



# Implementation Plan (as at May 2013)

National Bushfire Management Policy Statement for Forests and Rangelands



Australia and New Zealand's Forest Fire Management Group

Edition 1, May 2013

**Cover photograph:**

2009 fuel reduction burn in high elevation, long unburnt native forest, Namadgi, ACT  
(photo: Neil Cooper, ACT Parks and Conservation Service).



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# The Implementation Plan

The vision inspiring the *National Bushfire Management Policy Statement for Forests and Rangelands* is that:

*Fire regimes are effectively managed to maintain and enhance the protection of human life and property, and the health, biodiversity, tourism, recreation and production benefits derived from Australia's forests and rangelands.*

The Four Objectives are:

**A. Effectively managing the land with fire:**

Fire is used to manage Australia's forests and rangelands to achieve outcomes that involve reduced risk from severe bushfires, and enhance the resilience of ecosystems in the face of climate and other change.

**B. Involved and capable communities:**

Community values and available knowledge are used to formulate supporting strategies and actions. Initiatives by emergency, health and development agencies to promote resilient (and capable) communities are supported through promotion of living with fire principles.

**C. Strong land, fire and emergency partnerships and capability:**

Priority strategies and the best available knowledge are used to guide investment in capability and cooperative working arrangements with partners and stakeholders.

**D. Actively and adaptively managing risk:**

Learnings from new research, management experience, community interaction, and monitoring of outcomes are used to continually improve land and fire management strategies.

This Implementation Plan has been prepared by the Forest Fire Management Group which is currently, a sub-committee of PISC's Forestry and Forest Products Committee (FFPC). Membership of FFMG covers both Australia and New Zealand with the Australian agencies comprising:

## Government

- Forestry Corporation of NSW;
- NSW Department of Environment and Climate Change;
- Victorian Department of Sustainability and Environment;
- Parks Victoria;
- Queensland Department of National Parks, Recreation Sport and Racing (NPRSR);
- ForestrySA;
- SA Department for Environment and Heritage;
- WA Department of Environment and Conservation;
- Forestry Tasmania;
- Parks and Wildlife Service Tasmania;
- ACT Parks Conservation and Lands;
- Bushfires NT;
- Commonwealth Scientific and Industrial Research Organisation; and
- Australian Government Department of Agriculture Fisheries and Forestry.

## Non-Government

- Hancock Queensland Plantations Queensland;
- University of Melbourne; and
- Melbourne Water.

The key approach to the implementation of the strategies and activities of this plan is the use of Adaptive Management<sup>1</sup>.

This is defined as a decision process that promotes flexible decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood.

Careful monitoring of these outcomes both advances scientific understanding and helps adjust policies or operations as part of an iterative learning process.

Adaptive management also recognizes the importance of natural variability in contributing to ecological resilience and productivity. It is not a 'trial and error' process, but rather emphasises learning while doing.

Adaptive management does not represent an end in itself, but rather a means to more effective decisions and enhanced benefits. Its true measure is in how well it helps meet environmental, social, and economic goals; increases scientific knowledge; and reduces tensions among stakeholders.

*'Fire regimes are effectively managed to maintain and enhance the protection of human life and property, and the health, biodiversity, tourism, recreation and production benefits derived from Australia's forests and rangelands.'*

<sup>1</sup> Taken from US Department of the Interior, Departmental Manual, 522 DM 1 <http://www.doi.gov/initiatives/AdaptiveManagement/documents/DOLmanual3786.pdf>

Strategies	Current Activities	Further Activities Required	Priorities (12 months)	Priorities (2 to 4 yrs)
<b>Objective 1. Effectively Managing the Land with Fire</b>				
<b>Goal 1. Maintain Appropriate Fire Regimes in Australia's Forests and Rangelands</b> Lead Person/Agency: Justin Cook – Forestry SA				
<b>Define the outcomes required to reduce the risk of severe fires and promote more healthy and resilient ecosystems.</b>	<ul style="list-style-type: none"> <li>• Implementation of Coronial enquiries.</li> <li>• Current Codes of Practice; State and agency policies; United Nations Voluntary Guidelines.</li> </ul>	<ul style="list-style-type: none"> <li>• FFMG membership to define.</li> </ul>	<p>Prepare list of priority actions CSIRO &amp; Bushfire CRC.</p> <p>Plan how to implement priority actions. CSIRO &amp; Bushfire CRC.</p>	
<b>Develop and support a strategic approach to research, monitoring and learning for the use of fire in the landscape.</b>	<ul style="list-style-type: none"> <li>• AFAC and Bushfire CRC – active participation by all FFMG representative agencies.</li> </ul>	<ul style="list-style-type: none"> <li>• Local and State research programs to include this issue as a key component.</li> </ul>	<p>Undertake a fire research needs analysis and promote the use of adaptive management.</p> <p>Prepare list of priority research, monitoring and learning programmes.</p> <p>Plan how to implement this list using a range of tools including 'adaptive management'.</p> <p>Implement the key tasks identified in the current Bushfire CRC, 'National Research Project Identification and Implementation Monitoring Process'. Concurrent to this there will need to be active participation in the new Bushfire and Natural Hazards Cooperative Research Centre (BNHCRC).</p>	

Strategies	Current Activities	Further Activities Required	Priorities (12 months)	Priorities (2 to 4 yrs)
<b>Goal 1. Continued</b>				
<p><b>Develop a framework that supports effective strategic decision making. This would enable long term comparisons between bushfires and regimes of planned burning across the landscape for multiple, diverse and inter-related values.</b></p>	<ul style="list-style-type: none"> <li>• It will be developed using current knowledge from research, case studies, expert opinion and the input of key stakeholders, subject to ongoing refinement based on experience and new information.</li> <li>• Seek input from strategic management theory.</li> </ul>	<ul style="list-style-type: none"> <li>• FFMG to coordinate.</li> </ul>	<p>Investigate approaches to develop a strategic decision making framework appropriate to the Australian environment.</p> <p>Agree on preferred approach and apply.</p> <p>FFMG encourage and work with other agencies on appropriate fire regimes.</p>	
<p><b>Manage bushfires and planned fires to reduce the risk of severe fires impacting on communities, and enhance the health, biodiversity and resilience of Australia's forests and rangelands.</b></p>	<ul style="list-style-type: none"> <li>• Research – Bushfire CRC, AFAC and agency research.</li> <li>• Implemented in legislation and SOP's.</li> </ul>	<ul style="list-style-type: none"> <li>• Coordination of research results – consistent with building knowledge within and between agencies.</li> <li>• Enhance agencies SoPs and protocols based on shared experience of bushfire management.</li> </ul>	<p>Identify high risk communities and initiate Fire Smart programmes.</p> <p>Identify and manage high risk ecosystems to minimise fire related impacts through adaptive management.</p>	

Strategies	Current Activities	Further Activities Required	Priorities (12 months)	Priorities (2 to 4 yrs)
<b>Goal 2. Balance the Environmental Impacts of Fire</b> <b>Lead Person/Agency: David Nugent – Parks Victoria</b>				
<b>Maximise the environmental benefits through use of appropriate fire regimes, while minimising the adverse environmental effects of fire on environmental assets or services such as water, vegetation, carbon and air-sheds</b>	<ul style="list-style-type: none"> <li>• Research – Bushfire CRC, AFAC, Universities and agency research monitoring, analysis and publicity.</li> </ul>	<ul style="list-style-type: none"> <li>• Establish appropriate monitoring indicators.</li> <li>• Continue to investigate appropriate ecosystem specific fire regimes.</li> <li>• Promote the environmental benefits of fire to counter and minimise the current ‘demonising’ of some management practices e.g. regeneration burns in Tasmania and Victoria.</li> </ul>	Implement through ‘adaptive management’.  Identify and manage high risk ecosystems to minimise fire related impacts CSIRO, Bushfire CRC and local universities.	
<b>Goal 3. Promote Indigenous Australians’ Use of Fire</b> <b>Lead Person/Agency: Murray Carter – Department of Environment and Conservation WA</b>				
<b>Where relevant, further integrate traditional burning practices and fire regimes with current practices and technologies to enhance ecosystem health, bushfire mitigation and management in Australian landscapes.</b>	<ul style="list-style-type: none"> <li>• Relevant FFMG agencies to incorporate into research and planning at the State level.</li> <li>• Tribal land management practices.</li> </ul>	<ul style="list-style-type: none"> <li>• Increase link to traditional fire regimes and indigenous practices.</li> </ul>	Implement.  Identify and manage high risk ecosystems to minimise fire related impacts.  FFMG encourage, consult and work with other agencies on promoting indigenous use of fire especially Traditional Owner knowledge.	



Strategies	Current Activities	Further Activities Required	Priorities (12 months)	Priorities (2 to 4 yrs)
<b>Objective 2. Involved and capable communities</b>				
<b>Goal 4. Community Engagement</b>				
<b>Lead Person/Agency: Alan Goodwin – Department of Sustainability and Environment Victoria</b>				
<p><b>Improve the engagement of communities in fire prone areas in bushfire mitigation and management so that responsibility for fire management is acknowledged and appropriately shared.</b></p> <p><b>Develop opportunities for effective public participation in decision and more transparent risk management processes.</b></p>	<ul style="list-style-type: none"> <li>• Bushfire CRC activities.</li> <li>• Fire Smart – Fire Wise programme.</li> <li>• Local and State initiatives in land and community management.</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure that adequate information is available to the wider community to assist property owners and managers to undertake prevention, preparedness and suppression actions on their lands<sup>2</sup>.</li> <li>• Develop a national awareness program for all Australians on what it means to live with bushfires and the measures needed to lessen the impact of bushfires such as burning.</li> <li>• Develop programs that share the responsibility for fire management between all stakeholders.</li> <li>• Prepare intensive preventative programs for communities and individuals that are at risk from exposure to rising smoke levels.</li> <li>• Develop new and better ways of engaging all stakeholders through planning, action and supporting social research.</li> </ul>	<p>Seek to change Shire planning requirements and approaches to support, promote and undertake 'Fire Smart' programmes.</p> <p>Seek federal support to promote, establish and sustain state wide 'Fire Smart' programmes.</p> <p>Identify communities that may have a high acceptance to engage in 'Fire Smart' concepts, then work with these communities first to establish 'Fire Smart' programmes<sup>3</sup>.</p>	<p>Continue to seek to change Shire planning requirements and approaches to support, promote and undertake 'Fire Smart' programmes.</p> <p>Continue to support and promote high acceptance communities and work with these first to establish 'Fire Smart' programmes at local, regional and State levels. This is to include review of the procedures for local government fire risk planning. Continually refine using improved knowledge and understanding.</p>

2 For example Caring for our Country – <http://www.nrm.gov.au/>

3 See Fire Wise Communities – AFAC site – <http://search.afac.com.au/search/search.cgi?scope=&collection=AFAC-meta&mode=results&query=firewise> and USA site – <http://www.firewise.org/>

Strategies	Current Activities	Further Activities Required	Priorities (12 months)	Priorities (2 to 4 yrs)
<b>Goal 4. Continued</b>				
Develop more transparent risk management processes.		<ul style="list-style-type: none"> <li>FFMG membership to action.</li> </ul>	Review, publish and promote current best practice in risk management process for State government and Shires.	Continue to review, publish and promote current best practice in risk management process for State and Territory government and local government.
<b>Goal 5. Public Awareness and Education</b> Lead Person/Agency: Gary Featherston – AFAC				
Foster community understanding of fire in the Australian landscape, and support for, bushfire management in Australia. This includes the role of planned fire in reducing risk and the promotion of healthy and resilient ecosystems.	<ul style="list-style-type: none"> <li>Bushfire CRC activities.</li> <li>Fire Smart programme.</li> </ul>	<ul style="list-style-type: none"> <li>FFMG membership to action.</li> </ul>	<p>Identify communities that may have a high acceptance to engage in 'Fire Smart' concepts, then work with these communities first to establish 'Fire Smart' programmes<sup>4</sup>.</p> <p>Promote an understanding of prescribed burning as a land management tool.</p> <p>Promote the environmental benefits of fire to counter and minimise the current 'demonising' of some management practices e.g. regeneration burns in Tasmania and Victoria.</p>	

<sup>4</sup> See Fire Wise Communities – AFAC site – <http://search.afac.com.au/search/search.cgi?scope=&collection=AFAC-meta&mode=results&query=firewise> and USA site – <http://www.firewise.org/>

Strategies	Current Activities	Further Activities Required	Priorities (12 months)	Priorities (2 to 4 yrs)
<b>Goal 5. Continued</b>				
Land management agencies support partner emergency management agencies to increase the community's capacity to live with fire	<ul style="list-style-type: none"> <li>Local and regional agreements that vary across States.</li> </ul>	<ul style="list-style-type: none"> <li>Provide information and supporting initiatives to enhance preparedness and resilience – FFMG agencies.</li> </ul>	Plan and organise appropriate meetings, events and fora for LMA and support partner emergency management agencies to promote effective fire management.	
<b>Objective 3. Strong land, fire and emergency partnerships and capability</b>				
<b>Goal 6. Integrated and Coordinated Decision Making and Management</b>				
<b>Lead Person/Agency: Adrian Pyrke (Parks Tasmania) and Naomi Stephens (NSW NPWS)</b>				
Improve decision making processes through integrated strategic and operational planning between land, fire and emergency management agencies.	<ul style="list-style-type: none"> <li>State, local government and private land owners are involved in strategic and operational fire planning.</li> <li>Training and accreditation programmes.</li> </ul>	<ul style="list-style-type: none"> <li>Enhance mutual aid and learning, and the development of good practice examples.</li> </ul>	<p>Seek to identify 'best practice' interagency strategic operational planning between fire and emergency management agencies at State, and local government levels.</p> <p>Review current SOP and develop adaptive management practices.</p>	

Strategies	Current Activities	Further Activities Required	Priorities (12 months)	Priorities (2 to 4 yrs)
<b>Goal 7. Employment, Workforce Education and Training</b> <b>Lead Person/Agency: Shane Wiseman – Department of Environment and Heritage SA</b>				
<b>Build employment opportunities and the skill base of people working in land and fire management (including Indigenous communities) to ensure that Australian agencies continue to have access to graduates, technical and field personnel with appropriate specialised education and training.</b>	<ul style="list-style-type: none"> <li>• Active membership by all FFMG agencies in the Bushfire CRC.</li> <li>• Undertake discussions with Unions and State Labour Departments.</li> <li>• Training and accreditation programmes.</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to support Bushfire CRC and future fire research e.g. Bushfire and Natural Hazards CRC.</li> <li>• FFMG encourage and work with other agencies on employment, workforce education and training.</li> </ul>	<p>Seek federal and state government support for employment and education for land and fire management organisations and agencies.</p> <p>Undertake a land and fire management education needs analysis.</p> <p>Identify communities and organisations that could support land and fire management education and training.</p>	

Strategies	Current Activities	Further Activities Required	Priorities (12 months)	Priorities (2 to 4 yrs)
<b>Goal 8. Bushfire Risk Mitigation</b> <b>Lead Person/Agency: Naomi Stephens – NSW NPWS</b>				
<b>Improve the efficiency and effectiveness of programs designed to minimise the number, spread and adverse impacts of future bushfires.</b>	<ul style="list-style-type: none"> <li>• Prescribed burn programmed developed across Australia.</li> <li>• Current Codes of Practice; State and agency policies; United Nations Voluntary Guidelines.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop national best practice for recording and tracking trends in 'fire cause' and maintain a related national database.</li> </ul>	Prepare and implement national standards.	
<b>Prepare and publicise the impacts that land use and settlement changes have on bushfire risk and fire management practices.</b>	<ul style="list-style-type: none"> <li>• Refine current planning legislation through active participation in appropriate AFAC sub-committees.</li> <li>• Supporting and undertaking research and sharing of information about fire prevention, preparedness, response and recovery in forest and rangeland environments.</li> </ul>		Seek State/ Territory and Local Government support for improvements in land use planning.  Establish a campaign approach to publicity on the impacts that land use and settlement changes have on bushfire risk and fire management practices.	

Strategies	Current Activities	Further Activities Required	Priorities (12 months)	Priorities (2 to 4 yrs)
<b>Goal 9. Bushfire Response</b> <b>Lead Person/Agency: David Nugent – Parks Victoria</b>				
<b>Improve the efficiency and effectiveness of programs designed to minimise the adverse impacts of bushfires</b>	<ul style="list-style-type: none"> <li>Working with fire and emergency management partners to achieve better multi-agency and multi-jurisdictional cooperation, and to improve the provision of timely information and advice to communities – through forums such as the Bushfire CRC and AFAC.</li> <li>Training and accreditation programmes.</li> </ul>		<p>Review, research and promote the efficiency and effectiveness of programs designed to minimise impacts of fires through improved capability, knowledge (eg. resource effectiveness and fire behaviour prediction) and support for the initial and ongoing management of bushfires.</p> <p>Establish and deliver training programmes to ensure best practices are delivered.</p>	
<b>Develop improved incident and emergency management frameworks, as well as more appropriate supporting statutes and inquiry processes.</b>	<ul style="list-style-type: none"> <li>AFAC currently working on this – FFMG members involved and will continue to drive necessary change.</li> </ul>	<ul style="list-style-type: none"> <li>Seek input from trained US incident management trainers.</li> </ul>	<p>Seek current best international practice that is congruent with Australian AIIMS management. Identify and source 'Trainers for Trainers' to promote and train in current, international best practice.</p>	
<b>Establish more appropriate supporting statutes.</b>		<ul style="list-style-type: none"> <li>Seek to streamline the current State/Territory and federal approaches to bushfire related Inquiries.</li> </ul>	<p>Seek support for promotion and establishment of this work.</p>	

Strategies	Current Activities	Further Activities Required	Priorities (12 months)	Priorities (2 to 4 yrs)
<b>Goal 10. Safety in Fire Operations</b>				
<b>Lead Person/Agency: Tim McGuffog – Forestry Corporation NSW</b>				
<b>Improve the health and safety programmes of all personnel working on fire management operations.</b>	<ul style="list-style-type: none"> <li>Negotiating resource sharing arrangements and associated uniform training standards.</li> <li>Human factors in fire management research is providing a sound base for understanding fire management activities.</li> <li>Training and accreditation programmes.</li> </ul>	<ul style="list-style-type: none"> <li>Strengthen and support the development, maintenance and monitoring of national fire related training and accreditation.</li> <li>Develop, monitor and implement a national training and accreditation program in fire behaviour and fire weather, and formalise relevant international links in these fields.</li> <li>Develop and maintain a national 'lessons learnt' centre with a view to achieving a better understanding of existing best practice and learning from experience.</li> <li>Request a report on the applicability and impact of various occupational health and safety statutes to operations on the fire ground.</li> </ul>	<p>Identify, establish and promote priority health and safety in fire management programmes to key fire management staff.</p> <p>Deliver priority programmes to key fire management staff.</p> <p>Continue to promote and learn from the 'human factors' programme.</p> <p>Establish an Australasian 'Lesson Learnt' programme. Initial emphasis on open discussion and 'near misses'</p> <p>FFMG encourage and work with other agencies on safety in fire operations. This includes internal post-fire analysis of significant incidents related to planned burns or wildfires, with learning outcomes incorporated into agency procedures where appropriate.</p> <p>Continue the ongoing work on the development and use of fire management equipment by FEDOG<sup>5</sup>.</p>	

5 Forest Equipment Officers Development Group (FEDOG) is a subcommittee of the FFMG and they manage and advise on the safety of fire management equipment e.g. Fire engine protection, prescribed burning, aerial ignition and hand held incendiaries, PPE, roadside signage etc.

Strategies	Current Activities	Further Activities Required	Priorities (12 months)	Priorities (2 to 4 yrs)
<b>Goal 11. Bushfire Recovery</b>				
<b>Lead Person/Agency: Neil Cooper – ACT Parks and Conservation Service</b>				
<p><b>Improve the effectiveness of programs that minimise the adverse impacts of bushfire suppression operations on human communities, fire fighters and ecosystems.</b></p>	<ul style="list-style-type: none"> <li>FFMG actively involved in Burnt Area Assessment Teams (BAATs) – teams set up in Victoria and another currently being set up to cover Tasmania, NSW, SA and ACT.</li> </ul>	<ul style="list-style-type: none"> <li>Further training and involvement of Rural Fire agencies in principles of the BAATs.</li> <li>Incorporate BAAT into Delegations of Authority across all fire management agencies as part of the 'pick list' of items to be included.</li> </ul>	<p>Develop, promote and undertake training in BAAT principles.</p> <p>Seek to establish BAAT as a best practice in Delegations of Authority.</p> <p>FFMG encourage and work with other agencies on bushfire recovery.</p>	
<b>Goal 12. International Responsibilities</b>				
<b>Lead Person/Agency: Alan Goodwin (DSE Victoria) and Murray Dudfield (National Rural Fire Authority NZ)</b>				
<p><b>Strengthen and maintain partnerships between land, fire and emergency management partners and stakeholders both nationally and internationally (building on existing arrangements with New Zealand, the United States and Canada) through both formal and informal means.</b></p>	<ul style="list-style-type: none"> <li>FFMG working on updating International agreements for exchange of resources.</li> </ul>	<ul style="list-style-type: none"> <li>Further develop appropriate agreements, protocols and standards that facilitate emergency support, general and technology exchanges (including training and learning opportunities) and information sharing that support the achievement of these objectives.</li> <li>Finalise, formalise and monitor, across all Australian jurisdictions, mutual interstate support arrangements.</li> </ul>	<p>FFMG encourage and work with other agencies on international responsibilities e.g. USA, Canada and New Zealand. Other possibilities are Chile, South Africa, South Korea and China.</p>	



Strategies	Current Activities	Further Activities Required	Priorities (12 months)	Priorities (2 to 4 yrs)
<b>Objective 4. Actively and adaptively managing risk</b>				
<b>Goal 13. Risk Management Lead Person/Agency: Murray Dudfield (National Rural Fire Authority NZ)</b>				
<p><b>Develop risk and adaptive management systems that support the assessment and reporting of landscape and local level risks. Identify cost-effective strategies for achieving outcomes (and performance measures) that reduce the impact of severe fires and promote ecosystem resilience.</b></p>	<ul style="list-style-type: none"> <li>• Working with AFAC on performance measures across all States and Territories.</li> <li>• See paper prepared by Australia and NZ for the Asia Pacific Forestry Commission on 'Integrating the management of wildfire-related risks in land and forest management policies' 2011.</li> <li>• NZ working on WTA, local input and and Risk Assessment.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop and implement, across all jurisdictions, appropriate and compatible risk management systems.</li> <li>• Develop and implement a range of nationally agreed performance indicators for the management of fire and maintain a related national database.</li> <li>• Design a national 'best practice' for vegetation, fire regime, fire severity and fire history mapping and establish and maintain a related national database.</li> </ul>	<p>Promote and publicise the Risk Management AS/NZS ISO 31000 principles and process as described in the paper 'Integrating the management of wildfire-related risks in land and forest management policies' 2011.</p> <p>Implement the Risk Management AS/NZS ISO 31000 principles in all land and fire management practices (see Attachment 1).</p> <p>FFMG encourage and work with other agencies on risk management. This includes data capture to enable agencies to contribute to AFAC landscape performance measures, and enable development of internal performance measures to track fire management performance.</p>	

Strategies	Current Activities	Further Activities Required	Priorities (12 months)	Priorities (2 to 4 yrs)
<b>Goal 14. Investing in and Managing Knowledge</b> <b>Lead Person/Agency: Gary Morgan Bushfire CRC</b>				
<b>Improve links between land and fire managers and cooperative research centres, universities and other research providers.</b>	<ul style="list-style-type: none"> <li>• Active participation in the current Bushfire CRC research programme.</li> <li>• See Department of Conservation Fire Research Needs Analysis – 2007.</li> </ul>	<ul style="list-style-type: none"> <li>• Complete case studies, relevant to all jurisdictions, that highlight the cost/benefit issues associated with the use of prescribed fire to manage fuels – as per recommendation in recent Senate Inquiry into Fire.</li> <li>• Implement appropriate research to allow the completion of case studies, relevant to all jurisdictions that highlight the relationships between: <ul style="list-style-type: none"> <li>– fire regimes and water quality and yield.</li> <li>– fire regimes and air quality, both locally and regionally; and between various prescribed and wildfire regimes and carbon balances.</li> </ul> </li> <li>• Implement appropriate research into the impact of carbon and other emissions from bushfires and prescribed fires that will lead to development of fire regimes to, as appropriate minimise this impact.</li> </ul>	<p>12 month priority to commence.</p> <p>Implement the key tasks identified in the current Bushfire CRC, 'National Research Project Identification and Implementation Monitoring Process'. Concurrent to this there will need to be active participation in the new Bushfire and Natural Hazards Cooperative Research Centre (BNHCRC).</p> <p>Use an adaptive management approach to implementing</p> <p>Develop a comprehensive research strategy to support the implementation of this Statement (this will include assessing the value of long-term ecological research sites in supporting landscape level fire management).</p> <p>Support graduate development and other forms of specialised training.</p>	

Strategies	Current Activities	Further Activities Required	Priorities (12 months)	Priorities (2 to 4 yrs)
<b>Goal 14. Continued</b>				
<p><b>Improve links between land and fire managers and cooperative research centres, universities and other research providers.</b> <i>(continued)</i></p>		<ul style="list-style-type: none"> <li>• Greater recognition of the current Bushfire CRC in its current role and its successor organisation the new Bushfire and Natural Hazards Cooperative Research Centre (BNHCRC)</li> <li>• Implement appropriate research into industries adversely affected by bushfires or prescribed burning.</li> <li>• Establish and monitor a national network of long term ecological research sites to provide a basis for monitoring the impacts of fire regimes, fire events and climate.</li> </ul>	<p>Establish a framework for integrating research and monitoring into the management of fire at landscape level, and for improving and refining strategies as a result of new knowledge – adaptive management.</p> <p>Incorporate community values and knowledge into planning and action through engagement, discussions and social research.</p> <p>Establish effective means for brokering/sharing/transfer of new and existing knowledge for fire and land managers (this will be incorporated</p>	

Strategies	Current Activities	Further Activities Required	Priorities (12 months)	Priorities (2 to 4 yrs)
<b>Goal 14. Continued</b>				
<p><b>Improve links between land and fire mangers and cooperative research centres, universities and other research providers.</b> <i>(continued)</i></p>		<ul style="list-style-type: none"> <li>• Implement appropriate research into industries adversely affected by bushfires or prescribed burning.</li> <li>• Establish and monitor a national network of long-term ecological research sites to provide a basis for monitoring the impacts of fire regimes, fire events and climate.</li> </ul>	<p>Increase knowledge to better identify the fire regimes that optimise values such as:</p> <ul style="list-style-type: none"> <li>• Community protection – includes fire behaviour, fire weather/climate and these relate to risk and its mitigation.</li> <li>• Carbon sequestration.</li> <li>• Ecosystem services.</li> <li>• Water, timber and agricultural production.</li> <li>• Biodiversity conservation.</li> <li>• Amenity over whole landscapes through time.</li> </ul>	
<p><b>Increase knowledge on fire behaviour, fire weather and climate interaction and how these relate to risk and its mitigation.</b></p>	<ul style="list-style-type: none"> <li>• Work is underway in a number of organisations and agencies e.g. CSIRO, Bureau of Meterology, Universities, Bushfire CRC, National Institute of Water and Atmosphere (NZ) and Scion (NZ).</li> </ul>	<ul style="list-style-type: none"> <li>• What is required??</li> <li>• FFMG membership to action.</li> </ul>		

# Attachment 1

## Risk Management (AS/NZS ISO 31000)





