

RULES and NOTES
for
Implementation
of the
Threatened Species Hazard Reduction List
for the
Bush Fire Environmental Assessment Code



Preamble

The Threatened Species Hazard Reduction List is a component of the Bush Fire Environmental Assessment Code (July 2003). As such, a level of understanding of the Code will assist in comprehending this paper, particularly in regard to matters such as terminology.

The Code and related documents can be located at www.rfs.nsw.gov.au, (*then policies and business, and then hazard reduction*).

Nevertheless, it is important to note that the Code provides for a streamlined environmental assessment process for hazard reduction works under certain circumstances. The Code identifies issues of environmental concern. Works which are likely to impact on these environmental concerns are required to be carried out in accordance with described conditions.

This paper and the associated Threatened Species Hazard Reduction List provide the conditions that are to be adhered to when threatened species, endangered populations or ecological communities are known to occur at a site.

This paper also provides the rationale for these conditions.

The main points are summarised in the ‘summary’, with the ‘main text’ providing a more in-depth description. Contents are as follows:

A. SUMMARY

B. MAIN TEXT

- 1. Introduction**
- 2. Locational Records**
- 3. Threatened Plants (including Populations)**
- 4. Threatened Animals (including Populations)**
- 5. Endangered Ecological Communities**
- 6. Guide to Columns in the Threatened Species Hazard Reduction List**

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A. SUMMARY

Who is this document for?

The bush fire hazard reduction certification process can only be undertaken by specified public authorities (as described in the Code). Therefore, this document provides rules for these authorities when undertaking the certification process.

However, this document also serves to inform the broader community as to methods of assessment for threatened species, populations and ecological communities.

Complying with the Code requires the following:

1. The site must be checked to determine whether threatened species, populations or ecological communities are known to occur; and
2. Bush fire hazard reduction works must be consistent with the relevant conditions in the Threatened Species Hazard Reduction List.

How do I know which threatened species to address?

Those threatened species, populations and ecological communities required to be addressed are indicated on the List.

How will I know their locations?

Issuing and Certifying Authorities can obtain the relevant localities of species and populations from the Department of Environment and Conservation. The location data is a subset of the data on the NSW Wildlife Atlas.

The Rural Fire Service can provide information to Issuing and Certifying Authorities on various mapping projects that provide data on the localities of endangered ecological communities. Local knowledge and mapping by councils will also provide guidance.

What general conditions apply?

Conditions for plant species are to be addressed within a 100 metre radius of the location point identified by the Department of Environment and Conservation.

Conditions for animal species are as described within the List.

Conditions relating to fire and endangered ecological communities provide for minimum fire intervals. In addition to the specified minimum fire intervals, at least 50% of the endangered ecological community within each local government area must exist in a state that has been burnt less frequently than the minimum fire interval.

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B. MAIN TEXT

1. Introduction

Bush fire hazard reduction works (prescribed burning and mechanical vegetation clearance) may be undertaken within the framework of the Code if the methods utilised comply with the conditions in the Threatened Species Hazard Reduction List. In other words, the List provides a list of threatened species, populations and ecological communities for which the relevant conditions must be addressed when issuing a Bush Fire Hazard Reduction Certificate under the Code.

The List was prepared by the NSW National Parks and Wildlife Service (now the Department of Environment and Conservation) in consultation with the NSW Rural Fire Service (RFS) and State Forests of NSW.

It is a dynamic list which will be updated as new threatened species, populations and ecological communities are listed on the *Threatened Species Conservation Act 1995*, (TSC Act), and as new information becomes available. Amendments to the List will be facilitated by an independent panel of fire ecology experts.

The List consists of the following 3 parts:

- threatened plants (including endangered populations),
- threatened animals (including endangered populations), and
- endangered ecological communities.

This paper also uses this logical separation to present the general conditions and associated rationale.

2. Locational Records

The Department of Environment and Conservation's 'Wildlife Atlas' database is used to determine locational records of threatened species and populations.

In order to facilitate practical implementation of the conditions only those Wildlife Atlas records accurate to at least 100 metres are included. This level of accuracy means that the species has been identified as occurring within a 100 metre radius of the identified point. As such:

- Conditions for plant species are to be addressed within the area bounded by at least 100 metres from the centre point of the identified location. This is because plants are sedentary, and
- Animals on the other hand are mobile and locational records tend to reflect habitat use rather than an exact location of the animal. Therefore conditions are more descriptive and distances surrounding a known location will vary depending on the species.

The locational records have been cross referenced with Local Government Areas (LGAs) in order that these threatened species and populations (along with the relevant management conditions) are identified for each LGA. Due to the sensitivity of the

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locational data the site specific location of species records is not available for public exhibition but is available to Issuing and Certifying Authorities.

Certifying Authorities (i.e. self-certifying public authorities) are also required to review species records that they have at their disposal (including the full Wildlife Atlas records) and address the relevant conditions from the List.

Information on the location of Endangered Ecological Communities is provided below in the section on these communities.

3. Threatened Plants (including Populations)

Threatened plants are listed under the TSC Act by the NSW Scientific Committee if the Committee is of the opinion that the species is at risk.

The Committee provides reasons for the listing in the form of a Final Determination which can be located on the Department of Environment and Conservation's website www.npws.nsw.gov.au, (*then plants and animals, then threatened species and then Scientific Committee determinations*).

Regardless of the type of method of hazard reduction proposed the conditions for plant species are to be applied within the area bounded by at least 100 metres from the centre point of the identified location.

Mechanical Clearing

Slashing, trittrering, tree removal and bulldozing are all methods that can destroy or significantly damage threatened plants. The potential for significant loss is particularly high due to the small numbers of threatened plants. For these reasons these bush fire hazard reduction methods are generally not allowable for known locations of threatened plants.

If such works are required in areas where threatened plants are known to occur then a more detailed assessment of the significance of the expected impacts will be required through the existing planning mechanisms (such as licensing under the TSC Act).

Prescribed Fire

All plants are susceptible to the impacts of fire, albeit to varying degrees. The most serious impact is understood to be the adverse impact of high frequency fire.

The List therefore provides minimum fire intervals for all plant species. This is based on a known fire response or based on factors such as the age at which there is sufficient seed production for the plant to persist.

There are also a range of species for which the condition is 'no fire'. This may be based on the species known habitat (e.g. rainforest species) and its inability to cope with fire. Alternatively the species may be able to cope with some fire but only a small number of individuals remain in existence. In these cases any loss of individuals is likely to be particularly significant and a more detailed assessment of the

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significance of the expected impacts will be required through the existing planning mechanisms, such as licensing under the TSC Act.

An example of a condition for fire is 'no fire more than once every 10 years'. This means that fire can only be used to reduce hazards at the site if there has been no fire (wildfire or prescribed burn) at the particular site within the previous ten years.

4. Threatened Animals (including Populations)

Threatened animals are listed under the TSC Act by the NSW Scientific Committee if the Committee is of the opinion that the species is at risk.

The Committee provides reasons for the listing in the form of a Final Determination which can be located on the Department of Environment and Conservation's website www.npws.nsw.gov.au, (*then plants and animals, then threatened species and then Scientific Committee determinations*).

The Wildlife Atlas is useful for informing which threatened animals are likely to occur within a broad area. However, as the majority of animal species are mobile, the Wildlife Atlas records have limited use in terms of identifying a species specific location for the purpose of the Code. For example, animals will use a larger area than the area immediately surrounding a site record.

Mechanical Clearing and Prescribed Burning

Some animal species are so wide ranging that no practical conditions can be developed for hazard reduction e.g. tree roosting micro-bats.

Other species, such as some owls, are wide ranging but are likely to be disturbed by burning at particular times of the year and specific locations, such as around active nest sites.

For other species, which are not so wide ranging, such as critical weight range mammals, the specific habitat components are less clear, although factors such as sufficient ground and shrub cover are known to be important.

Those species which have relatively small ranges with specific habitat requirements are better dealt with by the Code. For example, many frog species have a close relationship with vegetation surrounding waterbodies, and thus this habitat can be identified and protected.

Therefore the List does not address all threatened animal species and those that are addressed have differing requirements over differing distances.

In all cases it is important to consider the concept of mosaics. In essence, long unburnt (and uncleared) areas of each threatened animal habitat should be maintained in those areas not critical for the protection of life and property. In addition, a range of vegetation age classes would be managed in proximity to these unburnt areas. The important point is that adequate dispersal corridors exist between various age classes of suitable habitat, and that mosaics are of suitable size to support the species.

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The RFS will also be working in conjunction with the Department of Environment and Conservation to identify and resolve these issues through the recovery planning and the bush fire risk management planning process.

5. Endangered Ecological Communities

Endangered Ecological Communities (EECs) are listed under the TSC Act by the NSW Scientific Committee on the basis of a suite of unique environmental attributes. For example, Lowland Rainforest on Floodplain in the NSW North Coast Bioregion.

The Committee provides a full description of the environmental attributes (including species) particular to each EEC in the form of a Final Determination which can be located on the Department of Environment and Conservation's website www.npws.nsw.gov.au, (*then plants and animals, then threatened species and then Scientific Committee determinations*).

Under the normal environmental assessment framework vegetation surveys are undertaken to ascertain whether an EEC occurs at a site for which works are proposed.

In order to streamline the process for bush fire hazard reduction the Code does not require such surveys to be undertaken. Instead, the Code utilises a desk top assessment to identify EECs based on digitised (or otherwise) maps of EEC locations. However, it needs to be noted that the Scientific Committee identifies EECs based on a suite of environmental attributes rather than through the provision of a map.

The mapping of vegetation across NSW is limited at the scale required to readily identify the majority of EECs. Therefore, it is currently only possible to provide a map for some of the EECs. Nevertheless, the Department of Environment and Conservation is continuing to identify and map EECs within the landscape. In addition the Issuing and Certifying Authorities are provided with a list of relevant references for each EEC which include some mapping of the EEC and/or a more detailed description of its likely location.

In order to assist Issuing and Certifying Authorities in determining which EECs are likely to apply to their LGA a list of potential EECs is provided for each LGA. This is based on the Final Determinations which include reference to the LGAs where each EEC is likely to occur. In some cases (due to the broader geographical extent of the EEC) EECs are identified at the Bioregional scale. But, it needs to be noted that in these cases the EEC may not occur in every LGA within that Bioregion.

Mechanical Clearing

Slashing, trittriting and bulldozing are all methods that can destroy or significantly damage EECs. The potential for significant loss is particularly high due to the small areas of each EEC that remains in the landscape. For these reasons these bush fire hazard reduction methods are generally not allowable for known locations of EECs.

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If such works are required in areas where EECs are known to occur then a more detailed assessment of the significance of the expected impacts will be required through the existing planning mechanisms (such as licensing under the TSC Act).

Prescribed Fire

All plants are susceptible to the impacts of fire, albeit to varying degrees. The most serious impact is understood to be the adverse impact of high frequency fire.

Most EECs are identified on the basis of their constituent plant species and are therefore sensitive to the impacts of fire frequency.

The RFS works with the Department of Environment and Conservation to identify appropriate fire regimes for EECs through the recovery planning and the bush fire risk management planning process. As such, a Certificate may be issued if the fire frequency interval is longer than, or equal to, the minimum fire frequency interval in the bush fire risk management plan.

However, the bush fire risk management plans only identify the fire regimes for a limited number of EECs at this point in time. To ensure that all EECs are addressed by the Code the List provides minimum fire intervals for all EECs. There are also a number of EECs for which the condition is ‘no fire’.

The minimum fire interval for EECs was derived from two statewide projects undertaken by the Department of Environment and Conservation. The document “A Compilation Map of Native Vegetation for New South Wales” provided the information necessary to determine the particular Vegetation Formation that applies to each EEC. The appropriate ‘minimum fire interval’ for each EEC was then determined from the Minimum Fire Interval Table within the Code.

However, it needs to be noted that refinement of the intervals was required. The first project categorises the vegetation across NSW into fourteen vegetation formations. The derivation of the minimum fire interval table has been developed on the basis of the expected constituent species of these fourteen vegetation types. Therefore the minimum fire intervals are general guidelines for each of the fourteen vegetation formations. In light of this (and depending on the species present within each EEC) some of the EECs required a longer fire interval than would otherwise be indicated by the relevant vegetation formation.

The reason for having a minimum fire interval is that there is a probability of decline in the species composition of an EEC when the intervals between successive fires are less than the specified desirable minimum.

In addition, there is also a probability of a decline when the intervals between successive fires are less than the specified desirable minimum and such intervals prevail across more than 50% of the EEC. The 50% rule is based on distribution of the EEC within the landscape, i.e. the connectivity of occurrences of an EEC. For practical purposes (and therefore for the purpose of the Code) the 50% rule is applied on a LGA basis. This approach also allows for different age classes of the EEC both within and between LGAs.

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Therefore, conditions for EECs are as follows:

1. No part of an EEC is to be subjected to successive fires more frequently than the minimum fire interval, and
2. At least 50% of the EEC within each LGA must exist in a state that has been burnt less frequently than the minimum fire interval.

This can be achieved by strategic rotational burning of portions of the EEC within each LGA. Ideally, old growth patches of each EEC should be maintained in those areas not critical for the protection of life and property.

For example, if an EEC was 50 hectares in extent and required a minimum fire interval of 7 years, then 25 hectares must always have a fire interval of greater than 7 years. If a wildfire occurs before the minimum frequency is reached then no prescribed burning can be undertaken under the Code until such time as the minimum fire frequency is again achieved for at least 50% of the EEC. Furthermore, each portion of the EEC is not to be subjected to fire more often than once every seven years.

If hazard reduction burns within EECs are likely to exceed these requirements, for example, if an EEC is only known from one location and is particularly small, then a more detailed assessment of the expected impacts will be required through the existing planning mechanisms (such as licensing under the TSC Act).

6. Guide to Columns in the Threatened Species Hazard Reduction List

Class

The column titled class refers to the broad taxa group to which a species belongs. This column has only been provided for animals as it is a commonly known category for animal species, e.g. amphibians.

Species Scientific Name

This is the name of the species as described on the Schedules of the *Threatened Species Conservation Act*.

Common Name

This is the name by which the species is commonly known. However, species may have more than one common name or no common name at all. Therefore this name is only a guide for ease of use and the scientific name should be used where there is any doubt.

Name as per the Threatened Species Act

This column is only used for Endangered Ecological Communities, and indicates the name of the community as described by the Act.

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Status on TSC Act

This column refers to the status of the species, population or ecological community on the *Threatened Species Conservation Act* i.e. the TSC Act. Endangered species are more threatened than vulnerable species. Endangered populations are a defined subset of a species that have biological significance and which are considered to be at risk of extinction. The Department of Environment and Conservation's website www.npws.nsw.gov.au (*then plants and animals, then threatened species, then threatened species listing process*) provides further advice on the listing process under the TSC Act.

Listed on EPBC Act

This column refers to whether a species is listed on the Commonwealth's *Environment Protection and Biodiversity Conservation Act, 1999*. Advice on this Act can be located at www.deh.gov.au.

Species-specific conditions relating to the use of fire

This column provides the conditions that must be met if the species is known from a site and fire is used as a means of hazard reduction.

Conditions relating to the Mechanical Forms of Hazard Reduction

This column provides the conditions that must be met if the species is known from a site and mechanical forms of clearing are to be employed as a means of hazard reduction.

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