‘Boiler plating’ in fire management plans

Is command and control planning failing cultural heritage protection?

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Abstract
Modern humans approach hazards such as flood and wildfire through ‘planning’, a rational (i.e. knowledge based) activity focused on making decisions to achieve future desired outcomes. This research examined draft Bush Fire Risk Management Plans (FMPs) from the Australian state of NSW to determine the extent to which local knowledge of cultural and environmental assets is reflected in the plan content. The results suggest high levels of copied content, or ‘boiler plating’. This included text copied from another source, cutting and pasting of ‘example’ non generic text, and copying from another FMP or the central generic example plan. While the State planning process pays lip service to the inclusion of local information the practice of boiler plating may produce locally irrelevant and inadequate plans. Disaster planners could consider using more participatory planning approaches to provide the local input needed to protect cultural and environmental assets and the people who value them.

Nota bene
The data and text used in this document draw on an analysis which was completed in 2006, but was never published. While the Bush Fire Risk Management Plans used today have changed since then, the study provides a pertinent critique of the risks inherent in a planning process which plays lip service to the notion of including local information but where planners appear to only play at achieving this through cutting and pasting general texts, locally irrelevant information and even, at times, providing conflicting or misguided advice. This reports places that analysis on record.
Introduction

Numerous hazards threaten humans and their environments, including ‘natural’ events such as cyclones, floods and fires. This paper explores an aspect of planning for the natural hazard of wildfire (bushfire), with particular reference to the management and protection of cultural heritage assets in the state of New South Wales (NSW), Australia. This research formed part of a larger project which examined the extent to which the New South Wales Rural Fire Service commit to safeguarding cultural heritage assets from bushfires. Readers interested in the broader study should refer to Laidlaw (2004) and papers derived therefrom (Laidlaw et al. 2006, 2007).

The effects of bushfires on cultural heritage assets are highly variable, but almost always deleterious, with both the physical impacts of fire events and the various activities implemented to suppress them capable of causing significant loss or damage (Spennemann, 1999, 2003). The growing appreciation among Australians of their unique cultural heritage has promoted the development of a variety of legislative frameworks and planning processes for managing and protecting cultural heritage assets. State and Territory governments have a constitutional responsibility for disaster management and use laws, funding mechanisms and organisational arrangements to deal with disasters such as bushfires. In NSW the Rural Fire Act 1997 (NSW) requires the establishment of a Bush Fire Management Committee (BFMC) in each local government area containing a rural fire district. One role of the BFMC is to prepare a draft Bush Fire Risk Management Plan (FMP) for its geographic area of responsibility. Bushfire risk management involves identifying the level of risk posed by bushfires to assets and establishing strategies to protect these assets from the adverse effects of bushfires. Assets of value to the community are taken to include human life, property, and natural and cultural heritage (BFCC, 1998b).

Knowledge in the Planning Process

Before considering the detail of FMPs in NSW it is useful to reflect a little on the concept of ‘planning’ itself. Planning is central to our current modern/western approach to life. At the individual or small group scale people plan everything from brief holidays to retirement, and businesses, both large and small, undertake strategic planning as a matter of course. At a community scale town and urban planning, social planning, environmental and disaster planning are all so common that there is rarely active discussion about the activity at the heart of them all - the planning process itself. Regardless of the specifics, planning is about imagining the future; those who plan see a future that can be shaped and managed by decisions made in the present. Planning, in short, is about making decisions to achieve future desired outcomes, and to manage potential hazards. Planning is a rational process, favouring decisions based on systematically collected information rather than improvisation. Four categories of knowledge are necessary for rational planning:

- Understanding of current conditions
- Predictions of possible future conditions
- Understanding of the impacts of proposed actions and interventions
- Understanding of societal wants and needs.

Rational planning is predicated on the existence of a ‘best’ option, and a trust that the best option can be determined through an objective technical process (Smith, 1997). Disaster planning is a particular form of planning that considers the future in a necessarily pessimistic way, with the
goal of preventing or reducing the negative outcomes of disastrous events such as floods and fires. For thousands of years the framework for disaster planning has been strongly influenced by the story of the Biblical Flood, which relies on command and control (Dynes, 2003). A command and control approach implicitly suggests that problems can be clearly defined and solved, and it encourages planners and managers to simplify both management issues and the means of addressing them (Holling and Meffe, 1996). Command and control approaches embrace strictly rational planning approaches and privilege experts’ knowledge through sole provision of the power to provide information and make decisions on behalf of the general population.

How do experts approach the four types of understanding required for rational planning? Describing and understanding current conditions is one of the more straightforward planning activities, and for disaster planning begins with identification and listing of assets (Nelson 1991; Spennemann and Look, 1998). Consideration of future conditions, and understanding the impacts of interventions and actions, are less straightforward as they are more influenced by uncertainty. Holling (1978) described three classes of uncertainty which planners must address, including predefined events that have known outcomes and probabilities of occurrence, imaginable events that have no known outcome or probability, and events that involve unknown process. Planners often ignore this last category but understand and address the other forms of uncertainty through the concepts of risk, and risk management. Traditionally risk can be defined a combination of the probability of a defined hazard occurring and the magnitude of the consequences of that occurrence (Harding, 1998). Rational approaches to risk assume that risk can be objectively measured, however, Slovic (1999) argues that risk is socially constructed and therefore both variable and subjective. A growing acceptance of the social nature of risk is in line with a growing acceptance of the legitimacy of variable societal perceptions, knowledges and responses in the broad area of resource management.

Lane (2005) charts the changing role of citizen participation in (predominantly urban) planning, suggesting that the conceptions of planning have moved from rational models that emphasise the role of the expert planner to less easily defined approaches that recognise the political nature of planning, the competing interests of stakeholders, and the negotiability of decisions about desired outcomes. Centralised rational planning is gradually being complemented, or even replaced, by local participatory and collaborative planning in fields such as rural development (Furze et al., 1996), sustainable catchment management (Allan and Curtis, 2002), forest management (Shindler and Neburka, 1997) and biodiversity management (Evans, 2004). The case presented in this paper— that of planning for the protection of cultural heritage assets from wildfire— suggests that at least disaster planning still operates within the command and control paradigm.

**Knowledge in the BFMP Process**

Each of the 142 rural local government areas in NSW is constituted as a Rural Fire District, occupying approximately 99% of the total area of NSW. For each district a FMP is formulated that stipulates actions for the protection of a range of assets, including cultural heritage assets, community assets, threatened species, wetlands, and significant vegetation communities, during a bushfire event.

A framework for the completion of FMPs was developed by the Bush Fire Coordinating Committee and adopted for use in 1998. The framework (henceforth known as the Model Plan) provides an indication of a format by which the BFMC can explain the level of bushfire risk.
which exists across the area, and the strategies which will be employed to manage this risk (BFCC, 1998b). The Model Plan guides BFMCs through the steps of completing a FMP with the following categories of information:

- **Instructions** - Instructions provide BFMCs with directions for completing various sections of their FMP and indicate which sections of the FMP are optional.
- **Example Text** - Example text provides BFMCs with an idea of the type of information they need to present in their FMP.
- **Model Text** - Model text can be used by the BFMC without modification for local circumstances.

Each FMP is also intended to provide a summary of the factors which contribute to the bushfire risk in the area including bushfire issues, community assets, and environmental/ecological assets). Environmental/Ecological Assets include places of Aboriginal significance, historic heritage sites, threatened species, areas of important native vegetation, dedicated catchment areas, and national parks, state forests and bushland reserves.

A BFMC provides a forum for co-operative and coordinated bushfire management in its area, whilst also providing for community involvement (BFCC, 1999b). According to the Rural Fires Regulation 2002 § 15, a BFMC is to be made up of:

- the Mayor or a councillor of a local council;
- a person from each of the Roads and Traffic Authority, Department of Land and Water Conservation, New South Wales Fire Brigades, NSW Police, a distribution network service provider, a Rural Lands Protection Board, the State Rail Authority, and a person from the Rail Access Corporation;
- a person or persons nominated by each of the National Parks and Wildlife Service the Forestry Commission of New South Wales, a person nominated as having responsibilities respecting the environment, and the Nature Conservation Council of New South Wales as being in charge of its affairs in the Bush Fire Management Committee’s area; and
- not more than two persons chosen by rural fire brigades operating in the area, a rural land holder nominated by the NSW Farmers Association, a person nominated by a Local Aboriginal Land Council and any other person or persons approved by the Bush Fire Coordinating Committee (BFCC).

This is clearly an expert committee (although no heritage experts are involved). The creation of numerous expert committees across NSW suggests that FMPs were to be developed using extant local expert knowledge. To be effectively implemented, disaster plans should be site specific and contain information individually tailored to the relevant district (Gordon, 2002). Although the Model Plan suggests one way of setting out a FMP, each BFMC was encouraged to modify the format if necessary (BFCC, 1998a). The desirability of including local information and knowledge in the FMPs is implicitly recognised by the provision of a model framework and suggested format which encourages local experts participation and invites local modification. The process of planning for the protection of cultural heritage assets in NSW could be anticipated to involve local experts in all stages of the planning process, including the identification of assets, predictions about future conditions, and understanding of both the physical risks and community responses to that risk.
Determining the reality

FMPs are the ideal document to study the degree of cultural heritage asset protection and disaster management on a state-wide scale, as they are legally mandated and can be expected to be an accurate representation of the state of planning on the ground. Content analysis was the primary analysis tool for this research. Content analysis uses a set of procedures to make sound inferences from text, in relation to the sender of the message, the message itself, or the audience of the message (Weber, 1990). When used in a scientific setting content analysis is an unobtrusive research method; a way of studying social behaviour without affecting it, and is particularly useful for answering questions of communication research (Babrie, 2001). In this research content analysis was employed to identify passages of similar text within and across the FMPs.

Initially, FMPs were to be collected from all 142 Bush Fire Management Committee Districts. Even though the NSW Rural Fire Service (RFS) maintains a centralised collection of current FMPs at its headquarters, merely obtaining the FMPs proved a difficult task. None of the FMPs could be provided in digital format, although some of the physical copies of the total 142 FMPs could be accessed at the RFS centralised collection. Contact was made with each of the Bush Fire Management Committee Districts to request copies of the remaining FMPs. However, even this proved difficult, as many RFS employees were unsure of how to locate their FMP (despite them being public documents). Other RFS employees were reluctant to release drafts, even when these drafts were in fact used as active plans. Eventually 111 current FMPs provided the data for this research.

The reality

Many of the FMPs contain content that is shared by a large proportion of the total 111 FMPs. For example, the Snowy River, Cooma-Monaro and Tumbarumba FMPs apply to adjoining districts situated in the lower south-east of NSW, and these FMPs contain very similar information in relation to Indigenous habitation of the area:

The cultural environment of the Snowy River District represents human habitation for at least the last 4000 to 9500 years – extract from Snowy River FMP

The cultural environment of the Cooma-Monaro Shire represents human habitation for at least the last 4000 to 8500 years – extract from Cooma-Monaro FMP

The cultural environment of the Tumbarumba District represents human habitation for at least the last 4000 to 8500 years – extract from Tumbarumba FMP

They also contain identical text in relation to the role of fire in altering landscapes:

Fire also plays a major part in altering landscapes. The importance of recording/managing the spatial arrangement of features/forests for historic heritage is only beginning to be appreciated – extract from Snowy River FMP

Fire also plays a major part in altering landscapes. The importance of recording/managing the spatial arrangement of features/forests for historic heritage is only beginning to be appreciated – extract from Cooma-Monaro FMP

Fire also plays a major part in altering landscapes. The importance of recording/managing the spatial arrangement of features/forests for historic heritage is only beginning to be appreciated – extract from Tumbarumba FMP

These similarities imply that the text has been ‘boiler plated’ (i.e. copied). Considering that the extracts above are from districts in the same geographical area, the copying of information
may, at first glance, seem unproblematic. However, if generic content is uncritically used by different FMPs, the information may not necessarily be relevant to the FMP or the region. There is evidence to suggest that some copying within the current FMPs is indeed uncritical. For example, this information:

*Areas of Potential Aboriginal Significance*

- any area of undisturbed ground or bushland within 40 metres of a stream, river, lake or lagoon,
- landscape features, such as rock outcrops (greater than 1 metre square), rock shelters and overhangs, old growth trees,
- any area not previously disturbed by urban development,
- declared Aboriginal places,
- other areas of importance to Aboriginal people, such as story places, mission sites,
- any area identified in planning, zoning or assessment studies as being of medium or high Aboriginal heritage significance.

*Potential Areas of Low Aboriginal Cultural Heritage Significance*

- any area previously subject to intensive around disturbance or urban development,
- areas identified in planning zoning or assessment studies as being of low Aboriginal heritage significance.

has been used in this exact form by 25 FMPs (23%), each of which relate to different regions of NSW. A further 15 FMPs (14%) contain what appears to be a condensed version of the information listed above:

*The areas with the greatest potential for Aboriginal sites within the district are:*

- natural watercourses and adjacent floodplains,
- areas of uncleared vegetation or undisturbed soil surfaces,
- landscape features which contain rocky ridgelines, rock shelters and rock overhangs,
- declared Aboriginal places, sites of contemporary Aboriginal occupation; such as mission sites.

This information, attributed to the work of the National Parks and Wildlife Service, is very general, which may be the reason that it has been adopted for use in many of the FMPs. However, not all of the information will be relevant to the FMP districts that have adopted the content. For example, districts will not necessarily have rock shelters, missions or declared Indigenous places. The fact that the information is very general, and not site specific for each FMP district, potentially reduces the effective implementation of the FMP.

Similarly, a matrix entitled ‘Impact of Fire Types and Suppression Activities on Aboriginal Sites’ originally sourced from English (2000), has been used by 56 FMPs (51%). The matrix contains information relating to 14 broad types of Indigenous heritage assets, and the impacts (high, moderate or low) of various bushfire suppression activities upon the asset. Not unlike the information highlighted above, the content, although important, is very general and not site specific. The likelihood that the information will relate to all 56 FMP districts is low. Additionally, there is inclusion of a column indicating the impact of grazing upon Indigenous heritage assets which is of no use to firefighters, and hence of no value in the FMPs. Further still, the terms used to indicate Indigenous heritage assets do not have accompanying descriptions in any of the 111
FMPs, possibly rendering the impact descriptions useless in a bushfire situation. That the use of the matrix is indiscriminate within these FMPs becomes increasingly apparent where it has been paired with a statement relating to the non-flammable nature of stone arrangements within the same FMP, for example:

*The Manilla District has several non-flammable stone arrangements. Fuel reduction is not necessary around these sites due to their non-flammable nature – extract from Manilla FMP*

This has occurred in all 8 FMPs (7%) containing the statement. Information within the final row of the matrix, however, states that bushfire may cause spalling and stone displacement, and implicitly lists the impacts of fire suppression activities upon stone arrangement. So, within the same FMPs firefighters are given the information that stone assets are not damaged by fire, and that they are damaged by fire. This situation suggests that content within the matrix has not been critically evaluated for applicability to individual FMPs.

A further example of apparently uncritical adoption of content relates to the use of *example text* from the Model Plan. This text provides an idea of the type of information required for the component, in comparison with *model text* which can be used without modification. However, a large proportion of FMPs have appropriated *example text* in its entirety, rather than individualising it. The FMP component of *Bush Fire Risk Description*, for example, requires an explanation of the bushfire risk to Environmental/Ecological Assets. The Model Plan provides *example text* for this component:

*Environmental/Ecological Assets*

*<name> National Park is also a major bush fire risk, as frequent fires over the last 20 years mean that the fire regime is already exceeded, and another major fire will result in a decline in biodiversity and possible species loss.*

*The bushland valleys throughout the <name> Council area, while posing a bush fire hazard to adjoining urban areas, also have values which are at risk from a bush fire. Bush Fires are likely to have a short term impact on the scenic quality, soil stability, and a number of threatened species existing in some areas. The bush fire risk to these areas is considered to be minor.*

* - extract from the Model Plan

Fifty FMPs (45%) uncritically apply this text to a local situation. Furthermore, 21 FMPs (18%) indiscriminately copy the Model Plan sentence that states that frequent fires have occurred in neighbouring National Park estate over the last 20 years:

*Georges River National Park is also a major bush fire risk, as frequent fires over the last 20 years mean that the fire regime is already exceeded, and another major fire will result in a decline in biodiversity and possible species loss – extract from Bankstown FMP*

*Gibraltar Range National Park is a major bush fire risk area, as frequent fires over the last 20 years means that the fire regime is already exceeded, and another major fire will result in a decline in biodiversity and possible species loss – extract from Severn FMP*

*Ku Ring Gai Chase and Garigal National Parks are also a major bush fire risk, as frequent fires over the last 20 years means that the fire regime is already exceeded, and another major fire will result in a decline in biodiversity and possible species loss – extract from Warringah-Pittwater FMP*

Although there is a possibility that frequent fires have occurred within each region, the likelihood of 21 districts experiencing the same bushfire pattern stretches credulity. A further point of interest relating to the *Bush Fire Risk Description* content within the Model Plan is the lack of text relating to cultural heritage assets. Of the 97 FMPs that incorporated a *Bush Fire Risk*
Description section, only 26 made direct reference to cultural heritage assets. It is apparent that the example text within the Model Plan is playing an active role in the content, or lack of it, contained within FMPs. This is especially exemplified in the presence of content relating to the Threatened Species component of the FMPs.

**Threatened Species, Populations, Communities and Critical Habitat**

**Example (replace with information relevant to the committee area)**

(ii) Threatened Fauna

The <<XXX>> Council area has a large number of threatened fauna species. In considering the impact of wildfire and prescribed burning it is important to recognise that many forests experience fire very infrequently and only in times of very severe drought.

Adverse wildfire impacts are greatest where high intensity wildfires burn over broad areas, and burn in conditions that leave few unburnt areas/patches. The adverse impacts of such fires include:

- Forest habitat structures burnt from ground to canopy resulting in high flora and fauna mortality
- Widespread and near complete removal of food sources for immediate post fire recovery
- Destruction of ground habitat structures such as fallen logs
- Falling of large numbers of senescent, hollow bearing habitat trees
- Improved access for feral predator species, and near complete removal of refuge for species susceptible to predation
- Burning of habitat types may not normally be burned by lower intensity fire (eg. vegetation in gullies and on SE aspects)

Low intensity prescribed fire is largely restricted to areas of dry eucalypt forest, woodlands and some heathland areas. Fuel management in localised areas will have an impact on some species of wildlife, with those depending on a dense understorey of shrubs being the most likely to be adversely affected.

In many situations the development of dense shrub layers in areas of dry forest been strongly influenced by recent human influence in suppressing fires that may have otherwise burned into such areas. In the longer term, in dry eucalypt forests, frequent fire may favour replacement of shrub and regrowth eucalypt communities with grassland disadvantaging shrub dependent species. Whilst adversely affecting shrub dependant species, the promotion of ground forage favours some species which prefer forest with an open grassy understorey condition such as some macropods.

A mosaic of burnt and unburnt areas can increase habitat diversity hence catering to the habitat requirements of a wider diversity of species.

 extract from the Model Plan

The uncritical copying of example text is apparent through the number of FMPs exhibiting an identical typing error which occurred in the Model Plan. The fourth paragraph of example text, relating to mosaic burning, ends with the typing error of two periods. This minor and easily found typographical error is repeated in 13 FMPs. Furthermore, an additional 60 FMPs have appropriated the example text with only minor alterations. Modifications have included changing the order of paragraphs, copying only the first half of the text, and copying only particular paragraphs of text. The statement within the instructions section of the Model Plan that suggests the text be replaced with information relevant to the BFMC’s district is obviously disregarded. Although the example text does provide some important information, the uncritical adoption of the
text, without significant modification, suggests that applicability of the information has not been assessed prior to incorporation into individual FMPs.

Finally, there is re-use of content within the Model Plan itself. The model text description of the Community Assets component outlines the classification of community assets within the relevant council area.

**Community Assets**

*In this section, a summary of the key community assets occurring in the District is provided, asset types requiring special protection from bush fire are identified, and the pattern of land tenure is described. For the purposes of the bush fire analysis, this plan has classified the community assets of the <name> Council Area into the groups outlined below.*

**Environmental/Ecological Assets**

*This section provides a summary of the key ecological assets and assets with cultural and/or historical heritage within the <name> Council area. For the purposes of the bush fire analysis, this plan has classified the community assets of the <name> Council Area into the groups outlined below.*

- extracts from the Model Plan

and can be used within the FMPs without modification. The same sentence appears in the model text description of the Environmental/Ecological Assets component three pages later, with no evident changes. The reference to Community Assets has not been changed to read Environmental/Ecological Assets as it is supposed to. Furthermore, this discrepancy is evident in 85 of the current FMPs (77%). Although not having far-reaching ramifications for the content of the FMPs, this disparity indicates that the BFCC, as author of the Model Plan, has not taken care in the formulation of Model Plan content. If the Model Plan is to lead by example, the FMPs start with a disadvantage.

There are then, four varieties of apparent boiler plating evident in the FMPs:

- Text copied from another source such as the NPWS
- Exact or near exact cutting and pasting of example non generic text provided in the Model plan
- Exact or near exact copying from another FMP, and
- Copying of sections within the Model Plan itself.

One possible reason for this degree of boiler plating is a lack, or perceived lack, of locally specific information. A common lament within the FMPs relates to the paucity of information about cultural heritage asset locations, for example:

*There are no registered sites in the Albury/Hume District. However, this is a reflection of low recording effort rather than absence of sites – extract from Albury-Hume FMP*

*There are significant data gaps that make risk assessment of environmental assets difficult. The Bush Fire Management Committee will encourage further research and new findings will be incorporated into any updates of the plan – extract from Campbelltown FMP*

Thirty FMPs inform the user that additional information is required regarding cultural heritage assets in general. A variety of comments advise that additional schedules of heritage assets will be prepared at a later date, or that information from other sources will be forthcoming. The combination of these statements implies that the information needed for the core elements is
incomplete, and that more information needs to be sought and greater knowledge generated. This is, however, actively discouraged in the FMP Guidelines that state that BFMCs should use the best available data when formulating FMPs rather than engaging consultants to collect new data sets, (BFCC, 1998a).

**Why boiler plating matters (and what can be done about it)**

Disaster planning processes as exhibited in the NSW FMPs appear to be firmly situated in the command and control paradigm. Risk is treated as objectively measurable, and expert knowledge alone is privileged to address that risk. Although local experts are theoretically included in the planning, locally relevant information on cultural heritage assets was scarce. The low level of local content exhibited in the FMPs suggests that this command and control approach is not serving the districts well, at least in relation to protection of their cultural heritage assets. The state planning process plays lip service to the notion of including local information but often planners appear to only play at achieving this through cutting and pasting general texts, locally irrelevant information and even, at times, conflicting or misguided advice.

Cultural heritage assets, and the communities that value them, are big losers from this situation, because if these assets are threatened by fire, well meaning but poorly informed firefighters will not have adequate information to protect them. Boiler plated plans may be worse than no plans, as filling in the space under headings in a plan provides a false sense of complete understanding and, ultimately, preparedness.

Clearly disaster planning occurs within resource constraints, and it may not be possible for traditional experts to research and understand everything relating to the risks to cultural heritage assets. There is another approach which may help disaster planning be more locally relevant, however, and that is to follow planning in other natural resource management fields. This would require more participatory approaches and a sharing of power—both the cultural assets and the people who value them stand to gain much from such a broadening of approach.
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