

11 Knowledge, learning and training



Australian National University students working in the field

(Photo: Geoff Cary, Australian National University)

The knowledge, learning and training necessary for informed and responsible action in bushfire mitigation and management can be acquired in several ways:

- through general schooling and community education
- through attainment of competency-based qualifications under the Australian Quality Training Framework and through professional development – for volunteer and career firefighters, land managers and others associated with bushfire mitigation and management
- through tertiary education for fire scientists, land managers and firefighters and the development of knowledge and skills in relevant specialist areas
- through recognition and use of Indigenous Australians' ecological knowledge and custom and through the integration of this with modern and local knowledge
- through the development of a 'learning organisation' culture¹ within agencies responsible for bushfire mitigation and management.

Bushfire-related school and community education is discussed in Chapters 3 and 7. This chapter deals with other aspects of knowledge, learning and training relevant to bushfire mitigation and management.

¹ Senge, P 2002, *The Fifth Discipline: the art and practice of the learning organisation*, Random House, Sydney.

11.1 Learning and training under the Australian Quality Training Framework

11.1.1 The Public Safety Training Package

Bushfire-related education and training under the Australian Quality Training Framework involves subjects² offered in the Public Safety Training Package³ and in the training packages of other sectors relevant to bushfire. Components of these packages are developed, delivered and assessed by a range of public and private registered training organisations that include most fire, emergency service and land management agencies. The training offered consists of nationally accredited competency-based programs with national qualifications and statements of attainment.

In other industry sectors TAFE institutions are a principal provider of this training. These sectors, such as those incorporating land management and conservation, also offer competencies and programs that develop knowledge and skills in land management and fire response. Programs delivered under the Framework through both approaches are available to volunteer and career members of organisations concerned with bushfire mitigation and management.

Training for bushfire mitigation and management has evolved and made considerable progress in the past 20 years. The National Training Reform Agenda has resulted in significant changes in vocational education and training in fire and land management agencies. Operational reviews have also had an influence on the focus of training, particularly in fire and emergency services agencies.

The public safety competency standards developed by the Public Safety Industry Training Advisory Body are now the agreed industry-wide benchmarks for workplace performance in fire agencies and emergency services. Before these national competencies were adopted, the Australasian Fire Authorities Council played a leading role in fostering a national approach to vocational education and training in the fire agencies. The Council developed and resourced the Australian Fire Agency Competencies and the National Fire Curriculum, developing resources in collaboration with the industry.⁴ These enjoyed wide acceptance and adoption among member agencies.

Implementation of the Public Safety Training Package has not always been easy in the transition from a curriculum-based training system to a competency-based one; the national recognition and cross-sectoral, and even cross-industry, portability of these competencies are, however, invaluable: the Inquiry acknowledges their merit. Implementation has varied nationally but considerable progress has been made. Expenditure on training facilities and training delivery for the fire, emergency service and land management agencies generally, and on training for bushfire mitigation and management specifically, has increased significantly in the

² Here, 'subjects' refers to both the units and the qualifications of a program of study.

³ Training packages are sets of nationally endorsed standards and qualifications for recognising and assessing people's skills.

⁴ The Council has continued this important role of supporting and coordinating training resources to assist members in developing and sharing materials for the national competencies and in mapping AFAC competencies to national competencies.

last 20 years, particularly since the finalisation of the Linton Coronial Inquest in Victoria (in 2001).

The Inquiry also notes the significant demands imposed on both volunteers and fire agencies by the formal competencies now required of volunteer firefighters (see Chapter 12). Continuing changes in competency requirements have greatly increased the training commitment required of and the cost implications for volunteers and agencies. We draw the Council of Australian Governments' attention to the substantial costs of providing minimum-competency training for Australia's 180 000 volunteer firefighters.

These costs have constrained the implementation of the current Public Safety Training Package by some agencies. In our view, there is a case for additional assistance, from the states and territories and through the Australian National Training Authority, for the development and delivery of learning and training resources.

Box 11.1 An increased commitment to training in Victoria

The Victorian Country Fire Authority, assisted by a funding injection of over \$20 million from the Victorian Government, will train 28 000 volunteers in 'Minimum Skills Training' by June 2005. This is being achieved through the employment of an additional 52 training staff to meet the increased demand. Volunteer associations say this additional training is being well received.⁵

11.1.2 The administration and durability of training arrangements

For the past decade the National Training Agenda, which is administered through the Australian National Training Authority, has been organised under 29 industry training advisory bodies, or ITABs. The Authority is currently proposing to restructure the ITABs into a smaller number (about 10) of industry skills councils. One of the consequences of this would be the absorption of the Public Safety ITAB, under which emergency services (including fire) industry standards are developed and endorsed, into a larger Public Administration Industry Skills Council.

Fire and emergency services agencies are concerned that the new arrangements will diminish their capacity to influence the development and delivery of future training needs and thus diminish the relevance and value of this training. Negotiations about future arrangements between fire and emergency services organisations, the Public Safety ITAB and the Australian National Training Authority continue at the time of writing.⁶

The Inquiry is conscious of the demands on volunteers' time if they are to meet training requirements (see Chapter 12) and is particularly concerned about the impact on volunteers' willingness to undertake further training if the proposals result in significant change in the Australian Quality Training Framework. We are not convinced that the flow-on effects for volunteers have been considered fully. Given the considerable training demands already imposed on volunteers, any

⁵ Cameron, JW (Victorian Auditor-General) 2003, *Fire Prevention and Preparedness*, Auditor-General, Melbourne, p. 117.

⁶ Information supplied by Emergency Management Australia.

further changes in competency requirements in the short term are likely to have a detrimental impact on volunteer training and retention.

The states' and territories' willingness to maintain their commitment to the Australian Quality Training Framework, regardless of the positioning of competency development in any future industry skills council, is more important than the administrative arrangements that are ultimately agreed. Their willingness is dependent on three factors:

- that the public safety sector retains a strong degree of influence over the training package
- that the planned training package review, in 2004–05, continues with the appropriate industry involvement
- that any industry advisory arrangements maintain effective representation structures.

The progress already made towards a consistent, nationally agreed competency standards framework is invaluable. The framework provides for transportability of qualifications between jurisdictions, commonality of skills when deployed interstate, and efficiencies in training delivery and resources. For these reasons, the maintenance of nationally agreed competencies should not be lightly set aside.

Box 11.2 Progress in Queensland

The Queensland Fire and Rescue Service has adopted the competencies and qualifications of the Public Safety Training Package for both career staff and volunteers. The Government's Volunteer Support Package has funded development of training and learning resources that are being used in support of training for volunteers. Once the program is completed, all firefighters will have rural fire competencies as a basic skill.

The preferred outcome of any new industry advisory arrangements for the public safety sector would be to retain arrangements similar to those that apply at present. Fire agencies and authorities have an important role in the all-hazards approach to emergency management, including preparedness for and response to terrorism, so it is important to ensure the optimal national integration of emergency management training. This is best achieved through the creation of a National Safety and Security Skills Council as an industry skills council within the revised industry advisory arrangements.

Recommendation 11.1

The Inquiry recommends that the Australian National Training Authority establish a National Safety and Security Skills Council to continue the development and administration of the Public Safety Training Package, including competencies and qualifications relevant to bushfire mitigation and management.

Recommendation 11.2

The Inquiry recommends that the states and territories and the Australian National Training Authority provide additional funding, as necessary, to registered training organisations to support the development and delivery of learning and training resources to all firefighters.

11.2 University education

Undergraduate and graduate courses⁷ relevant to elements of bushfire mitigation and management are offered at or in partnership with almost all Australian universities. Most of the courses focus on fire ecology or aspects of land management. As the House of Representatives Standing on Environment and Conservation noted in 1984⁸, there have been few courses that cover other elements of bushfire mitigation and management or that have sought to deal with the subject as a larger, more integrated whole.⁹ This has limited university graduates' ability to assume many bushfire-related responsibilities after graduation if they receive no further training.¹⁰ It has also limited the pool of students suited to bushfire-related honours and postgraduate research training and underlies some of the deficiencies in research capacity discussed in Chapter 5. There are, however, graduates with specialist skills – for example, in geographical information systems – who are able to contribute directly to aspects of bushfire mitigation and management.

The House of Representatives Standing Committee also noted that 'the provision of tenured fire science teaching specialists and specific theoretical and practical training are essential', but that 'given the staffing formulae which apply at Universities ... this would only occur if special dedicated funding was provided'. It therefore recommended that consideration be given to 'establishing a special fund to assist the universities to teach and carry out research in bushfire science'.¹¹ The Inquiry understands that no such fund was ever established, and the constraint recognised by the Standing Committee continues – albeit in a very different university funding environment.

Funds have, however, been committed to four cooperative research centres¹² with bushfire-related education and training programs (see Chapter 5 and Appendix F), and these programs now represent an important element of any undertaking to improve tertiary education relevant to bushfire mitigation and management. In particular, the cooperative research centres are able to support the development of

⁷ Here, 'course' refers to a defined subject of study, usually making up one-eighth of a full-time academic year program.

⁸ House of Representatives Standing Committee on Environment and Conservation 1984, *Bushfires and the Australian Environment*, HRSCEC, Canberra, paras 141–50.

⁹ Adams, M 2003, 'Fire rules and issues for resolution by government, industry and the community', Paper presented to BRAG meeting no. 2, 9 December.

¹⁰ Institute of Foresters of Australia submission.

¹¹ The Standing Committee also recommended that the then Tertiary Education Commission 'review the teaching of bushfire science in tertiary forestry and land management courses' and that 'an authoritative fire ecology textbook be commissioned ... for tertiary education purposes'.

¹² And to others conducting related research – see for example, Hill, R 2003, 'Frameworks to support Indigenous managers: the key to fire futures', in G Cary, D Lindenmayer & S Dovers (eds), *Australia Burning: fire ecology, policy and management issues*, CSIRO Publishing, Melbourne.

relevant learning resources for both undergraduate and postgraduate students and to provide research training and practical experience with industry partners.¹³

The relevant knowledge base is now much better documented than it was in 1984¹⁴, and some learning resources are already being made widely available through the internet (as both open-access courses and as part of fee-paying courses¹⁵), so the challenge now is more one of encouraging uptake in suitable university curricula.

In the increasingly competitive Australian university sector, some institutions may see merit in further pursuing appointments and partnerships to strengthen bushfire-related programs and in promoting these as part of their competitive advantage. Some of the capacity-building initiatives identified in Chapter 5, such as Research Chair or joint appointments, would also greatly help to strengthen tertiary education and training relevant to bushfire mitigation and management. Another incentive would be if the Department of Education, Science and Training were to allocate a small number of additional undergraduate places, such as those identified in the Australian Government's 2003 Higher Education Package¹⁶, to universities that demonstrate a capacity to provide for growth in bushfire-related education.¹⁷

Some professional development programs also lead to post-graduate university qualifications¹⁸; these are discussed in Section 11.4.

11.3 Indigenous Australians' knowledge

Indigenous Australians have a rich knowledge of bushfire in their country and a strong tradition of using fire as a land management tool.¹⁹ Use of fire is also a fundamentally important part of Indigenous custom, through which obligations to country and to each other are honoured. Indigenous Australians' knowledge of fire thus has both practical and cultural significance. The value of this knowledge is being recognised by others working in bushfire mitigation and management, and there are growing numbers of initiatives where researchers, land managers and fire

¹³ These activities are not confined to universities that are CRC partners, but the CRC partners do receive additional resources.

¹⁴ Through textbooks such as those noted above, conference proceedings such as *Proceedings of the 3rd International Wildland Fire Conference*, journals such as the *International Journal of Wildland Fire*, and through internet sources such as <<http://sres.anu.edu.au/>>.

¹⁵ An example of free access is

<http://savanna.ntu.edu.au/research/projects/fire_savannas.html>; an example of a fee-paying course is <http://www.scu.edu.au/courses/unit_detail.php?spk_cd=FOR00100>.

¹⁶ <<http://www.dest.gov.au/highered/csp/default.htm>>, viewed 23 March 2004.

¹⁷ For example, through the development of 'majors' in bushfire-related themes.

¹⁸ For example, the AFAC-AIPM Executive Development Program, Graduate Certificate in Applied Management, offered by the Australian Institute of Police Management.

¹⁹ See, for example, Part V, 'Indigenous land and fire management', in G Cary, D Lindenmayer & S Dovers (eds), *Australia Burning: fire ecology, policy and management issues*, CSIRO Publishing, Melbourne; Whitehead, PJ, Bowman, DJMS, Preece, N, Fraser, F & Cooke, P 2003, 'Customary use of fire by indigenous peoples in northern Australia: its contemporary role in savanna management', *International Journal of Wildland Fire*, vol. 12, pp. 415-25; various projects of the Tropical Savannas and Desert Knowledge CRCs, as described in Appendix F.

agencies are working in partnership with Indigenous people, both to help retain and to learn from their knowledge.²⁰

There is now a substantial body of literature – and an active debate in the Indigenous, scientific, and fire and land management communities – about Indigenous knowledge and use of fire, its consequences and its future.²¹ The Inquiry notes the persuasive case made by many who advocate further development of various forms of partnership between researchers, land managers and fire agencies, to help sustain and to learn from Indigenous Australians' knowledge of fire. We also note the acknowledged difficulties in doing so – for example, the privileged nature of some Indigenous knowledge of fire²² and the fragmentation and loss of that knowledge in parts of Australia.²³

The Inquiry supports the emerging consensus that contemporary and future bushfire mitigation and management can benefit from greater sharing of knowledge between Indigenous and non-Indigenous Australians; we note, too, that this approach offers substantial benefits to Indigenous communities. As a result, we strongly support those partnerships already under way that give effect to this intent. Additionally, we note that it is fundamentally important to Indigenous Australians that such partnerships respect their rights and interests.

11.4 Further professional development

A number of submissions to the Inquiry²⁴ noted the benefits of professional development beyond the Australian Quality Training Framework, including at the higher levels of leadership and in multi-agency operational management. The Australasian Fire Authorities Council and Emergency Management Australia, among others, already offer a range of programs in generic and specialist areas, including in emergency management and leadership development.

Generic programs that cater for a wider cross-section of emergency managers have obvious benefits for capacity building and networking. A central concern, however, is the need for professional development focused specifically on bushfire mitigation and management. Skills and opportunities in this area are seen to have diminished as a consequence of changes (including downsizing) in many land management agencies and of changed management objectives for public lands. These changes are limiting the opportunities for some fire agency and land managers to gain practical experience in bushfire mitigation and management. Conversely, opportunities for professional development have been expanded by much greater levels of interstate and international deployment in the past decade.

²⁰ Whitehead, PJ, Bowman, DJMS, Preece, N, Fraser, F & Cooke, P 2003, 'Customary use of fire by indigenous peoples in northern Australia: its contemporary role in savanna management', *International Journal of Wildland Fire*, vol. 12, pp. 415–25.

²¹ *ibid*; see also various chapters in Abbot I & Burrows N (eds) 2003 *Fire in ecosystems of south-west Western Australia: impacts and management*; many papers in *International Journal of Wildland Fire*, vol. 12 nos 3, 4; Esplin, B, Gill, M & Enright, N 2003, *Report of the Inquiry into the 2002–2003 Victorian Bushfires*, State Government of Victoria, Melbourne, ch. 12.

²² Hill, R 2003, 'Frameworks to support Indigenous managers: the key to fire futures', pp. 176–186 in Cary G, Lindenmayer D & Dovers S (eds), *Australia Burning: fire ecology, policy and management issues*, CSIRO Publishing, Melbourne.

²³ Esplin, B, Gill, M & Enright, N 2003, *Report of the Inquiry into the 2002–2003 Victorian Bushfires*, State Government of Victoria, Melbourne, ch. 12.

²⁴ For example, Walls; the Institute of Foresters of Australia.

Nevertheless, many people who are responsible for bushfire mitigation and management in land management agencies are concerned about the consequences of an ageing workforce and about the substantial diminution in capacity as a result of downsizing and an increasingly commercial focus.

A number of submissions pointed to the model of a 'National Bushfire Academy' or equivalent, as exists in the United States²⁵, as an example of how other countries have sought to deal with these difficulties. But Australia's relatively small population and limited financial resources compared with larger fire-prone countries such as the United States and Canada mean that, in the Inquiry's view, establishment of a national bushfire academy is not likely to be feasible or sustainable. Instead, we should build on existing resources, specialties and institutions to develop and sustain a coordinated national program – a 'virtual academy' – for higher level professional development for bushfire managers.

The Emergency Management Australia Institute at Mt Macedon in Victoria is one facility that already provides education and training programs for emergency services personnel, including those involved with bushfire. Graduate-level programs are now available, in structures that can articulate into Masters programs at partner institutions. Emergency Management Australia is also offering an executive management short course for senior executives in 2004.

The Australian Institute of Police Management provides executive leadership and management development for fire agency managers through an arrangement with the Australasian Fire Authorities Council. Two courses are conducted:

- the Executive Development Program, leading to the awarding of a graduate certificate of applied management
- the Executive Leadership Program, leading to the awarding of a graduate diploma of applied management.

The Australasian Fire Authorities Council has noted the need for a high-level executive development program for potential chief officers. Such a program would probably be similar to Defence programs for senior officers; these are conducted over an extend period and focus on the strategic and political levels. Although such courses operate in other countries, this is an expensive option, and it limits the exposure of senior fire executives to learning at this level.

The Australasian Fire Authorities Council, Emergency Management Australia and the Australian Institute of Police Management could all have a role to play in developing and running such a program, which would need to have a clear emergency management context and take a multi-agency, all-hazards approach. Alternatively, attachment to an existing program might be an option. The long-term strategic benefit of such a program for fire agencies, and ultimately the mitigation and management of bushfires in Australia, should not be underestimated.

Some states and territories already offer professional development opportunities, specifically relevant to bushfire mitigation and management, to their own staff and

²⁵ US National Fire Academy, Emmitsburg, Maryland, viewed 22 March 2004, <www.usfa.fema.gov/fire-service/nfa/nfa.shtm>.

to others from interstate.²⁶ The Inquiry considers the Australasian Fire Authorities Council and Emergency Management Australia are in a good position to coordinate the provision of a professional development program specifically relevant to bushfires. Such a program should draw on the expertise of the states and territories and on existing partnerships with universities and other institutions such as the cooperative research centres. A suite of topics reflecting state and territory expertise might be as follows:

| State or territory | Possible professional development focus |
|------------------------------|---|
| Northern Territory | Savanna bushfire management Partnerships with Indigenous Australians |
| Queensland | Rural-urban interface operations Community fire management |
| New South Wales | Engaging with local and state government Rural fire investigation |
| Australian Capital Territory | Recovery |
| Victoria | Advanced aerial operations Community engagement |
| Tasmania | Integrated service delivery Interagency cooperation at policy and operational levels |
| South Australia | Incident control Professional mentoring |
| Western Australia | Fire incident leadership Fire mapping and strategic fuel-reduction burning |

These topics are indicative only and do not suggest the superiority of any particular jurisdiction over another. Rather, the Inquiry considers that a nationally coordinated program – under which each state and territory specialises in the provision of one or more modules and delivers that training as a course available to all jurisdictions – would formalise the current less-coordinated arrangements to the advantage of everyone concerned.

A more active and coordinated program of professional development – including peer learning and mentoring and exchanges and visits to other fire and emergency services agencies – would be a cost-effective means of improving knowledge and practice and would engender a culture of continuous striving for best practice. Such a program should also be based on a culture that encourages the participation of women, who are currently under-represented in the senior ranks of many fire and land management agencies.

²⁶ The Australian Incident Leadership Program. Western Australian Department of Conservation and Land Management.

Recommendation 11.3

The Inquiry recommends that the Australasian Fire Authorities Council and Emergency Management Australia—in partnership with state and territory agencies and other education and research institutions—coordinate a national program of professional development focused on bushfire mitigation and management. Under the program, partners would deliver nationally coordinated professional development services to all jurisdictions.

11.5 Fostering organisational learning

A ‘learning organisation’ is one that is ‘skilled in creating, acquiring, interpreting, transferring and retaining knowledge, and purposefully modifying its behaviour to reflect new knowledge and insights’.²⁷ These attributes are central to more efficient and effective bushfire mitigation and management. Although many Australian fire, emergency services and land management agencies have sought to engender a learning organisation culture, there are particular challenges in the case of bushfire mitigation and management, as Garvin has described in the case of the United States:

There are a number of barriers that currently stand in the way of the firefighting community becoming more a learning organization. Many of these barriers are cultural. In particular, the penalty for mistakes is high, so errors are often hidden or left undiscussed; there is a strong hierarchical culture, which means that dissent from below is discouraged and minority views are given only limited attention; time is critical and attention is focused during the fire season, which means that reflective, thinking time spent on AARs [after action reports] or similar activities is often viewed as unproductive or a diversion from ‘real work’; and decisiveness is valued both within the community and by the media, which means that time spent learning is seen by many as unnecessary dithering and delay.

There are also technical and administrative barriers to success. Prescribed burns, especially when they get out of control, are frequently followed by reports and analyses, but each of these is a ‘one-off’. These reports tend to focus on the particulars of that situation rather than general principles; they also focus far more on the technical elements of the burn and less on social and group dynamics, communication and decision-making processes, or other administrative issues that could have produced problems. In addition, they almost focus on ‘things gone wrong’. Reports are not written about prescribed burns ‘gone right’. All of these factors make it very difficult to develop and distill a crisp set of practical, applied, generalisable lessons learned.²⁸

Creating learning organisations requires, first, a commitment to that culture. The Inquiry notes the progress already made towards this goal in a number of agencies and the various initiatives already under way that can further encourage a learning organisation culture, within and between agencies. There are a number of vital elements of a strategy to foster organisational learning relevant to Australian bushfire mitigation and management:

- institutional commitment to the adoption of a learning organisation culture

²⁷ *Improving Organisational Learning in the Wildland Fire Community*, <http://www.wildfirelessons.net/Special_Projects.htm>, viewed 25 March 2004.

²⁸ *ibid.*

- a continuing strong role for existing groups, such as the Australasian Fire Authorities Council and the Forest Fire Management Group, in facilitating the exchange of information and staff, between states and territories and internationally
- a continuation of regular meetings of people involved in particular aspects of bushfire mitigation and management – such as the Forest Fire Management Group, the Northern Australia Fire Managers Group and the Australasian Fire Authorities Council Strategy Group
- a continuation of both interstate and international deployments of response personnel
- wider adoption of various forms of benchmarking across the states and territories
- a process of cultural change, in fire agencies in particular, to increase the representation and contribution of women and of Indigenous Australians, who are generally under-represented in organisations responsible for bushfire mitigation and management
- establishment of a national Centre for Bushfire Lessons Learnt, as described in Section 11.6.

The Inquiry strongly supports the continuation and further development of initiatives that foster organisational learning within and between agencies responsible for bushfire mitigation and management.

11.6 A Centre for Bushfire Lessons Learnt

One of the primary characteristics of learning organisations is the existence of a process for capturing and sharing learning from real events. To add most value, such learning also needs to be shared between organisations. Traditionally, this has been achieved through a variety of formal and informal means – for example, publication of original or review articles in the scientific and professional literature, professional and scientific meetings, and study tours and staff exchanges. More recently, the internet has allowed easier sharing of information, and there has been recognition of the benefits of better publicising the historical record of reports of particular fires.²⁹ The Inquiry also sought to facilitate such learning through the summary of the recommendations of previous major bushfire inquiries it provides in Appendix C.

Another recent trend has been the establishment of groups charged specifically with facilitating learning from experience within and across organisations; a particularly relevant example here is the US Wildland Fire Lessons Learned Center.³⁰ The Inquiry considers that this approach has considerable merit in the Australian context, offering the potential to take up common challenges – for example, diminishing institutional memory, more limited operational experience

²⁹ For example, Alexander, ME & Thomas, DA 2003, 'Wildland fire behaviour case studies and analyses: value, approaches, and practical uses', *Fire Management Today*, vol. 63, no. 3, pp. 4–8.

³⁰ <<http://www.wildfirelessons.net>>, viewed 25 March 2004.

among staff, and the greater likelihood of operational deployment outside familiar territory.

The context for the establishment of an Australian Centre for Bushfire Lessons Learnt is more favourable now than at any time in Australia's history because of the confluence of a number of factors:

- the work of the Australasian Fire Authorities Council in the past decade
- the recent establishment of a nationwide cooperative research centre focused specifically on bushfires
- the experiences of interstate and international deployments during the past decade
- the national adoption of an all-hazards approach and a greater emphasis on preparedness and coordinated response
- the evolving governance arrangements discussed in Chapter 10.

These factors combine to create an environment conducive to the establishment and operation of such a Centre. The Centre would also be of substantial strategic benefit to bushfire mitigation and management, in Australia and elsewhere. State and territory fire and land management agencies and relevant national organisations strongly support this proposed initiative.

Consistent with our comments on the concept of a National Bushfire Academy, the Inquiry suggests that an Australian Centre for Bushfire Lessons Learnt be established in a form that builds most efficiently on existing institutions and arrangements. We see the Centre as having a small core working in partnership with staff from state and territory agencies, the Australasian Fire Authorities Council, Emergency Management Australia, cooperative research centres, and other relevant organisations such as CSIRO. It could be co-located with an existing research organisation to maximise synergies and efficiencies, and it should take advantage of the benefits to be gained from incorporating lessons learnt from the all-hazards approach. Emergency Management Australia already provides elements of such a program.

As with the National Aerial Firefighting Centre, the Australian Government should facilitate the establishment of the Centre for Bushfire Lessons Learnt by committing funding for an initial period, subject to co-funding by the states and territories. Funding of \$1 million a year, provided jointly by the Australian Government and state and territory governments, for an initial period of five years would be necessary for the establishment of a well-functioning Centre. It would be highly desirable and advantageous for the Centre to draw, in culturally appropriate ways, on Indigenous Australian's knowledge and experience of fire. Doing so would be one means of facilitating the sharing of Indigenous and other forms of knowledge and would build on partnerships already established in many parts of Australia. It would also be internationally distinctive and of considerable potential benefit to our nation's profile internationally.

Recommendation 11.4

The Inquiry recommends that the Council of Australian Governments support and fund the establishment of an Australian Centre for Bushfire Lessons Learnt, for an initial period of five years.