

STREAMLINED ENVIRONMENTAL ASSESSMENT FOR BUSH FIRE HAZARD REDUCTION WORK IN NSW

Bernie Brompton, Belinda Kenny and Simon Heemstra
NSW Rural Fire Service

Abstract

The NSW *Rural Fires Act (1997)* allows for streamlined environmental approval for hazard reduction works through the Bush Fire Environmental Assessment Code. This process has been in operation since 2003, providing private landowners and public authorities with a quick approval through the issue of Bush Fire Hazard Reduction Certificates. In 2006 this process was significantly amended and now provides for bush fire hazard reduction in most of the vegetated landscape in NSW.

The development and review of the Bush Fire Environmental Assessment Code required extensive consultation with government regulatory authorities, land managers and community groups. The environmental assessment process considers the potential impacts of mechanical hazard reduction works as well as prescribed burning. The recent amendments to the Code have required the development of a more sophisticated process for fire frequency assessments on a landscape scale. The implementation and management of the system within the NSW Rural Fire Service has required a significant effort developing training, corporate standards, support documents and community education material.

Background

The *Rural Fires and Environmental Assessment Legislation Amendment Act 2002*, included changes to both the *Environmental Planning and Assessment Act 1979* and the *Rural Fires Act 1997*. These amendments significantly improved the way bush fire hazards are managed across New South Wales. Of particular importance, was the introduction of a new streamlined method of environmental assessment for bush fire hazard reduction (Bush Fire Hazard Reduction Certificates).

Prior to the recent changes to both the *Environmental Planning and Assessment Act 1979* and the *Rural Fires Act 1997*, the established environmental approvals process for Bush Fire Hazard Reduction works was seen as being complex. As such, there were claims that hazard reduction was being impeded by existing environmental impact assessment laws.

In 1999 an Inter-departmental Committee (IDC) was formed to investigate this issue. This investigation identified that there was potentially up to twenty two (22) separate pieces of legislation that may be triggered for approvals for hazard reduction works. The confusion and costs associated with this approval process resulted in three scenarios:

1. Landholders/managers were undertaking the required environmental assessments, however, this process was considered to be costly and time consuming;
2. Landholders/managers were undertaking bush fire hazard reduction works without undertaking the required environmental assessment. In some cases, this resulted in adverse environmental impacts;
3. Landholders/managers were not undertaking essential hazard reduction works due to the costs and complex nature of the environmental approval process.

The IDC therefore recommended a simplified assessment process for bush fire hazard reduction, through the introduction of the *Bush Fire Environmental Assessment Code* (The Code) in July 2003.

The Bush Fire Environmental Assessment Code

The Bush Fire Environmental Assessment Code is designed to streamline the environmental approval process for hazard reduction activities whilst providing due consideration for measures to prevent or minimise environmental impact. This is done through the issuing of Bush Fire Hazard Reduction Certificates.

The Code provides for the issuing of Bush Fire Hazard Reduction Certificates ('Certificates') for bush fire hazard reduction activities only. A Certificate can not be issued for the burning of material (other than for bush fire hazard

reduction), agricultural activities and the construction of tracks and roads as these activities are not hazard reduction activities and as such, are excluded from the Code process.

Each hazard reduction proposal is assessed to ensure that it is consistent with both the Bush Fire Environmental Assessment Code and the relevant Bush Fire Risk Management Plan. Once a Bush Fire Hazard Reduction Certificate has been issued, no further environmental approval is required under NSW legislation.

Bush Fire Risk Management Plans are prepared by the local Bush Fire Management Committee and are subject to a public review process prior to being adopted. These plans identify management zones within the landscape, and as such provide a framework for determining priority areas for genuine hazard reduction. Proposed works must be consistent with the management zones as outlined in the Bush Fire Risk Management Plan.

A Bush Fire Hazard Reduction Certificate can be issued in one of two ways:

Firstly, a number of public authorities are able to self-certify using the Code. These include:

- Local Government;
- Department of Lands;
- Department of Primary Industries (Forests NSW);
- Department of Environment and Conservation (Parks Services Division);
- Railcorp;
- Roads and Traffic Authority;
- Catchment Authorities; and
- NSW Rural Fire Service.

Secondly, the NSW RFS and Local Government may issue Certificates to private landholders and all other land not managed by a self-certifying authority. This assessment is done for free and, in most cases, within seven days.

The Code addresses many environmental factors that must be considered prior to undertaking hazard reduction works. The Code provides for the prevention of soil erosion, the retention of riparian buffers, the protection of native vegetation, the protection of biodiversity, as well as provisions for the protection of Aboriginal and other cultural heritage sites. All applications are assessed to ensure that works are consistent with the Code and do not cause environmental degradation.

A separate assessment process is provided for mechanical works and prescribed burning. Mechanical works may include activities such as slashing, trittering and pruning trees to create an asset protection zone around a property. Prescribed burning generally involves the use of low to medium intensity burning within both Strategic Fire Advantage Zones and Land Management Zones.

Both mechanical and burning applications are assessed to ensure that works are consistent with the Code and do not cause environmental degradation. In addition, burning applications also consider smoke management and appropriate fire regimes.

Once an application has been determined, a Bush Fire Hazard Reduction Certificate is produced which contains conditions on how the works are to be implemented. If the conditions on a Certificate are breached, then the land owner/occupier may be prosecuted by the relevant environmental regulator under the existing environmental legislation.

Some components of the environment are extremely vulnerable to disturbance and cannot be adequately protected under the Code. They require a more comprehensive assessment within the context of existing environmental planning instruments. Land excluded from the Code includes SEPP 14 Coastal Wetlands, SEPP 26 Littoral Rainforests and areas identified as critical habitat for threatened species.

Review of the Bush Fire Environmental Assessment Code

The first *Bush Fire Environmental Assessment Code* was developed and gazetted for implementation in July 2003. A review of the Code was undertaken last year to identify, analyse and where possible, resolve implementation issues that had arisen during the Code's first year of operation.

The review involved extensive internal and external consultation through working groups and public exhibition. Submissions relating to the previous Code were received from many land management and environmental regulation bodies, including Department of Environment and Conservation, Department of Primary Industries, Department of Lands, Department of Infrastructure, Planning and Natural Resources, NSW Fire Brigade, Local Government & Shires Associations, Roads and Traffic Authority, RailCorp, Sydney Catchment Authority, Rural Lands Protection Board, Nature Conservation Council and Farmers Association.

To discuss the major issues raised in the submissions, focus groups were established from the above stakeholders and a working party was created to redraft the Code. The revised Code was placed on public exhibition for 46 days and many submissions were received. After considering all submissions, the Code was amended accordingly. The Code was gazetted and implemented from the 1st February 2006.

Changes to the Code have greatly expanded the capacity to implement hazard reduction works, particularly in rural areas. The current Code now covers a significantly larger area than previously as Land Management Zones have also been incorporated into the Code, where previously the Code just covered works on the urban interface. This has resulted in a simplified process for land management agencies to use the Code to streamline environmental assessment necessary prior to carrying out hazard reduction activities.

Under the revised code, major buildings such as communication towers, farm sheds and industrial and commercial buildings have been offered further protection, as have special fire protection buildings, plantations and boundary fences.

To improve the assessment of riparian vegetation the Strahler Stream Order classification system (Strahler 1952) has been introduced to the Code. The Strahler stream order system (Strahler 1952) is a simple method of classifying stream segments based on the number of tributaries upstream. A stream with no tributaries (headwater stream) is considered a first order stream. A segment downstream of the confluence of two first order streams is a second order stream. Thus, a nth order stream is always located downstream of the confluence of two (n-1)th order streams. This provides a method for broad term classification of waterways and an indication of the size of the channel, allowing for the imposition of appropriate buffer sizes.

Soil erosion is another factor that has been more thoroughly considered in the new Code. It is now a requirement that where Soil Erosion Risk (SER) maps exist, they must be considered when assessing applications. At this stage, SER maps have been produced for only part of the state (figure 1) and as such slope is used as the determinant for soil erosion in areas where these maps have not yet been produced. Soil Erosion Risk maps have been produced by Department of Natural Resources and are now a layer in the BRIMS system. SER maps classify the susceptibility of an area based on soil regolith rainfall erosivity and slope and are based on 25 or 100 metre grids. As can be seen below in figure 2, the coloured classes appear as square grids when zooming in on the map.

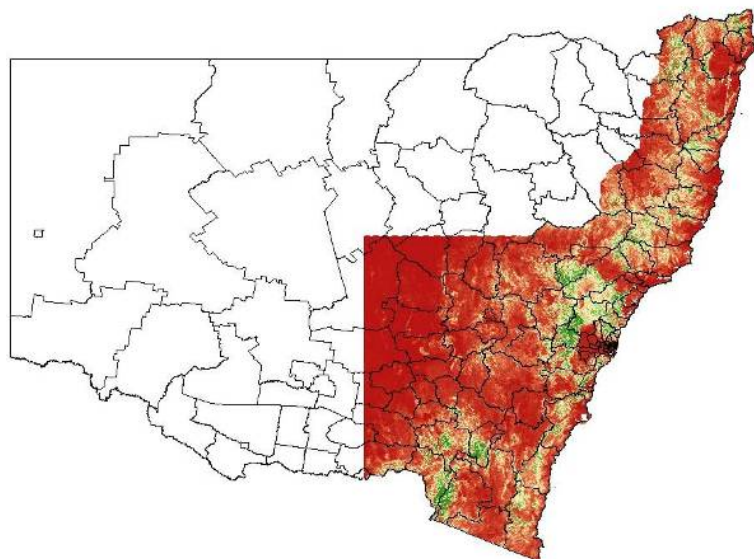


Figure 1. Current extent of Soil Erosion Risk mapping

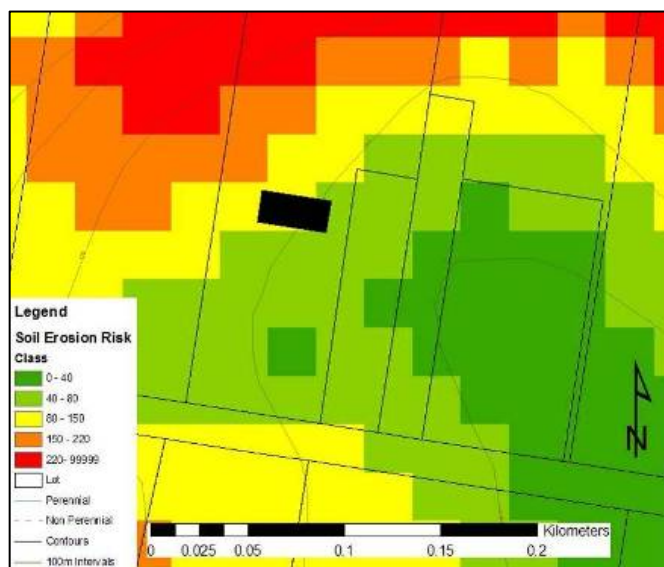


Figure 2. Soil Erosion Risk map depicting 25 metre grid

Changes to the threatened species assessment process have also aided in producing a more pragmatic approach to addressing the issue of threatened species for certifying authorities. Where a threatened species has been identified, it is now possible to continue with works if a site inspection reveals that the species in question is not present within the area of the proposed hazard reduction. Works may also continue if a license under Section 91 of the *Threatened Species Conservation Act 1995* has been issued.

To ensure that hazard reduction burning fire intervals are consistent with the requirements for each vegetation type, fire regimes have been re-addressed in the following manner:

- The vegetation type and fire history is determined from existing mapping and/or a site inspection;
- If the site contains threatened species or ecological communities (as identified on the Threatened Species Hazard Reduction List) then the minimum fire intervals are to be implemented as required by the List;
- If the site does not contain threatened species or ecological communities, then the Bush Fire Risk Management Plan must be checked to determine if a fire regime has been identified for the predominant vegetation type. If this is so, then this fire regime is to be applied;
- If the Bush Fire Risk Management Plan does not identify a fire regime then Appendix A of the Code is used to determine the minimum fire interval.

To assist with accurate determination of appropriate fire regimes, identification of vegetation types within the Code is now determined using the key from *Ocean Shores to Desert Dunes* (Keith 2004). The key provides a simplified method of vegetation identification, resulting in the classification of vegetation types to a formation level.

Implementation

Implementation of the revised Code was undertaken on a state wide level by the Natural Environment Services section of the RFS. Training for the new Code was undertaken in 2005 and over 100 RFS staff are now competent as 'Certificate Issuing Officers' to issue Bush Fire Hazard Reduction Certificates under the revised Code.

In addition to the development of the Code, the NSW RFS has been involved in various other projects that relate to the implementation of the Code. These include:

- The development of the Threatened Species Hazard Reduction List in consultation with the Department of Environment and Conservation;
- The development of a database for recording and producing Certificates (BRIMS)
- Collation of assessment data (including spatial datasets); and
- Media promotion of the process and production of community education documents.

There are six community education documents prepared by the NSW RFS relating to the Code. They are:

- ***Before You Light That Fire*** – Provides a description of the environmental and fire safety approvals that may be required to undertake burning in NSW;
- ***Application Instructions for a Bush Fire Hazard Reduction Certificate*** – Describes how to complete an application form for a Bush Fire Hazard Reduction Certificate;
- ***Standards for Asset Protection Zones*** – Describes the purpose of Asset Protection Zones and techniques that may be used to create and maintain one;
- ***Standards for Pile Burning*** – Describes how to construct and safely conduct pile burning;
- ***Standards for Low Intensity Bush Fire Hazard Reduction Burning*** – Describes the environmental and safety prescriptions required to conduct a low intensity burn; and
- ***Standards for Windrow Burning*** – Outlines safe burning practices for undertaking windrow burning and the approvals required.

A total of 10700 applications have been made for Bush Fire Hazard Reduction Certificates since the Code was introduced. Of these nearly 7000 have been applications for works on private lands and 3700 have been for government agencies self certifying hazard reduction works. Of the private applications that have been assessed approximately 19% have been denied as they were not for hazard reduction works or they may have required a more detailed environmental assessment before works could proceed. Of the applications that have been approved nearly 75% have been for mechanical works and the remainder have been for burning. Applications for Certificates from private landholders peaks during the winter months, with numbers dropping off during the fire season due to restrictions on burning activities (Figure 3).

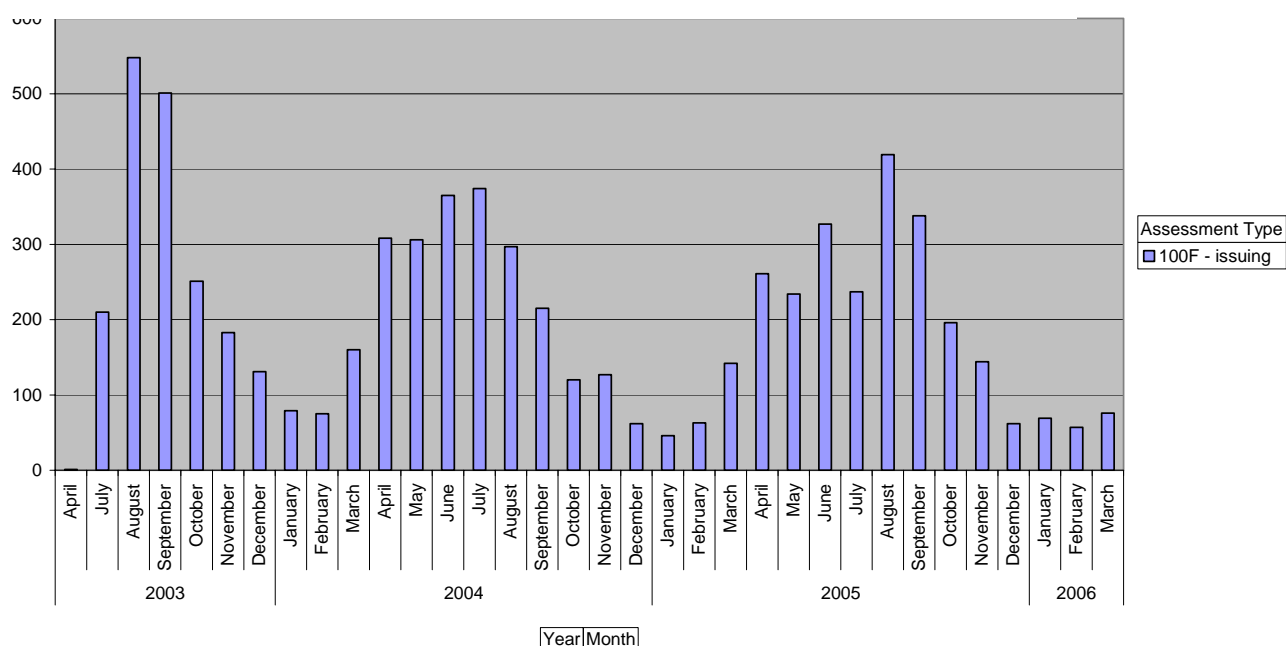


Figure 3. Numbers of certificates for private lands and self certifying by government agencies from July 2003 to March 2006

The number of applications varies dramatically between different local government areas this is due to many factors including the amount of bush fire interface, the level of public awareness and the specific legislative requirements of an area. For example Figure 4 demonstrates the variability between local government areas within central eastern NSW for certificate applications.

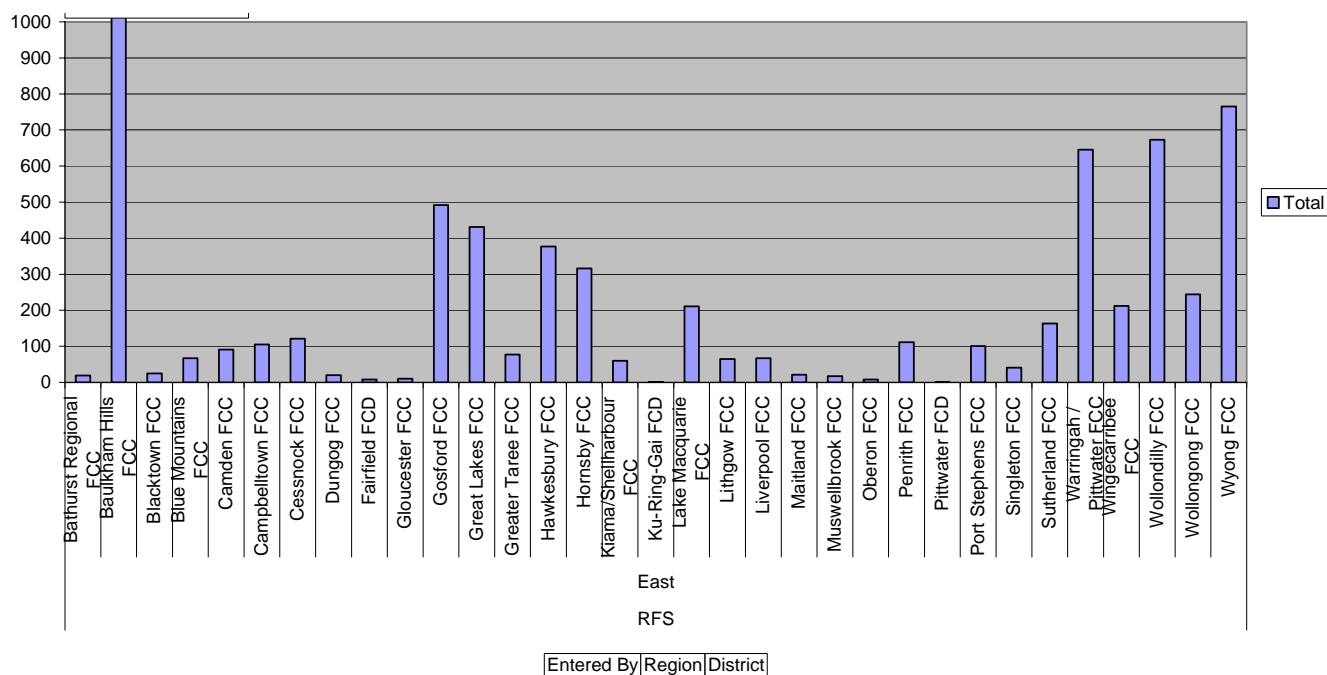


Figure 4. Numbers of certificates issued within region East (Central East NSW) from July 2003 to March 2006.

As can be seen from this data, Bush Fire Hazard Reduction Certificates have been applied effectively across the state of NSW. It provides a pragmatic and practical process for facilitating hazard reduction works while affording a reasonable level of environmental assessment that has been agreed to by land managers and stakeholders in NSW.

References

- Strahler, A. N. (1952). *Dynamic basis of geomorphology*. Geological Society of America Bulletin, 63, 923-938.
- Keith, D.A. (2004). *Ocean Shores to Desert Dunes: The Native Vegetation of New South Wales and the ACT*. Department of Environment and Conservation