promote and strengthen community resilience to severe weather-related events linked to climate change (preparation, response and recovery), and the climate resilience of the emergency services and other Category 1&2 Responders of the Local Resilience Forums.
- 5.3 The EWWF aims to provide a focus for public, private and third sector organisations to work together to reduce the effect of wildfire occurrences.

6 Government

- 6.1 In recognition of the increasing threat from wildfire, are the current split of responsibilities for wildfire between the Home Office and Defra the best arrangement.
- 6.2 If not, what is the alternative?

7 Insurance

- 7.1 Role of insurance.
 - 7.1.1 Is there a route to encourage better management through insurance considerations?
 - 7.1.2 What cover is available for the use of helicopters for fire fighting?
- 7.2 The response by insurers to the damage caused by the wildfires is worthy of note.
 - 7.2.1 Cost of Camp Fire in Paradise, California estimated at \$16.5bn.
 - 7.2.2 Insurers are suing the California utility provider, Pacific Gas & Electric, whose equipment is accused of starting the fire.

8 Public Health Issues

- 8.1 The impact of wildfire on public health through air pollution should be investigated.
- 8.2 The Institute for Public Policy Research has published research by King's College London about pollution in Greater Manchester.

9 Helicopter

- 9.1 A review of the use of Air Assets should be considered, including deployment to high risk areas in advance of fires starting.
- 9.2 Aid to the Civil Power from military helicopters should be considered.
- 9.3 Arrangements for the prior approval of funding for the use of helicopters through insurance should be reviewed.

10 Remote sensing

10.1 Does this have a role in preparing and planning for wildfire and during incidents?



Wildfire Workshop Attendance List

No	Name		Organisation	
1	Steve	Bray	Defence Fire & Rescue	
2	Simon	Themistocleous	Defence Fire & Rescue	
3	David	Hunter	Defra	
4	Steve	Wells	Derbyshire FRS	
5	Colin	Winterbottom	Derbyshire FRS	
6	Andy	Elliott	Dorset & Wilts FRS	
7	Simon	Thorp	EWWF	
8	Robert	Stacey	EWWF	
9	Rob	Gazzard	Forestry Commission	
10	Jon	Singleton	London FRS	
11	Mark	Owen	Natural England	
12	Jill	Hobbs	Natural England	
13	Karen	Rogers	Natural England	
14	James	Copeland	National Farmers Union	
15	Steve	Gibson	Northumberland FRS	
16	Paul	Hedley	Northumberland FRS	
17	Robert	Mayhew	Northumberland NPA	
18	Andrew	Shaw	Peak District NPA	
19	Martin	Huckle	Shropshire FRS	
20	Craig	Норе	South Wales FRS	
21	Daniel	Wheeler	Staffordshire FRS	
22	Dan	Fowler	United Utilities	
23	Clare	Bullen	United Utilities	
24	Kathryn	Frazer	United Utilities	
25	Nicholas	Kettridge	University of Birmingham	
26	Julia	McMorrow	University of Manchester	
27	Matthew	Gamblen	West Sussex FRS	
28	Nick	Hall	Woodland Trust	
29	Mark	Gordon	Woodland Trust	
30	Rachel	Briggs	Yorkshire Dales NPA	
Apologies	5			
	Dewi	Rose	EWWF	
	David	Hodge	Hampshire FRS	
	Sam	Ashby	Home Office	
	Pauline	Wall	Northumberland NPA	
	Andrew	Miller	Northumberland Mountain Rescue	
	Mary	Gough	Northumberland NPA	
	Paul	Gray	Shropshire FRS	
	Matthew	Melland	Staffordshire FRS	
	Spencer	Nicholls	Surrey FRS	
	Matt	Oakley	Surrey FRS	
	Ross	Evans	United Utilities	
	Bjorn	Robroek	University of Southampton	

Appendix 5



Wildfire Case Study

Name of Incident:		Dates	Times
Otterburn Location:	Start	23-Jun-18	13:00
Otterburn Ranges, Northumberland	End	2-Aug-18	12:30



Background Information

Site Description Designations: MOD Range Main fuel: Heather

Secondary fuel: Peat

Slope: 15 degrees

Conditions

Daily hazard Assessment	Yellow
Temperature	28 °C
Relative Humidity	30 %
MetOffice FSI (click for dropdown)	3
EFFIS (click for dropdown)	High
Wind speed	20 mph
Wind direction	Varies

FRS Involvement

FRS Name(s)Northumberland

Resources at peak

4 Appliances, 3 fogging units, 2 Wildfire support officers, A High Volume Pump, Police helicopter & 14 on site staff.

Organisations providing support

MOD, NFRS, NNPA, NE

Access Issues

Old ordnance, roads and tracks narrow one-way system employed. Sight-seers caused access issues

Injuries

FRS personnel None

Others None

Ignition

Location: Source: Grid Sq 89 00 H E Shell

Impact

Area burnt

700ha

Evacuations Only Personnel involved in controlling the fire

Road closures Unclassified road only

Other impacts Smoke plume

Key lessons learned

- There is a much-improved understanding of the Wildfire risk on site and the difficulties to effectively manage an incident. Better communications have been established between the MOD and NFRS control regarding information about fires onsite.
- 2. The wind had a major impact on this fire, frequently changing direction, this caused numerous reviews and amendments to the TP evacuations and relocation of teams due to smoke hugging the ground and rapid increases and decreases in the rate of fire spread. In these conditions, lookouts played a vital safety role to ensure the protection of operational personnel and to inform changes to the TP.
- 3. Environmental Impact Assessment highlighted the following issues; potential for water pollution, smoke plumes and impacts on areas of natural conservation, the impacts were assessed as medium. Consideration was also given to protecting a Site of Special Scentific Interest (SSSI) area within the impact area, however getting water into that area was deemed to be to hazardous due to the unexploded ordinance. The wind direction continued to change frequently and a wind-driven fast moving surface fire subsequently developed and burned across the SSSI. In this case the SSSI is a marsh-peat bog area (M18 Habitat).
- 4. The difficulties of fire in peat particually effective water application on to the fire.

State of preparations before the fire

On the 20th of June 2018 Defence Fire Risk Management Organisation (DFRMO) advised Defence Infrastructure Organisation (DIO) to issue a pyrotechnics ban. The MOD range HQ subsequently issued the requested pyrotechnic bans – this included flares and other heat emitting munitions - ignition sources. The ban however did not include the use of High Explosive rounds, as they are not deemed as likely to start fires.

From the 3rd July 2018, all MOD range activity has to be approved by a DIO Senior Responsible Officer when Met Office/NHP Amber warnings for Wildfire have been publicised. DIO Placed a notice on the Defence Intranet Home page.

Restoration Issues

M19 Habitats – Dry surface with heather growing on top of peat.

There has been a total loss of vegetation and sub soil (Peat) in the dryer locations within the fire perimeter. Everything burnt away down to the Clay/rock substructure; Re-generation in these areas - may never recover.

Sub Soil Damage to Peat – the structure of the peat has been damaged by the heat from the fire causing large numbers of small fissures/small cracks within in the peat structure. This makes the peat porous whereas normally peat retains high volumes of water. Again this damage is permanent and the peat will erode and disappear. It may be possible to restore small areas by damming and introducing sphagnum and heather to cover the damaged peat and prevent possible erosion.

M18 Habitats – Wet surface with sphagnum moss covering deep peat (Over 400mm deep) areas.

Initial reports seem to indicate the fire "flash burned or Surface burned" across these areas. This had the effect of removing surface vegetation and scorching the surface of the Sphagnum moss. The Moss retains moisture which will protect it to some degree. It is hoped the moss will survive however there is uncertainty as to whether the other vegetation burnt within these areas will return – time will tell.

Other comments

The MOD is looking to carry out Wildfire risk assessments on its ranges. The Format of these assessment is still to be agreed.

Contact for further information

Stephen.bray616@mod.gov.uk Tel 07916310296

Timeline of Key Events

Date / time	Details	
22/06/18	1 st Fire occur on the range	
23/06/18	The main fire starts and a	
Approx 13:30	established.	
26/06/18	Range is contacted and reports Fire is in impacted area and a free watch is in place – controlled burning	
27/06/18	1st emergency call received, NFRS attendance not required	
28/06/18	NFRS requested to attend. Wildfire support Officers and	
14:36	TAC Ads attend and start to develop a Tactical plan to Focus protection on life and Infrastructure from the fire.	
01/07/18	1 St Deployment of crews and	
12:35	equipment	
02/07/18	Fire within 500m of life risk, crews deployed on scene for 4hrs.	
06/07/18	Prescribe/controlled burns used to strengthen defensive lines	
18/07/18	Higher humidity stops Control burns, Fire handed back to MOD	
02/08/18	Fire deemed extinguished.	

Appendix 6



Wildfire Case Study

Name of Incident:		Dates	Times
Little Marlow Location: Buckinghamshire	Start	2-Jul-18	16:10
	End	3-Jul-18	19:08



Background Information

With AMBER Wildfire Alerts across England in place for a second week the wildfire at Little Marlow is one of the smaller sized incidents, but had a considerable impact on destruction and damage to residential and commercial properties, travel disruption, evacuation of residential homes and disruption to local businesses. The incident occurred in fields being cut by a combine harvester near Winchbottom Lane, off the Marlow Road A4155. Fire spread was rapid in cut and standing crops and then transferred into resident and commercial property on Pump Lane, before crossing the A404 above the Marlow interchange. Fire spread was stopped adjacent to a large residential area with houses siding onto the fields and large electricity substation.

Site Description

Designations: None

Main fuel: Standing crop and fresh cut stubble

Secondary fuel: Forestry (coniferous and broadleaved) and hedgerow

Slope:

n/a

Conditions

Location: Daily hazard Assessment AMBER Temperature 28.5 °C Relative Humidity Not known % MetOffice FSI (click for dropdown) 4 EFFIS (click for dropdown) Very High Wind speed 9-12 mph Wind direction E & NE (anecdotal)

FRS Involvement

FRS Name(s) Buckinghamshire

Resources at peak 20 pumps, 4 water carriers, 1 high volume pumping unit

Organisations providing support

Thames Valley Police

Access Issues

Injuries

FRS personnel None

Others None

Ignition

Location: fields being cut by a combine harvester

Source: Accidental, spark from combine harvester caused by flint sticking metal

Impact

Area burnt

30ha

Evacuations 12 residential properties Wyevale Garden Centre closed Pumps Lane Farm closed

Road closures A404 for 2 hours

Other impacts

- 1 residential property destroyed
- 1 industrial property destroyed
- 1 industrial property damaged by smoke
- 4 commercial vans destroyed
- 1 boat destroyed
- 1 Power cable cut

Key lessons learned

- Importance of the initial weight of response and subsequent prompt make up for specialist resources, notably water carriers and high volume pumps.
- 2. Recognising the potential effects high temperatures and increased wind speeds can have in relation to the operational and suppression tactics needed to be deployed in order to bring about the safe resolution of the incident. In particular the early implementation of the safety protocol LACES (Lookouts, Awareness, Communications, Escape routes and Safety zones), so to improve and manage safety at wildfire incidents.
- Identifying the part vegetation has in relation to wildfire incidents, especially dry standing crops, vegetation used in hedgerows and combustible materials using fencing, all of which have the potential to increase the rate of fire spread.
- 4. Wildfires can be fast rapid incidents, which depending upon

location could adversely impact critical national infrastructure e.g. major roads, as well as residential and commercial properties on the rural urban interface.

State of preparations before the fire

Restoration Issues

Other comments

Contact for further information

Station Manager Stuart Buckland, Buckinghamshire FRS Rob Gazzard, Advisor: Contingency Planning and Wildfire, Forestry Commission England

Timeline of Key Events

Date / time	Details
02/16:02	Time of call
02/16:55	14 pumps – fire reaches residential properties
02/17:15	A404 closed
02/17:25	20 pumps, 4 water carriers, 1 HVP
02/22:00	6 pumps
03/19:08	Stop Message

Appendix 7



Wildfire Case Study

Name of Incident:		Dates	Times
Cwmcarn Scenic Drive	Start	14/7/18	12.34
Location: Cwmcarn, South Wales	End	23/8/18	17.00



Background Information

Cwmcarn forest has been transformed from an industrial coal mining site to a quiet tranquil forest planted with coniferous and non-coniferous trees. Due to an outbreak of *Phytophthora ramorum (P. ramorum),* which is a fungus-like pathogen that causes extensive damage and kills a wide range of trees and other plants, a large area of Larch trees had to be felled. This left large areas of forest brash across very steep slopes. The dry summer of 2018 ensured that once this brash was ignited it would be very difficult to extinguish.

Site Description

Designations: SSSI (not affected by fire)

Main fuel: Forestry brash/grass

Secondary fuel: Forestry Slope: Mostly over 45 degrees

Conditions

Location:	Cwmcarn	
Daily hazard Assessment		
Temperature	24 °C	
Relative Humidity	50 %	
MetOffice FSI		
EFFIS		
Wind speed	10 mph	
Wind direction so	uth west	

FRS Involvement

South Wales Fire and Rescue Service

Resources at peak

8 WRL's, 4 Bowsers, 2 ATV's, 4 4x4's,1 welfare unit, 1 incident control unit,2 firefighting Helicopters

3 large excavators Walking excavator Tractor mounted flails

Organisations providing support

- Natural Resources Wales
- Gwent Police

Access Issues

None

Injuries FRS personnel

• None

Others

• None

Ignition Location: Forestry Brash Source: arson

Impact

Area burnt

150 ha

Evacuations None

Road closures

• None

Other impacts

- Closure of Mountain bike trails/walking routes
- Smoke into community

Key lessons learned

- 1. Forestry harvesting practices
- Command, control and incident planning at large area multi day incident
- 3. Use of heavy machinery at wildfire incidents
- 4. Welfare and reliefs of firefighting crews
- 5. Use of police dispersal order to stop further ignitions

State of preparations before the fire

South Wales Fire and Rescue Service train every firefighter in wildfire safety, there are 24 level 3 tactical wildfire officers, 4 wildfire stations who have Polaris 6x6 off road ATV's and are trained to carry out prescribed and tactical burning. SWFRS have 5 uk Wildfire tactical advisors

Restoration Issues

Majority of trees now removed from site and chipped, replanting has commenced

Other comments

During the time this incident was taking place SWFRS also attended many other large wildfires all across the service area, in the month of July 2018 SWFRS attended 1195 wildfires.

Contact for further information

Craig Hope c-hope@southwales-fire.gov.uk

Timeline of Key Events			
Date / time	Details		
<u>14/7/18</u> 1500 hrs	A log from a small contained brash fire rolled approx. 60 metres to bottom of valley where it ignited more forestry brash		
1600	Fire spread from valley bottom, jumped two forest roads and spread to open hillside and forestry plantation. Helicopter requested, fire appliance situated to protect lodge house		
1700	Fire within forest brash allowed to burn, helicopter and crews used to stop fire spread on hillside		
2300-0600	2 wrls maintain presence overnight		
<u>15/7/18</u>	Plan devised to contain		
0600	brash fire on steep (45+ degree slope)using water		
0900	Firefighting commences- 2 helicopters,2 WRL's , 2 water bowers make water attack on flank of fire, approx. 60,000 litres of water used but fire not contained		
1400	Nrw asked to attend to plan for heavy machinery deployment		
1900	Excavators arrive and crews worked throughout night to stop fire spread using excavators and water		
16/7/18	Large commitment to try to extinguish fire, 8 WRL's, 4 Bowsers, 2 ATV's, 4 4x4's,2 firefighting Helicopters 3 large excavators Walking excavator Tractor mounted flails slow progress made and other fires ignited		

Date / time	Details
<u>17/7/18-</u> <u>23/8/18</u>	Firefighting continues. Gwent police put a dispersal order in place to stop public access, main fire extinguished on 23/7/18 but fire service and NRW maintain presence until 23/8/18

Appendix 8

The England & Wales Wildfire Forum	Wild	fire Case	Study
Name of Incident:		Dates	
Winter Hill/Saddleworth Moor	Start	28th June	
Location: Lancashire/Greater Manchester	End	8th August	41 days



Background Information

The Winter hill incident was complicated by the fact that it consisted of three separate fires. the incidents on the 28th and 30th of June resulted in a large area of moorland being burnt. Due partly to the location of national infrastructure located on its summit the incident was declared a major incident on the 30th June.



Wildfire Case Study

Site Description

The area is a water catchment area and a number of nationally important telecommunication masts/platforms are located on its summit.

The incident took place on the urban fringe of one of the most densely populated areas in the UK. (The Saddleworth Moor fire only 30 miles away in the GMFRS area was still on going)

Main fuel:

Surface - Light fuels consisting mainly of grass and heather/scrub

Ground fuels- Peat

Secondary fuel: Scrub and planted woodland

Slope: topography was varied with slopes and drainage features across the incident site.

Location:

Winter Hill is an upland area on Rivington Moor on the border of the boroughs of Chorley, Blackburn and Bolton in the North West of England.

Weather conditions were dry and wildfire supportive, before and throughout the incident. importantly the fire took place following a prolonged drying environment lasting several weeks.

The fire burnt for a total of 41 days as the initial fire ignited ground fuels (peat) over an extensive area.

FRS Involvement

FRS involvement

Lancashire and Greater Manchester were initially in attendance but during the prolonged incident support was provided by approximately 20 FRS from across the UK.

FRS operations were supported by partners including land managers/equipment contractors and Aerial assets

Organisations providing support

Support was provided by many agencies/ partners including-

United Utilities Bay Search Rescue Rivington Heritage Trust Mountain Rescue HM coast Guard North West Ambulance Service Lancashire County Council Lancashire Police Constabulary Local Borough Councils BAE Systems Etc

Access Issues

Limited access onto and around the incident site

Injuries

FRS personnel N/K

Others N/K



Ignition

Location: three separate ignitions

Source: Apparently Deliberate

Impact

Area burnt 800 ha

Evacuations - Precautionary

Road closures- Several secondary road closures.

Challenges

- 1. Extreme fire behaviour
- 2. Continuous fuel arrangement
- 3. Lack of opportunity to contain fire
- 4. Limited tactical options
- 5. Lack of air support
- 6. Size and scale of incident

Restoration Issues

Under assessment

Other comments

Extremely challenging incident due to its scale and duration and the continuous nature of the fine fuel arrangement.

Timeline of Key Events

Date / time	Details
25/06/18	Ignition and subsequent fire on the Western side of Winter Hill (Contained and extinguished)
28/06/18	Second ignition and subsequent fire near the summit of Winter Hill
28/06/18	Third ignition and subsequent fire on the Eastern side of Winter Hill
29/06/18	Second fire contained and mopping up operations begun.
30/06/18	Fire on the Eastern side of Winter Hill spreads towards the Summit of Winter Hill and a major incident declared
03/07/18	Fire contained within control lines on the outer perimeter of the fire and mopping up operations continue
08/08/18	Incident concluded

Appendix 9



Wildfire Case Study

Name of Incident: Ferndown Common Location:		Dates	Times
	Start	26/07/2018	17:58
Ferndown, Dorset	End	29/07/2018	16:14



Background Information

Dorset and the South of England had been experiencing a period of very high temperatures and very dry conditions. On the day the EFFIS values for the area were FWI 50.6 Very High, Danger Risk 6, ISI 15.4, BUI 157.5, FFMC 92.1, DM 167.8, DC 531.2 Anomaly 8.4, Ranking 100. All in all not a good day for a wildfire in the Rural Urban Interface.

Site Description

Designations: SSSI, SAC, SPA

Main fuel: Lowland heath; Heather, Molinia and Gorse with occasional mature and seedling pine. Secondary fuel: Smouldering fire in duff layer

Slope: Negligible

Conditions

Location:FerndownDaily hazard AssessmentAMBERTemperature23 °CRelative Humidity69 %MetOffice FSI (click for dropdown)4EFFIS (click for dropdown)Very HighWind speed8 mphWind directionS

FRS Involvement

FRS Name(s) Dorset and Wiltshire Fire and Rescue Service. Hampshire Fire and Rescue Service

Resources at peak

15 pumps, 1 Unimog, 8 L4ts, 2 Water Carriers, 1 HVP, 1 Hose laying vehicle and 1 drone

Organisations providing support

National Police Helicopter Service. Dorset Police Drone. Amphibian and Reptile Conservation and The Urban Heaths Partnership (in the form of a tractor and mower).

Access Issues

The site has a number of access points and it took a while to establish the best point of access and to communicate this to oncoming crews.

Injuries

FRS personnel Nil

Others _{Nil}

Ignition

Location:

Close to central track

Source: Unknown, but believed to be deliberate

Impact

Area burnt

13.4ha

Evacuations

No official evacuations took place. However, there was considerable concern for residential properties

Road closures

A number of roads were closed briefly during the incident including the B3072, Wimborne Road.

Other impacts

HVP hose ramps caused considerable disruption to traffic flow and some vehicle damage was reported.

Wildlife casualties were recorded on site.

Key lessons learned

- 1. Not relying on technology to provide key information such as site mapping etc. Hard copy maps were provided by the Wildfire Tactical Advisor and proved invaluable. Hard copy maps will now be provided to the Command Support Units.
- 2. A review of the Pre-determined Attendance for wildfire incidents is required to ensure that adequate resources are mobilised based on weather conditions and wildfire risk.
- 3. The challenges of a dynamic incident such as a wildfire for the initial Level 1 Incident Commander, effectively turning up to a level 3 incident as first OiC.
- 4. The importance of local knowledge of wildfire risk and the benefits of working with local partners such as the Urban Heaths Partnership who can provide specialist equipment

State of preparations before the fire

DWFRS crews and Officers were in daily receipt of Fire Danger information from

the Wildfire Tactical Advisor. The situation was being monitored by the Local Resilience Forum. Wildfire training and exercising was current and in date.

Restoration Issues

As an urban heath, this site is regularly burnt albeit not on this scale. It is in a permanent state of restoration and as such does not present any specific additional concerns.

Other comments

The incident raised awareness of the benefits of working with the local community. For example, the Salvation Army were quick to pick up on the welfare needs of personnel and provided drinking water along with hot drinks and meals throughout the incident. The Urban Heaths Partnership are working with local residents around the formation of Firewise communities.

Contact for further information

Andy Elliott. DWFRS Wildfire Tactical Advisor. <u>andrew.elliott@dwfire.org.uk</u>

Timeline of Key Events

Date / time	Details
26/07 17:58	Time of Call – PDA mobilised 1 Pump, 1 L4t and Unimog (L4t is Land Rover Pump)
26/07 18:20	Assistance Make Pumps 5 L4t 4
26/07 18:35	Assistance Make L4t 6 Heavy Off Road 4 Water Carrier 1
26/07 18:43	Assistance Make Pumps 10
26/07 19:18	Request attendance of Drone
26/07 1941	Assistance Make Pumps 15
26/07 19:46	Assistance Make L4t 8 Water Carrier 2

Date / time	Details
27/07 10:36	Assistance Message Water Carrier 3
27/07 13:14	Flare up (most pumps had been stood down) additional pump required
28/07 09:36	Unimog Required
28/07 13:24	Flare up Make Pumps 4 as threatening housing
28/07 13:27	Assistance Make Pumps 8
28/07 13:29	Assistance Make L4t 2
29/07 09:58	Stop Message
29/07 16:14	Incident closed



WILDFIRE REVIEW WORKSHOP FOR DEFRA

Workshop Proposal

1 Background

- 1.1 As a result of the large number of damaging wildfires that occurred during 2018, Defra wishes to review the planning and preparations that take place for wildfire.
- 1.2 It is recognised that wildfires will always occur, but it is believed that the risks to people and property, and the amount of damage to protected and sensitive sites, can be reduced by planning before the wildfire starts.
- 1.3 Defra's review will take place during 2019, but in advance of this, Defra has commissioned the England & Wales Wildfire Forum (EWWF) to run a workshop. The workshop will capture the views from those who had direct involvement with the fires in 2018, covering lessons learned about planning and preparation, and make recommendations for improvements to be considered by Defra as part of the review.

2 Workshop Format

- 2.1 A single event will take place at a central location.
- 2.2 Workshop details:
 - The workshop will consider case studies representing a range of wildfire incidents that occurred during 2018.
 - Input will be invited from a variety of people who were involved in fighting the fire, minimising the damage it caused or who were otherwise affected by it.
 - A facilitator may be nominated for each incident to coordinate the input to the workshop.
- 2.3 The aim will be to review and collate lessons learned, using the case studies as examples of other incidents, with a focus on the effectiveness of planning and preparation on the impact of the fires on: the habitat, the services provided by the land, the local communities and other users of the land affected by the fire.

c/o Northumberland Fire and Rescue Service, West Hartford Business Park, Cramlington, NORTHUMBERLAND, NE23 3JP

 Contact: Robert Stacey, EWWF Secretary

 Tel: 01670 621167
 e:mail: robert.stacey@northumberland.gov.uk

website: www.ewwf.northumberland.gov.uk

- 2.4 The response from the fire service and other assets will be of interest where it relates to planning and preparation, but the detailed technical aspects of the response will not be covered during the workshop. Separate firefighting debriefs are taking place and may form part of the wider review of the 2018 wildfires.
- 2.5 To reflect area served by the EWWF, the workshop will incorporate input from wildfires that occurred in both England and Wales.

3 Objectives for the Workshop

- 3.1 To develop a summary of the key lessons learnt from case studies of up to five wildfires that occurred across the UK.
- 3.2 To make recommendations for improvements in the way that planning and preparations take place to minimise the impact of wildfire.
- 3.3 To submit a report to Defra within 2 weeks of the workshop and a offer presentation to Defra staff. The presentation could be repeated for the wildfire project review board.

4 Duration

- 4.1 To allow enough time to consider as much information as possible, the workshop will be held over a full day.
- 4.2 As many people will have to travel a considerable distance, many are likely to be staying close to the venue. Consideration will be given to an early start, or possibly some activity the night before the workshop.

5 Timing

5.1 The workshop will be held in late January or early February 2019.

6 Venue

- 6.1 A venue in a central location will be sought.
- 6.2 EWWF members will be approached in the hope that a meeting and other facilities can be provided, for a nominal sum, if not free of charge.

7 Financial

7.1 A budget of £2,500 has been provided by Defra.

8 Other Work to be Considered

- 8.1 The Uplands Management Group has established a Task & Finish Group to develop guidance for a Wildfire Management Plan.
 - 8.1.1 This include mitigation measures aimed to reduce the amount of damage from wildfire.

- 8.1.2 The guidance will fill a gap in the advice available to practitioners, and
- 8.1.3 the measures the plan proposes will be considered as part of this workshop and the Defra wildfire review.
- 8.2 A sub-group of the Peak District Fire Operations Group, led by the Peak District National Park Authority, is working with Natural England, representatives of the Moorland Association and Derbyshire Fire & rescue Service to consider possible mitigation factors for wildfires.

9 Conclusions

- 9.1 This workshop will be a valuable tool for capturing lessons learned and views from those who had an active involvement with the fires that occurred during 2018.
- 9.2 It will be important to hold the workshop as soon as possible to capture views while they are still fresh and before people, who were involved with the fires, disperse to other roles.
- 9.3 The information gathered by the workshop will provide a useful foundation for the Defra wildfire review.

Simon Thorp 29th November 2018