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Committee Secretary  
Senate Select Committee on Agricultural and Related Industries  
PO Box 6100  
Parliament House  
Canberra ACT 2600

July 30, 2009

Dear Senator,

**Re. Inquiry into the incidence and severity of bushfires across Australia.**

The Hotspots Fire Project would like to thank you for initiating this timely Inquiry which will facilitate open and transparent public debate and discussion on an issue that we believe is of paramount importance.

We support the Senate's call for a national approach to bush fire policy and hope that our formal submission will assist in leveraging constructive outcomes to achieve this.

Our innovative fire management training program for landholders and land managers ensures that we are consistently at the forefront of fire management issues in NSW from an on-ground perspective all the way through to a policy level.

In the following submission we have identified three major recommendations for the Inquiry:

1. There is an urgent need to embed a sustainable and integrated approach to fire management in Australia;
2. Fire management must be supported by sound science; and
3. Effective planning must take place across tenure; across landscapes.

We would welcome the opportunity to work with the Senate in progressing the importance of a practical and sustainable approach to fire management nationally.

We look forward to discussing this issue with you further either personally or at a public hearing.

Yours Sincerely

Cate Faehrmann  
Executive Director



# HOTSPOTS FIRE PROJECT

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## Submission to the 2009 Senate Inquiry

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For many communities the responsible management of fire prone bushland presents ongoing challenges.

One challenge is balancing the ecological and cultural needs of the bush with the need of protecting life and property against the threat of wildfire.

Can this be achieved?

This is the issue that the Hotspots Fire Project has been addressing in NSW for almost 5 years...



*“The Hotspots workshop program has proven to be an efficacious intervention that can increase the knowledge and understanding of landholders about their landscapes, the role of fire in the landscape and how to manage fire to achieve biodiversity outcomes.”*

– ARTD, 2008



This project has been assisted by the New South Wales Government through its Environmental Trust

## Hotspots Fire Project Submission to the Inquiry.

Underpinned by the best available science and operational knowledge, the Hotspots Fire Project (**Hotspots**) offers a training program for landholders and land managers to address ways to reduce wildfire risk for the protection of life and property whilst planning for the protection and enhancement of biodiversity values<sup>1</sup>. This community based training program empowers landholders and land managers with the skills and knowledge needed to actively and collectively participate in fire management planning and implementation.

Hotspots' pioneering approach offers a bridge between the gap of fire management for Natural Resource Management and Fire and Emergency Management. The project works in partnership with over nine agency and non Government partners. Funded principally through the NSW Environmental Trust, Hotspots has been in operation in parts of NSW for almost five years. Our proven model of consultation, science and fire training and practical implementation has generated a remarkable amount of momentum in areas in which it has worked.<sup>2</sup>

Hotspots understands that well-informed and well-prepared communities complement the roles of land managers and fire agencies and that a shared approach to fire management is critical to any form of planning.

The Hotspots' objectives are that:

- a. On-ground fire management is informed by best available fire ecology research and operational knowledge;
- b. Landholders and land managers have the knowledge and skills to engage in practical and sustainable fire management;
- c. Landholders and land managers plan together, tenure blind, at a landscape scale and that plans are implemented and;
- d. Appropriate fire regimes are recognised in and are part of relevant policies and programs (including regional, State and National).



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<sup>1</sup> See Attachment 1 for more information about the Hotspots Fire Project delivery model

<sup>2</sup> See Attachment 2 for examples of project deliverables

## Recommendations to the Inquiry:

### 1. There is an urgent need to embed a sustainable and integrated approach to fire management in Australia (policies, programs and plans).

As a project we recognise and are most concerned that there is very limited integration of fire management particularly within natural resource management practices and programs in NSW<sup>3</sup>. This is the case despite the reality that wildfire continues to be a major threat to natural resource management restoration efforts while at the same time provides significant opportunity to be used as a tool to improve biodiversity values.

We believe that there is an urgent need to embed a practical and sustainable approach to fire management within mainstream fire planning and natural resource management - including regional, State and National policy and planning. Government must be committed to identifying preferred avenues through which this can be achieved.

Some integration opportunities within NSW include:

- The NSW Catchment Action Plans (CAP) prepared by Catchment Management Authorities (CMA)
- NSW Natural Resource Commission and reporting on implementation of CMA CAPs;
- Property Vegetation Planning driven by the CMAs;
- Bush Fire Risk Management Plans prepared by the Bush Fire Management Committees;
- Community Education and Hazard Reduction programs led by the NSW Rural Fire Service;
- The Natural Resources Commission's landscape approach to natural resource management;
- NSW Department of Environment and Climate Change's State Biodiversity Strategy;
- Conservation covenants (for example Nature Conservation Trust) or other stewardship and voluntary biodiversity conservation projects protecting native vegetation (for example Greening Australia); and
- Climate change adaptation programs and the science of climate change and fire risk.



<sup>3</sup> For a description of the Hotspots Fire Project's integration priorities, see Attachment 3

## 2. Fire management must be supported by sound science

Fires are a fact of life across much of the Australian continent. Eliminating fire is neither a practical nor an ecologically appropriate solution.

At a time when climate change models predict an increase in the number of days when fire danger ratings are very high to extreme and the window of opportunity available for prescribed burning is narrowing<sup>4</sup>, there is a clear need to adopt more proactive approaches to fire management.

Both the Australian and NSW Government list inappropriate fire regimes as a key threatening process for biodiversity conservation. There is also increasing recognition within Government on the critical need to restore fire regimes to maintain, enhance and/or reinstate biodiversity values in our landscapes.

However, restoring appropriate fire regimes is by no means a straightforward process. Research into the ecological effects of fire is by nature complex, addressing multiple species, ecosystems, aspects of the fire regime and environmental interactions.

Governments must recognise these complexities and invest in, and work with relevant research University and Government institutions to articulate guidelines for biodiversity-friendly fire management. Importantly guidelines must be tailored regionally as disturbance regimes and their effects differ considerably between vegetation types and across environmental gradients.



## 3. Effective planning must take place across tenure; across landscapes.

A shared approach to fire management is critical to any form of planning that aims to minimise risk to life and property, biodiversity and cultural values. This includes a common approach to zoning, planning and implementing management strategies across both private and public tenure – well informed and well-prepared communities complement the roles of land managers and fire agencies.

Unfortunately, the reality for many landholders and land managers is that there are many barriers which reduce opportunities to collaboratively plan for and implement fire management strategies across landscapes<sup>5</sup>.

Community based fire management training programs, which adopt a holistic approach, will help to overcome such barriers. However, community investment will only succeed if

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<sup>4</sup> Hennessy K., Lucas C., Nicholls N., Bathols J., Suppiah R. and Ricketts J. (2005). Climate change impacts on fire-weather in south-east Australia. Commonwealth Scientific and Industrial Research Organisation (CSIRO) Australia.

<sup>5</sup> Barriers to Burning, for a summary of a Hotspots project evaluation on landholder barriers to implement burns see Attachment 4. A full report available on request.

whole communities are brought together including landholders, fire authorities, natural resource managers, Indigenous groups and fire-ecology scientists.

Empowering landholders and land managers and, indeed communities with the skills and knowledge needed to actively and collectively participate in regional fire management helps to bridge the planning gap between public agencies and private land holdings as well as facilitate cooperative on ground action so that plans are carried out strategically.

Despite the imperative of managing fire in the landscape at a community level, little resources have been allocated to programs that facilitate landholder and inter-agency knowledge and skills for bushfire management. This is the case even with the reality that fire continues to be - and in fact in some parts of Australia is expected to become an even more prevalent feature of the landscape.

### **Summary:**

As observed in all large fire events and associated inquiries, landholders and managers want programs that help to build confidence in managing fire for protection of life, property and environmental assets within communities. Programs, such as Hotspots, that engages the community to be better informed about the role of bushfires and better prepared to live within fire prone landscapes must be sustained for the longer haul.

Hotspots hopes that the Senate will use this Inquiry to explore innovative, collaborative, holistic and community based approaches to fire management which offers a pragmatic solution to overcome environmental, political and functional challenges.

As part of this submission please see enclosed samples of the educational materials that Hotspots uses in the training package as well as a 14 minute [promotional DVD](#) which highlights stakeholder buy-in and project success.

We would welcome the opportunity to appear at any public or closed hearings. If given this opportunity, we would like to outline to the Inquiry the invaluable lessons learnt from the success of the Hotspots Fire Project.

Should you have any queries or comments regarding this submission, please contact either Waminda Parker (Project Strategist) or Sally Hunt (Project Coordinator) on (02) 9279 2115 or [wparker@nccnsw.org.au](mailto:wparker@nccnsw.org.au) or [shunt@nccnsw.org.au](mailto:shunt@nccnsw.org.au).

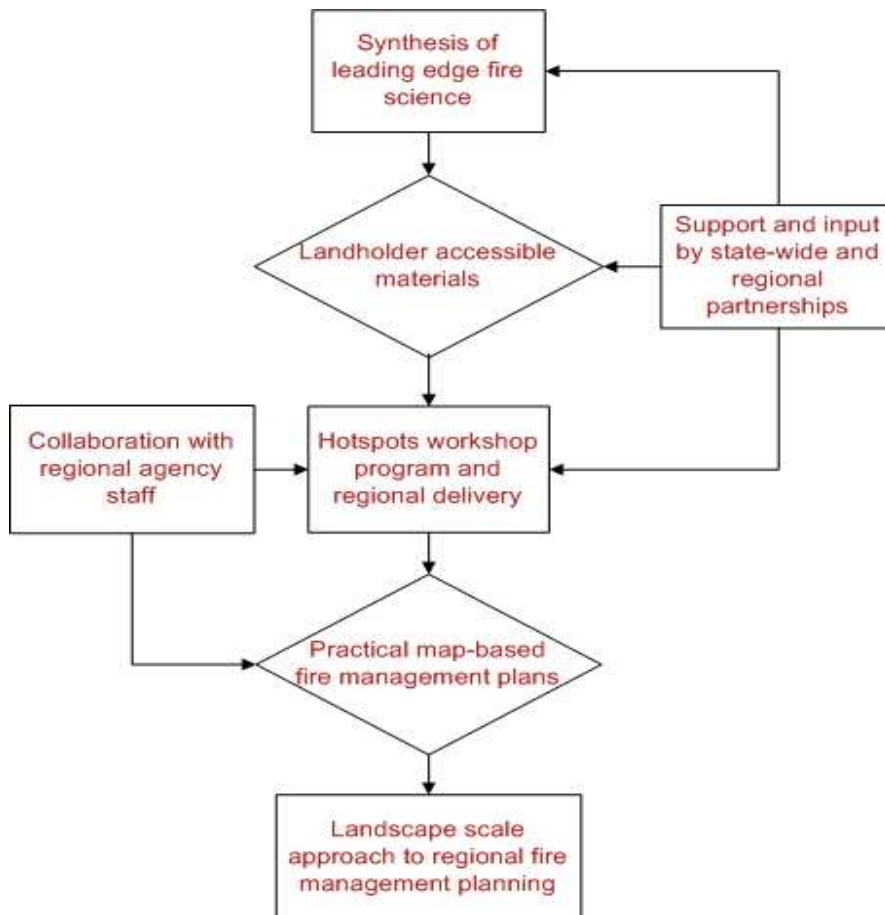


## Attachment 1:

### The Hotspots Fire Project delivery model

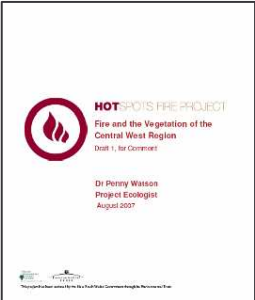


The Hotspots project team has a vision of increasing the understanding of the role of fire in the Australian bush and improving the management of fire across the landscape for ecological and cultural outcomes, while also protecting life and property.

The Hotspots project builds partnerships with a diverse range of people and organisations that collectively benefit from fire management, and enhances their shared capacity to meet the challenges of sound fire management. The focus of Hotspots is on effective shared fire management planning and collaboration within communities, between agencies and across landscapes.



**Figure 1:** The key elements of the Hotspots model

**Table 1:** The key elements of Hotspots explained

<ul style="list-style-type: none"> <li>• <b>Synthesis of leading edge fire science</b></li> </ul>	
 <p style="text-align: center; margin-top: 10px;">↓</p>	<ul style="list-style-type: none"> <li>○ The scientific component of Hotspots considers fire as an ecological process and has set a high standard for translating and interpreting science in a management context.</li> <li>○ The project has developed in-depth literature reviews on fire and vegetation in its pilot regions.</li> <li>○ This work has put the issue of regionalisation of fire frequency guidelines on the agenda in NSW, and has started the process of rethinking the efficacy and accuracy of current regulations.</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Presented in landholder-accessible formats</b></li> </ul>	
 <p style="text-align: center; margin-top: 10px;">↓</p>	<ul style="list-style-type: none"> <li>○ Hotspots has pioneered taking fire ecology science to rural and peri-urban communities in NSW including the Northern Rivers, Southern Rivers, Central West and Hawkesbury Nepean Catchment Management Authority regions.</li> <li>○ Our messages, materials and workshops are underpinned by regionally-focused reviews of the fire ecology literature and are presented in landholder friendly formats.</li> <li>○ We present technical information in a way that ensures it is relevant and understandable to landholders.</li> <li>○ Our landholder booklets describe plant and animal responses to fire, discuss the effects of fire frequency, intensity, season and extent, and outline the implications for management regionally.</li> <li>○ Our case studies help bring the lessons of fire ecology research into community discussion.</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Through workshops tailored for local communities</b></li> </ul>	
	<ul style="list-style-type: none"> <li>○ Hotspots disseminates these materials and messages regionally principally through a workshop program.</li> <li>○ A three-part workshop program addresses fire management from both a biodiversity conservation and an asset protection perspective.</li> </ul>





- Workshop 1 introduces landholders to fire ecology, relevant legislation and other important information related to managing fire on properties.
- Workshop 2 focuses on map-based planning. This results in development of plans for fire management to protect economic, social *and* environmental assets.
- Workshop 3 led by the NSW RFS focuses on the operational aspects of implementing these plans.
- Workshop content addresses local community needs, concerns and issues, identified through engagement with local stakeholders in the lead-up to each workshop series.
- Hotspots materials and messages can easily be tailored to other forms of delivery such as one on one communication with landholders or ‘under the gum tree’ style group discussions.

#### • In collaboration with regional agency staff



- Regional agency staff are a key resource for workshop development and delivery.
- Hotspots has developed extensive networks in each of our pilot regions where we have worked with large numbers of agency staff and many community groups.
- The open environment of cooperation and information exchange fostered by Hotspots helps build and strengthen relationships amongst and between landholders, regional agency staff, and other community members with an interest in land and fire management.

#### • Producing practical map-based fire management plans



- The Hotspots map-based planning process helps individual workshop participants to develop their own fire management plan, making decisions that are consistent with their own goals and suited to their own circumstances.
- These plans help forge connections for fire management planning between landholders, agency staff and community groups.

Through its existing partners – the Nature Conservation Council of NSW, the NSW Rural Fire Service, the NSW Department of Environment and Climate Change, the NSW Farmers Association, NSW Catchment Management Authorities, the Southeast Queensland Fire and Biodiversity Consortium, the University of Wollongong's (UoW's) Centre for Environmental Risk Management of Bushfires, Forest NSW and the Local Government Shires Association (LGSA) with perspective partners including the NSW Aboriginal Land Council and the NSW Department of Lands - Hotspots has an integral part to play in regional Natural Resource Management.



## Attachment 2:

### Examples of Hotspots Fire Project deliverables

- Over 425 landholders and 110 agency staff have attended a Hotspots training program in which 120 fire management plans have been developed covering over 80,000 hectares. As part of the program these landholders have been trained in fire ecology, asset protection, property planning and more recently, operational fire management planning;
- Post training follow up actions from landholders, such as:
  - Joint burns between public and private neighbours;
  - Joining the local fire brigade;
  - Undertaking NSW FireWise training;
  - Community connections made between landholders, fire managers and other Natural Resources Managers;
  - Acknowledgement of private landholder responsibility to fire management;
  - Improved landholder obligations under the NSW Rural Fires Act 1997;
  - Burning to improve threatened species habitat; e.g. the Brush Tailed Rock Wallaby;
  - Improved understanding about fire behaviour within the landscape;
  - Improved understanding that different burning practices have different outcomes for the bush;
  - A shift in perception of risk and ecological requirements of the bush; e.g. from fuel to habitat and;
  - Ecological surveys for threatened species to improve property based fire management planning.
- Integrating the Hotspots sustainable fire management model into other Natural Resource Management and risk planning. Some examples of this include:
  - The NSW regional Bush Fire Management Committees, where Hotspots has been identified as a treatment in some Bushfire Risk Management Plans;
  - The NSW Catchment Management Authorities, linking Hotspots to Property Vegetation Plans and Catchment Action Plans and;
  - Commonwealth Regional Recovery Plans e.g. Hotspots is part of the Border Ranges Rainforest and Northern NSW Biodiversity Management Plans.

## Attachment 3:

### Hotspots Fire Project Integration Priorities

<b>Hotspots Fire Project: Project Integration Priority</b>	
<p><b>Appropriate fire regimes are recognised in and are part of relevant policies and programs (inc regional, State and National).</b></p>	<ul style="list-style-type: none"> <li>• The Hotspots process is an integral part of science-based natural resource and fire management and training in NSW.</li> <li>• Public awareness and acceptance of the importance of fire ecology in fire management and the conservation of biodiversity.</li> </ul>
Key output	Descriptions of outputs
<p>Hotspots is recognised across regions as a project that offers sound science-based approaches to fire management.</p>	<p>A communication plan which raises the profile of Hotspots while ensuring realistic expectations of its capacity to deliver will be developed and implemented.</p>
<p>Assisting NSW RFS to meet targets for the treatment and management of bushfire.</p>	<p>Through raising awareness within the community of bushfire effects and management, Hotspots is: complementing the RFS Farm FireWise and other educational programs to achieve increases in hectares managed for bushfire and an increase in hazard reduction works across the landscape; increases in local volunteer brigade membership; decreases in escaped fire due to inadequate management of fires and ignitions; and facilitation of communication between RFS staff and community groups which may be difficult for normal RFS programs to access.</p>
<p>Assisting Bush Fire Management Committees (BFMCs) to implement community education and hazard reduction strategies outlined in Bush Fire Risk Management Plans (BFRMPs).</p>	<p>If targeted in areas which are assessed as being high risk in the BFRMPs, Hotspots can assist the BFMCs to implement community education or hazard reduction strategies within the BFRMPs.</p> <p>For example, Hotspots has been identified as a treatment in the Singleton draft BFRMP.</p>
<p>Working with CMAs to find the best approach for the integration of fire management in their CAPs.</p> <p>Facilitating inter-agency and cross-regional links needed enable CMAs to meet NRC standards and targets for NSW.</p>	<p>CMAs have primary responsibility for the development and implementation of CAPs which contribute, in a regional context, to achieving the statewide NRM targets.</p> <p>The Hotspots project is directly relevant to the planning aspects of CMA work, as well as to the biodiversity, and community and partnership CAP targets</p> <p>Hotspots will explore the development of a realistic program to expand to other CMA regions in ways that maximise the opportunities for uptake most relevant to those regions.</p>

	<p>In September 2006 the NRC identified as one of the key challenges both for individual CMAs and for the State government in implementing its State Plan, the ability to “successfully and fully integrate” Catchment Action Plans (CAPs) “with all other NRM plans and priorities for their region”. As the imperatives of managing fire in the landscape in a rapidly changing climate escalates, the Hotspots program could facilitate inter-agency knowledge and skills about bushfire management needed to meet that challenge.</p>
<p>Pilot the integration of fire management planning in existing map-based Property Vegetation Planning.</p>	<p>Under the provisions of the <i>Native Vegetation Management Act</i>, CMAs have the capacity to provide incentive funds for NRM. Where those funds are directed through Property Vegetation Planning, Hotspots fire management planning could be made eligible for incentive funding.</p> <p>Sustainable fire management outcomes from the Hotspots project could be used to maintain and/or improve the health of native vegetation dedicated as an ‘offset’ within a PVP.</p>
<p>Assisting DECC to address key elements of the NSW Biodiversity Strategy. Hotspots is already embedded into DECC regional planning i.e. the Border Rangers Rainforest and Northern River Regional Biodiversity Management Plans.</p>	<p>The Hotspots project is relevant to various strategies outlined in the NSW Biodiversity Strategy: community involvement and ownership of conservation and protection of biodiversity at a regional scale; assisting the recovery and rehabilitation of threatened species, populations and ecological communities; and protecting critical habitat from fire impacts. It will also assist in addressing threatening processes, developing and implementing management practices to achieve ecological sustainability and conserve biodiversity, and improving knowledge relevant to biodiversity conservation.</p>
<p>Assisting DECC in the development of regional guidelines for sustainable fire management.</p>	<p>DECC have developed State based Fire Frequency guidelines based on life histories of plants found across large geographical areas. There is scope to refine these existing state-wide guidelines to make them more regionally relevant. Scientific reviews may assist in regionalising current state-wide guidelines.</p>

## Attachment 4:

### Identified barriers to burning for landholders.

Barrier	How can Hotspots address these barriers?
<b>Knowledge &amp; capability</b>	
Culture in some brigades may restrict landholders from joining a brigade;	<ul style="list-style-type: none"> <li>- Bringing together brigades &amp; landholders</li> <li>- Give landholders information on joining a brigade</li> </ul>
Loss of traditional/farming culture and knowledge.	<ul style="list-style-type: none"> <li>- What knowledge &amp; experience can we capture from the people here &amp; others ?</li> <li>- Gain new knowledge &amp; influence further actions</li> </ul>
Lack of understanding of and experience with operational procedures, particularly control (incl. in difficult terrain);	<ul style="list-style-type: none"> <li>- Hotspots demonstrates operational techniques</li> <li>- Hotspots goes through a burn plan process</li> </ul>
Fear of losing control of the fire, leading to litigation.	<ul style="list-style-type: none"> <li>- Answer landholder questions regard to responsibilities under the Rural Fires Act</li> <li>- Hotspots goes through the advantages &amp; disadvantages of burning/nit burning for particular scenarios which landholders raise</li> <li>- Hotspots discusses &amp; practices risk assessment procedures</li> </ul>
Vegetation in isolated remnants is not burnt frequently enough for environmental requirements as they are not seen as a risk;	<ul style="list-style-type: none"> <li>- The role of burning for biodiversity values addressed in the Hotspots training package (Workshop 1)</li> </ul>
Landholders have other competing priorities;	<ul style="list-style-type: none"> <li>- Hotspots acknowledges that time is scarce – but enforces how important this issue is</li> </ul>
Legislation – coming to grips with environmental requirements and legal	<ul style="list-style-type: none"> <li>- Hotspots provides clarity on procedures</li> </ul>
<b>Resources &amp; practicality</b>	
Fragmentation of landownership. larger farms are being divided into smaller properties fragmenting the management of land and fire across the landscape;	<ul style="list-style-type: none"> <li>- Hotspots work with Landcare &amp; other community organisations which bring people together to work together</li> </ul>
Lack of suitable equipment to prepare for and manage planned fire;	<ul style="list-style-type: none"> <li>- Hotspots creates networks so that landholders can share equipment &amp; other resources neighbours</li> <li>- Hotspots gives information on joining a brigade</li> <li>- Hotspots improves RFS and other agency contacts.</li> </ul>
Lack of people – capacity of volunteers and low staff numbers on farms;	
Lack of practical support	
In some instances there is difficulty in obtaining approval for ecological burns;	<ul style="list-style-type: none"> <li>- Hotspots provides information on how burn permission can be obtained or if not why not.</li> </ul>
Fire records are not very comprehensive;	<ul style="list-style-type: none"> <li>- Hotspots gathers whatever historical information is available for those present (in Hotspots workshop 2)</li> <li>- Hotspots demonstrates skills to determine likely past fire general history for interpreting the bush (Hotspots Workshop 1 &amp; 3)</li> </ul>
Completion of a hazard reduction certificate and/or other regulatory requirements; and	<ul style="list-style-type: none"> <li>- Undertake exercise in complaint a HRC application &amp; assessing</li> <li>- Encourage landholder to talk to the RFS in how they can visit &amp; assist in future</li> </ul>
Inability to use fire fighting equipment	<ul style="list-style-type: none"> <li>- Workshop 3 provides landholders with an</li> </ul>

	introduction – to think about increasing skills from Hotspots training & joining or assisting local brigade
Inaccessible terrain	- Hotspots demonstrates techniques & lighting pattern to better accommodate difficult terrain