

## Guide for Developing a Fire Management Plan



Ngunya Jargoon senior ranger Marcus Ferguson shares the fire management plan with others

The Firesticks project  
acknowledges all Traditional  
Custodians and honours their  
continuing connection to country  
and culture.



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*This guide aims to assist landholders in making a fire management plan in order to utilise fire as a management tool to protect and enhance cultural and ecological values as well as reducing risk to life and property.*

## INTRODUCTION

The Firesticks project is about building recognition and awareness of the diversity and complexity of fire in NSW and its intrinsic link to caring for country. Firesticks provides a platform to support landholders to access resources, support and training, advocacy for ongoing funding on a local and national scale, and to share their experiences with others about the work they're doing. This guide has been developed from our collective experience in working collaboratively with Indigenous Protected Areas (IPAs) and Aboriginal Owned Lands in NSW. The planning process can be adopted by all landholders who have an interest in managing their property for biodiversity and cultural values. We also note that fire is only one tool at our disposal and in tackling many of the land management issues in New South Wales (NSW) it may be wise to use a variety of techniques to achieve the best outcomes.

This fire-planning guide aims to easily explain land management goals, and in turn fire management decisions, to communities and stakeholders. This guide aims to assist landholders in making a fire management plan in order to utilise fire as a management tool to protect and enhance cultural and ecological values as well as reducing risk to life and property. Like Aboriginal culture our plans are dynamic and fluid with the aim that they will be continually updated. With this in mind the Firesticks team in collaboration with the University of Technology in Sydney have developed document and poster templates for fire plans that we believe essentially communicates the cultural connections that Aboriginal communities have with country.

## AIM OF THIS GUIDE

The aim of this guide is to assist landholders in the planning and development of a fire management plan for their property. We have outlined the steps that we took in making fire management plans for Aboriginal owned lands across Northern NSW, so that others can follow these steps and produce their own property plans. This guide aims to be descriptive rather than prescriptive in the hope that other landholders can adapt the process we have outlined to suit their individual situations and capacity.

Ngyunya Jargoona IPA senior ranger Marcus Ferguson shares their fire management plan with Government representatives and rangers.





*To produce an effective plan you need to have realistic and meaningful engagement and work at a pace that makes people feel comfortable and in control of the process.*

## **PROTOCOLS OF ENGAGEMENT**

It is important to follow the correct pathways when engaging with communities in NSW. This usually starts with contacting the Local Aboriginal Land Council (LALC) who will then review your proposal and decide which landholders or family groups are to be consulted further.

If Elders or their representatives are available and interested to be part of the planning process, be sure to include them and their valuable input in the planning workshops. Building relationships with agency representatives with relevant knowledge and expertise will also enhance the process by bringing in additional localised information and skills.

For many reasons cultural knowledge is restricted in NSW and access to this information is protected. Your responsibility is to ensure that any data collected is used according to your agreement and understanding with the Aboriginal organisations or Local Aboriginal Land Council and community. To produce an effective plan you need to have realistic and meaningful engagement and work at a pace that makes people feel comfortable and in control of the process. This may involve speaking with people in informal situations or out on country. Once a good connection has been formed you will find that people are more likely to share stories and knowledge.

## **INITIAL MEETINGS**

For initial meetings to start the planning process it may be useful to keep the group size small, to encourage participation. Meeting on country can be a good way to develop relationships and establish people's connections to country, their concerns and aspirations. During initial meetings you may wish to discuss who to invite to the planning day, where the planning day will be held and what resources and materials will be needed on the day.

## **IDENTIFY AND ENGAGE STAKEHOLDERS**

Together decide who should be invited to the planning session. A number of sessions may be required over a number of weeks, so that all key people are available to participate and have a good understanding of the process. External stakeholders may be invited depending on the organisations and the community's relationship with them.

Start the process with community landholders and elders. With their approval invite external groups, such as representatives from the local NSW Rural Fire Service (RFS), Local Land Services (LLS), NSW National Parks and Wildlife Service (NPWS) and the Office of Environment and Heritage (OEH) to a planning day. The planning day will involve mapping exercises and discussions regarding the property features, community and cultural values and other built assets on the property.



*Try to obtain the most recent or current version of the maps as this will give you the best information to base decisions on.*

### **SOURCING MAPS, DATA AND OTHER RELEVANT INFORMATION**

To develop your fire management plan you will need a variety of maps and supporting documents to aid in the decision making process. Try to obtain the most recent or current version of the maps and documents, as this will give you the best information to base decisions on. Many communities have numerous plans that will assist in the development of the fire plan. Do some research and see what already exists so you are not wasting valuable time and resources. Documents and maps such as a Plan of Management, flora and fauna surveys, vegetation types, fire thresholds, fire history and cultural values are all very useful when developing a fire management plan. Identify what is already available for the property in question, and what is still required early on so that these documents and maps are at hand throughout the planning process. To find this information you may need to contact different Government Departments and agencies. A list of useful maps and possible sources for the maps are detailed below.

### **BASE PROPERTY MAP**

A high-resolution aerial photo Landsat map at A1 size, ideally with contours of the property and at a scale that includes the lands next to the property. You can obtain a free map of your property using Google Earth but you will need to add your own property information such as the boundary, roads and fire trails. Alternatively you could use 'Six Maps' which provides access to cadastral and topographic information, satellite data and aerial photography for NSW (<http://maps.six.nsw.gov.au>). You may also contact your local Crown Lands or Local Land Service office for more information about your mapping needs. If you wish to purchase a high resolution map of your property contact the Lands and Property Information (<http://www.lpi.nsw.gov.au/>).

Example of a high resolution Landsat map for Minyumai IPA.





## TOPOGRAPHICAL MAP

Topographical maps may be sourced or created from government, non-government organisations and environmental consultants. Good places to try to source maps from may include:

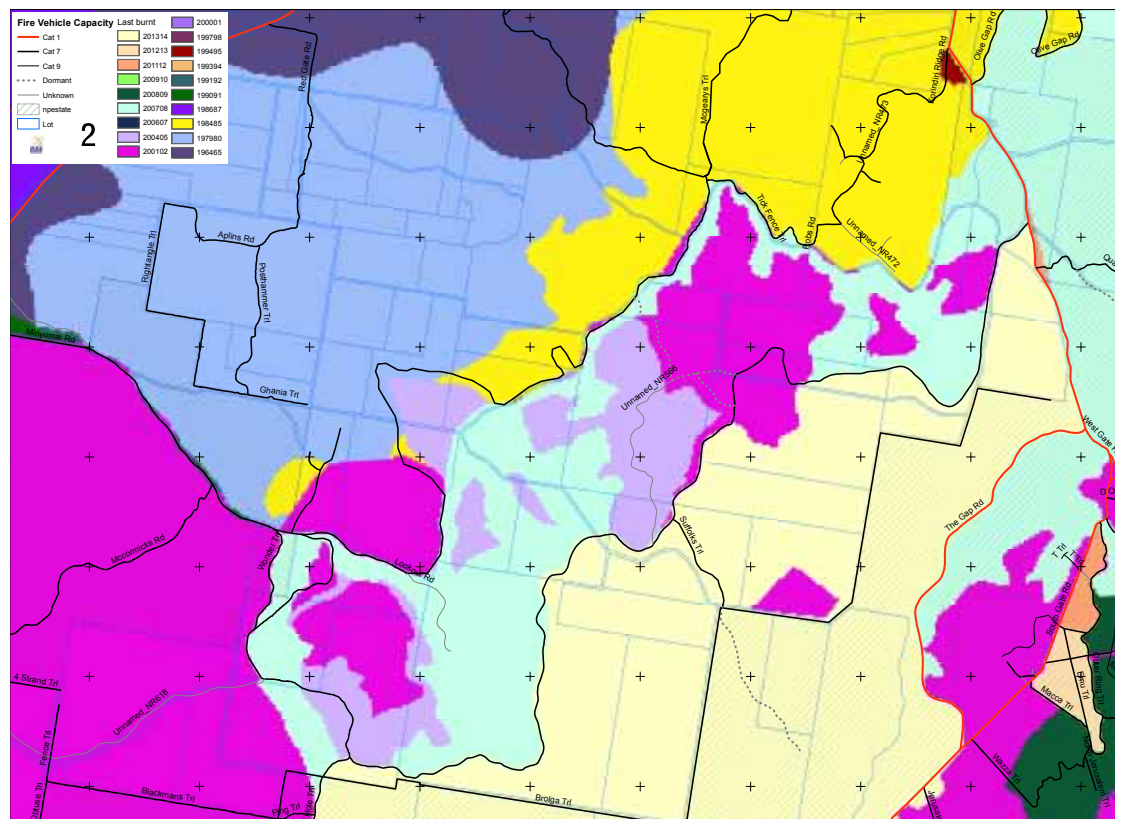
- Rural Fire Service
- Local Land Services
- National Parks and Wildlife Service
- Office of Environment and Heritage
- Local Councils
- Local landcare groups or environment centres
- Online sources such as 'Six' maps and Google Maps
- Department of Primary Industry
- Crown Lands

## FIRE HISTORY

This knowledge can come from different sources, for instance:

- Personal knowledge- knowing which fires have occurred, where and when
- Personal observation- you have observed the effects of fire such as scorch marks on trees, burnt out fence posts, plant species that regenerate after fire are thick and/or common in certain areas
- Interpretation- you have looked at records from the previous land holder, old photos etc.
- Neighbours and fire brigades- other people have seen fires happen over time and know where and when they occurred
- Official information- copies of fire history maps which may be supplied by fire authorities

Example of fire history map for Minyumai IPA.







*Knowing which vegetation types occur on your property and where they occur is important when it comes to planning for prescribed burns.*

### VEGETATION TYPES MAP

Knowing which vegetation communities occur on your property and where they occur is important when it comes to planning for prescribed burns, identifying appropriate fire intervals and the potential presence of any threatened species and endangered ecological communities. Vegetation communities in NSW can be complex and varied across relatively small areas of land particularly on the coast. It can be a time consuming and costly exercise to develop an accurate map of your property depending on its size. To find assistance and resources in identifying different vegetation communities on your property try your local Landcare officer, Council environmental staff, Local Land Service staff or local people that may have plant identification expertise.

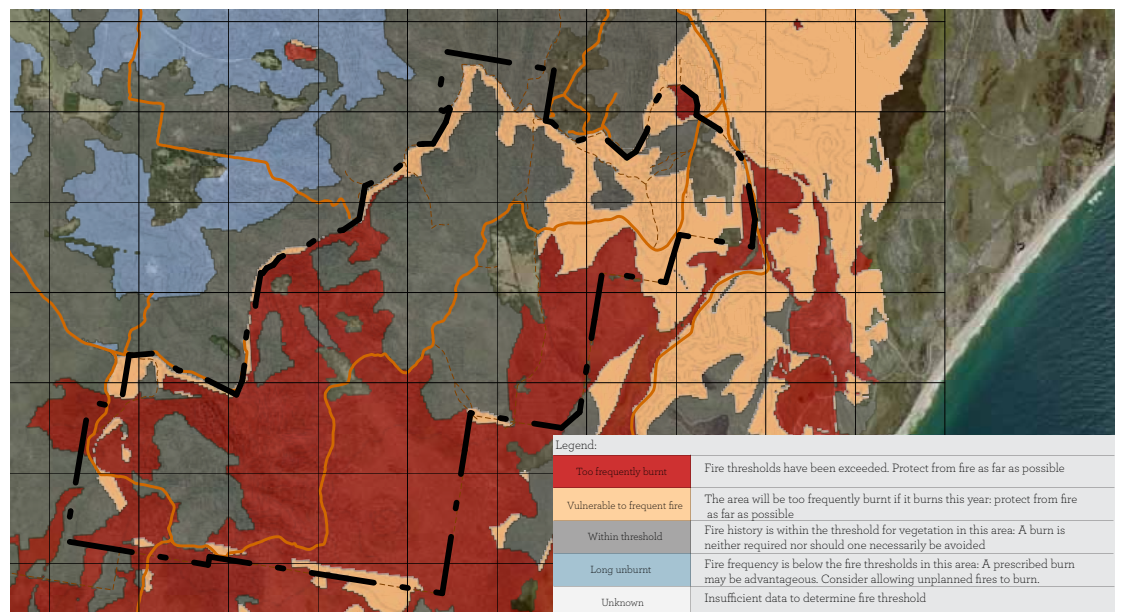
### FIRE THRESHOLDS MAP

Thresholds refer to the upper and lower limitations of survival for species that are particularly sensitive to very short or very long intervals between fires. Fire frequency guidelines developed by the Office of Environment and Heritage (OEH) for broad vegetation types in NSW aim to ensure fire intervals are long enough to let vulnerable obligate seeders grow to maturity, while also ensuring fire happens often enough to keep short lived species around. The recommended fire frequency intervals are based on what scientists currently know about fire ecology, and will continue to be refined as more information comes to hand. It should be stressed that these thresholds are meant as rough guidelines and are not always necessarily relevant for all vegetation communities particularly if they have been highly modified or had frequent wildfire events. Vegetation communities on your property that do not meet the threshold requirements may be refused a Hazard Reduction Certificate and you may have to look into applying for a different environmental approval to carry out the burn.

To source fire threshold maps you can:

- Contact your local NSW Rural Fire Service or National Parks and Wildlife Service; or
- A geographic information system (GIS) practitioner or environmental consultant may be employed to develop this map

Example of a Fire Thresholds map for Minyurnai IPA.







*The aim of the planning day is to collectively determine the appropriate land management objectives for the property.*

### **PLANNING DAY**

Invite stakeholders to the planning day to engage in the discussion, this allows them to be a part of the planning process. Be sure there is sufficient space, a table big enough for gathering around the maps, seating, and other amenities for comfort and engagement of all involved in the planning process. The aim of the planning day is to collectively determine the appropriate land management objectives for the property. The outcome of the planning day will be to develop the information required on the base map for the fire management plan. This map will include the values and assets to be protected on the property.

### **IDENTIFY VALUES, ASPIRATIONS AND ASSETS**

What are your values and aspirations for the property? Think about what qualities of the landscape you wish to maintain, enhance or protect and identify these areas. What aspirations do you have for the future- what would you like to retain or change? Investigating values and aspirations can help to clarify the vision and desired outcomes for the property. Identify the various material assets on the property which can include built objects such as houses, fences, dams, pumps, roads and infrastructure that you wish to protect from wildfires. Assets also include cultural assets that may be on the property including artefacts such as scar trees, camping grounds, stone tools, culturally significant vegetation and places that are important to the community or landholders. The values, aspirations and assets identified can be recorded on butcher's paper or on a white board to be referred to during the planning process.

### **RESOURCES FOR THE MAPPING EXERCISE**

Bring maps and documents you have collected to the planning day. Resources to include are:

- Maps (Fire History, Fire Thresholds, Vegetation Types)
- Transparent paper to draw on (we use HP Clear Film C3875A )
- Plans of Management (if available)
- Butchers paper / white board / coloured markers
- Cultural heritage and values stories and mapping
- Plant and animal distribution and records maps (i.e. culturally significant species, threatened species and endangered ecological communities)
- Regional Bushfire Risk Management Plan maps

Ngulingah LALC planning day with stakeholders attending.





*On each layer of mapping, be sure to record a key of the features identified.*

### MAPPING EXERCISE

In some cases we have used transparent paper over the base map to record information as some properties have a lot of information to record. In other cases where the property is smaller there is less information to record, so we have drawn directly onto the base map. Decide if you will need to use transparency paper to record your property information on before the mapping exercise begins. On each layer of mapping, be sure to record a key of the features identified.

Before you start the process lay out your aerial photo Landsat map in a central area where everyone can see. Have your transparency sheets already cut up to the correct size and possibly have some clips on hand to make sure they stay still during the mapping process. You do not need to follow the exact steps below but can choose the relevant steps for your property.

### STEP 1

On the transparency paper titled 'Property Details' record property details that are known such as:

- Property name
- Property boundary lines
- North arrow
- Significant neighbours and land tenure surrounding the property for example National Parks and reserves

Fire planning day at Minyumai IPA.





### STEP 2

On another tracing paper titled 'Built Infrastructure' identify and outline the built infrastructure features of the property. These can include:

- Assets such as buildings, sheds, nurseries and machinery sheds
- Fence lines
- Power lines
- Roads, fire trails, tracks, boardwalks and paths
- Gates- identify if locked or unlocked
- Water sources for example- permanent and temporary rivers and creeks, water tanks, dams, pumps and irrigation lines

### STEP 3

On the next sheet titled 'Cultural Assets' identify and outline key cultural assets, for example you could include:

- Cultural sites
- Pathways and story lines
- Men's areas and women's areas
- Special sites, camping areas
- Scar trees
- Rock art
- Artefacts
- Middens and
- 'No-go' or restricted areas

(Note this section can be done independently and shared later if required)

Example of a stone tool cultural asset found at Ngunya Jargoan IPA.





#### STEP 4

On the next sheet titled 'Ecological Values' identify and outline key ecological values such as:

- Vegetation types
- Wetlands
- Old growth forest
- Endangered ecological communities, and
- Identify key plant and animal distribution and records (e.g. culturally significant species and threatened species)

#### STEP 5

On the next sheet titled 'Threats' identify and outline key threats such as:

- Known weeds
- Erosion areas
- Wildfire events and likely direction of fires; and
- Feral animals

#### STEP 6

On another tracing paper titled 'Further Survey Work' identify and outline areas that are data deficient, for example:

- Areas where further survey work needs to occur to identify cultural and ecological assets and management activities

Stakeholders and rangers contribute to fire planning at Ngulingah LALC.







### STEP 7

Overlay all layers onto your base map and decide how to divide the property into Land Management Areas (LMAs). LMAs are a useful way of breaking up the property into smaller areas that have similar attributes and management objectives, making it easier to identify what management actions need to occur in each area. These areas can be based on obvious landscape features such as rivers, roads and natural boundaries. Once the LMAs have been defined then key values, aspirations and assets identified (in Identify Values, Aspirations and Assets, page 8) can be overlaid to help determine priority areas to focus actions on.

*Take notes that will inform the Action Table, to build a clear table of actions following the planning day.*

- Land Management Areas can be any size but key decisions should be based on the capacity of the landowners to manage them and most importantly accessibility to and from each area
- Land Management Areas can be then used to make priority management objectives and actions

### STEP 8

Work through each identified LMA and address the objectives for each area. Outline the identified threats, and discuss the best way to address these threats. Record actions that come up as you go through each LMA. Take notes that will inform the Action Table, to build a clear table of actions following the planning day. Actions can then be considered and developed as appropriate to manage threats to assets. These actions will form the basis of the Action Table (page 14) that will be part of the fire management plan. An example of an Action Table has been included for you to refer to on page 18.

Fire planning day at Busbys Flat- stakeholders discuss potential Actions for the various Land Management Areas.





## PRODUCING THE PLAN

The final stage of the plan development involves the collation of information developed at the planning meeting into a final map. This forms the central focus of the plan and identifies assets, infrastructure, special areas, features and any additional information that is important.

*It can be useful to extract property information from any existing Plan of Management to be included in the fire management plan.*

This may be done in a variety of ways depending on available resources and the capacity of the planning team. For our poster plans we contracted a designer to combine the various layers on the transparency sheets to create an overall property plan. We used Adobe In Design software to collate all the maps and information into a large poster plan. The same information has also been used to create an A4 version of the fire management plan. Each version has its uses and benefits depending on the users needs and situation.

If resources for this are not available then get creative and find other ways to combine the information into a final map layout. Options for this may be to:

- Create a poster using Microsoft Power Point or another similar program
- Hand draw features onto the base map or topographic map
- Google Maps/Google Earth and Six maps allow for editing and creation of polygons, lines and points to create a base property map

## DEVELOPING ADDITIONAL INFORMATION

It can be useful to extract property information from any existing Plan of Management to be included in the fire management plan. This provides background information and further details about the property to the users of the plan.

## SIGNIFICANT SPECIES

This is about the important plant and animal species found on your property. These species can be listed as threatened or be significant to you for cultural reasons and therefore require ongoing management and protection. A list of significant species can provide further information to the readers of the plan about the unique species present on the property and their relationship to the landholders.

Minyumai rangers in the process of ground truthing the fire management plan at Minyumai IPA.





## ACTION TABLE

The action table informs land managers of the proposed activities that will be carried out on the property to achieve the management objectives identified during the planning process. Relevant information regarding the proposed work within each LMA is included in the action table. Actions identified may include:

*Actions identified during the planning process can be prioritised based on a number of criteria including access, resources and available funds.*

- Survey work to identify and map ecological and cultural values
- Community engagement
- Mapping and maintaining tracks and fire trails
- Consultations with external agencies or neighbouring property owners
- Applying for relevant approvals
- Site assessment
- Site preparation and
- Prescribed burns for Hazard reduction, restoration and protection of cultural and ecological values.

Actions can be prioritised based on a number of criteria including access, resources and available funds. Land managers may decide to prioritise actions based on their relationships with other external agencies where they may receive additional support to implement the activity and undertake any follow-up actions. An example of this may be a burn where the property manager has engaged the State Mitigation Services to clear control lines and has the Rural Fire Service brigade on board to support the implementation of the burn.

The Firesticks fire management plan has been designed so that the landholder can update the action table when required to keep track of which activities have been started or completed and what further work needs to be undertaken to complete the action. An example of an action table has been included in the appendix for your reference.

Fire planning on country at Yellomundee.







*Liaise with the RFS in regard to developing Operational Information that will provide critical information to the RFS.*

### OPERATIONAL INFORMATION

Liaise with the RFS in regard to developing operational information that will provide critical information to the RFS if there is an unplanned fire on or adjacent to your property. This section may be developed as a table including additional information such as:

- Aboriginal Cultural Heritage Sites
- Threatened flora and fauna
- Infrastructure
- Back-burning
- Aerial bombing
- Aerial ignition
- Command and Control
- Containment lines
- Earth moving Equipment

An example of an operational table has been provided in the appendix for your reference.

### CONTACT LIST

A list of contacts is useful for fire planning prescribed burns and response to wildfires. Include the contact information of those responsible for the plan. Talking to immediate neighbours about the option to include their contact details in the list can be a great way of engaging their participation. Contacts such as:

- Property managers
- Local Aboriginal organisations, authorities, and advisors
- NSW Rural Fire Service and
- Neighbours may be considered

### COLLATE INFORMATION

Now this additional information has been developed it is time to put it all together into a final layout. Decide on the format of the plan, this may be in a poster format, a document style, or both. The plan may be collated into a document format using Word or an equivalent program. Images of significant species, ranger teams, and the landscape can be used to share additional property information.

On the ground operational planning.







*Decide the time span that this plan applies to and review the plan as needed. Make any changes required to the plan, have a second review if necessary and continue until all parties are satisfied.*

Once a draft document has been developed it is time to do some ground truthing. This involves bringing together key stakeholders that have an interest in local fire management such as the RFS Community Engagement Officer, National Parks and Wildlife Service rangers, Local Land Service members, Aboriginal rangers and neighbours. Show them the plan and work through the information identifying any edits or changes that may be needed. Get on country, walk and talk through the key aspects of the plan such as the action table, operational information, features on the base map such as property boundaries, infrastructure and assets and confirm that the information is correct and current. Make any changes required to the plan, have a second review if necessary and continue until all parties are satisfied.

### **PRINTING AND DISTRIBUTION**

After adopting the final edits to the plan, print it up and bind together if using a document format or laminate if using a poster layout. Print enough copies to share with relevant stakeholders. Consider sharing the plan with:

- Local government agencies
- NSW Rural Fire Service
- Local Aboriginal Land Council
- Neighbours
- National Parks & Wildlife Service – if the property is next to a National Park
- Landcare groups such as Dunecare and Landcare

### **REVIEW OF THE PLAN**

Decide the time span that this plan applies to and review the plan as needed. We aim to review our plans annually and update any information that has changed such as: updated action table when work is completed; contact list as personnel change; and any other edits or adjustments as needed.

Ngunya Jargoona IPA rangers share their Fire Management Plan at the ICUN World Parks Congress in Sydney.





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## Useful resources and Website links

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### **FIRESTICKS:**

Investing in people, communication pathways, education and on ground land management to create social and ecologically resilient landscapes. For more information and resources:  
<http://www.firesticks.org.au/>

### **HOTSPOTS:**

Based on best available science and operational knowledge, the Hotspots Fire Project is a NSW training program which provides landholders and land managers with the skills and knowledge needed to actively and collectively participate in fire management planning and implementation for the protection and enhancement of biodiversity conservation. For more information and resources:  
<http://hotspotsfireproject.org.au/>

### **NORTHERN RIVERS FIRE AND BIODIVERSITY CONSORTIUM (NR FABCON):**

The Northern Rivers Fire and Biodiversity Consortium (NRFABCON) provides a network for land managers and stakeholders seeking a coordinated, landscape level approach to appropriate fire management for biodiversity across the Northern Rivers region. For more information and resources:  
<http://www.nrfabcon.org.au/>

### **NSW RURAL FIRE SERVICE:**

The NSW Rural Fire Service (NSW RFS) is the world's largest volunteer fire service. Our members provide fire and emergency services to approximately 95 percent of NSW. NSW RFS members attend a range of incidents and activities. For more information and resources:  
<http://www.rfs.nsw.gov.au/resources>

### **OFFICE OF ENVIRONMENT AND HERITAGE:**

The Office of Environment and Heritage has an important role in providing information to support the environmental work of other government and non-government agencies, business, educators and the broader communities. For more information and resources:  
<http://www.environment.nsw.gov.au/knowledgecentre.htm>

### **NSW NATIONAL PARKS AND WILDLIFE SERVICE:**

Find out about some of the many ways you can explore Aboriginal culture within NSW national parks. For more information and resources:  
<http://www.nationalparks.nsw.gov.au/conservation-and-heritage/aboriginal-culture>

### **FIRE ECOLOGY AND BIODIVERSITY**

School of Ecosystem and Forest Sciences | Faculty of Science  
University of Melbourne  
<http://www.fireecologyandbiodiversity.com/>

### **INDIGENOUS PROTECTED AREAS**

<http://www.environment.gov.au/land/indigenous-protected-areas>

### **PEW- COUNTRY NEEDS PEOPLE**

<http://www.countryneedspeople.org.au>



## Example Action Table

LMA	SUMMARY OF PRIORITY ACTIONS	COMMENTS
All LMA* *Land Management Areas	<p>Assessment and planning: review Fire Plan annually and update priority actions in view of seasonal variations and ongoing support and assistance from neighbours</p> <p>Access and fire mitigation: survey condition of existing fire trails on the property including preparation of a map and further works identified– identify trails as either Dormant, Important or Essential to provide clear reference for NSW Rural Fire Service (RFS) for Wildfire Response</p> <p>Protect fire-sensitive attributes and cultural values, including scar trees, rainforest and habitat trees through cultural burning and mitigation activities</p> <p>Community engagement, education and mentoring: provide a cultural learning space for community and schools to further opportunities for cultural knowledge exchange</p>	
LMA 1 Yuburr yehnahbah- 1st camp	<p>Further survey work to determine ecological and cultural assets</p> <p>Open up key access tracks; Slash around infrastructure; Clean and maintain cultural sites</p> <p>Apply for Hazard Reduction Certificate (HRC) for undertaking controlled burn to protect sheds and toilets</p> <p>Consider the zoning as Strategic Fire Advantage Zone (SFAZ) on the eastern side– liaise with NCC and RFS to organise representation on the Bush Fire Management Committee (BFMC).</p>	
LMA 2 Minjehlabah- Smiling place	<p>Maintain fire trails; Remove fuel loads from boardwalk and monitor adjacent area to determine if it requires a buffer zone</p> <p>Burn north side of proposed trail for fire mitigation</p> <p>Protection of old growth habitat through manual clearing and patch burning</p> <p>Undertake ecological - cultural assessments, mapping and planning, as required to prepare Long-Term Monitoring Plot C for burning in 2015-2016</p>	Plot C control line cut, needs completion and refreshing prior to burn.
LMA 3 Bingingbah- Eastern long necked turtle	<p>Undertake assessments and a mosaic of cultural burns for a variety of reasons including access, safety and recruitment of bush-tucker species</p> <p>Undertake strategic burns to protect old growth habitat that supports threatened species including gliders owls and bats</p> <p>Assess cultural site and review management actions to determine suitable fire mitigation strategy</p> <p>Exclude unplanned fire in Setaria Plots through maintaining key fire trails and regularly slashing</p> <p>Continuation of post-fire monitoring of Firesticks Baseline Monitoring Plot A</p>	Planned for 2015 subject to weather and approvals.
LMA 4 Ngoorebah- Emu	<p>Undertake assessments with aim to implement seasonal cultural burning. Establish perimeter burns and containment along forest interfaces and patch burn small mosaics within wet heath community and grasslands</p>	
LMA 5 Wehburrbah- Place of fire	<p>Consideration for the zoning of this LMA as Strategic Fire Advantage Zone (SFAZ) Consultation with RFS and National Parks and Wildlife Services (NPWS) through the BFMC</p>	
LMA 6 Yuroonbah- Rd place	<p>Investigate collaborative burn between NPWS and Minyumai to assist with fire and protect key ecological and cultural assets</p>	
LMA 7 Gubulbah- Rainforest place	<p>Further survey work to determine ecological and cultural values in the area</p> <p>Assess opportunities to implement cultural burns along ridgelines to open up grassy pathways for macropods, create access and reduce fuel</p> <p>Pending environmental impacts and fire permits prepare monitoring Monitoring Plot D for burning in 2015. Works include pre and post-fire monitoring (establishing control line/s and photo point/s)</p>	Plot G control line cut. Currently planned for autumn/winter 2015
LMA 8 Gehrrlabah- Black cockatoo	<p>Construct containment lines around tea tree stand to protect potential economic and medicinal values</p> <p>Liaise with neighbours to determine suitable cross tenure HRC burns for protection of key assets</p> <p>Further survey work to determine ecological and cultural assets</p> <p>Assess opportunities to implement cultural burns along ridgelines to open up grassy pathways for macropods, create access and reduce fuel</p> <p>Undertake ecological - cultural assessments, mapping and planning, as required to prepare Long-Term Monitoring Plot G for burning in 2015-2016</p>	Plot G control line cut. Currently planned for autumn/winter 2015
LMA 9 Wijoonbah- Place of glider	<p>Further survey work to determine ecological and cultural values</p> <p>Assess opportunities to implement cultural burns along ridgelines to open up grassy pathways for macropods, create access and reduce fuel</p>	
LMA 10 Bunjeenbah- Spotted tailed quoll	<p>Further survey work to determine ecological and cultural values</p> <p>Assess opportunities to implement cultural burns along ridgelines to open up grassy pathways for macropods, create access and reduce fuel</p>	



## Example Operational Guidelines

ASSETS AND VALUES	OPERATIONAL GUIDELINES
Aboriginal Cultural Heritage Site Management	Aboriginal sites not shown on this version due to sensitivity. If undertaking backburning operations please contact Ngulingah LALC.
Historic Heritage Management	There are no known European historic sites on this property.
Threatened Fauna Management	Avoid impact on rainforest. Avoid impact on streams. Protect large and hollow-bearing trees.
Threatened Flora Management	Avoid impact on black rainforest.
Threatened Property	Property owners with assets at risk from a wildfire should be kept informed regarding the progress of the fire; and be asked for an assessment of their current level of asset protection preparedness. See contact list for details of adjoining properties.
GENERAL	GUIDELINES
Aerial Water Bombing	Foam should be used to increase the effectiveness of water bombing; No foam to be used on the creek and other water sources; Avoid escarpment and rocky areas due to potential impacts on cultural heritage values.
Aerial Ignition	Aerial ignition may be used during back-burning or fuel reduction operations. Utilise incendiaries to rapidly progress back burns down slope where required.
Backburning	Clear a 1m radius around dead and fibrous barked trees adjacent to containment lines prior to backburning, or wet down these trees as part of the backburn ignition. Avoid ignition of backburns at the bottom of slopes where a long and intense up slope burn is likely. Contact LALC for advice on sensitive sites.
Command and Control	The first combatant agency on site may assume control of the fire, but then must ensure the Ngulingah LALC CEO is notified (see contacts list). On the arrival of other combatant agencies the initial incident controller will consult with regard to the ongoing command, control and incident management team requirements as per the relevant BFMC Plan of Operations.
Containment Lines	No new containment lines in rainforest. New containment lines require the prior consent of Ngulingah LALC. Ensure Ngulingah LALC is notified. Containment lines should be stabilised and rehabilitated as part of the wildfire suppression operation.
Earthmoving Equipment	Earthmoving equipment may only be used with the prior consent of Ngulingah LALC supervised by an experienced site officer. Earthmoving equipment must be always guided and supervised by an experienced officer and accompanied by a support vehicle. When engaged in direct or parallel attack this vehicle must be a fire fighting vehicle.
Fire Suppression Chemicals	The use of fire retardant is only permitted with the prior consent of Ngulingah LALC and should be avoided where reasonable alternatives are available. Exclude the use of surfactants and retardants within 50m of rainforest, watercourses, dams and swamps.
Rehabilitation	Containment lines should be stabilised and rehabilitated as part of the wildfire suppression operation All re opened and new containment lines not required for other purposes should be closed at the cessation of the incident.
Smoke Management	If smoke becomes a hazard on local roads or highways, the police and relevant media must be notified. Smoke management must be in accordance with relevant RMA traffic management guidelines.







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## Disclaimer and Acknowledgements

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This Fire Management Plan Guide has been compiled by the Northern NSW Firesticks Project funded by the Australian Government. It serves merely as a guide to fire management planning. The information contained herein reflects our understanding at the time of planning. We are learning more about fire and the environment every day and anticipate that some recommendations may change as new information comes to hand. Thus whilst every effort has been made to ensure the information presented herein is as accurate and well-informed as possible, those involved in compiling this plan take no responsibility for any outcomes, actions or losses resulting either directly or indirectly from the interpretation, misinterpretation or implementation. This Fire Management Plan Guide is intended to be used in conjunction with the help of experts, local/regional authorities and good neighbour relations.

This guide has been compiled by the Northern NSW Firesticks Project, with input from and in consultation with a wide range of stakeholders. This guide was produced by Sian Hromek, Richard Brittingham, Oliver Costello, Greg Banks and designed by Lyndal Harris and Jacqueline Gothe.

The Northern NSW Firesticks Project is delivered in partnership between the Nature Conservation Council of NSW, the Casino-Boolangle, Gugin Gudduba and Ngulingah Local Aboriginal Land Councils, the Minyumai, Ngunya Jargoan, Tarriwa-Kurrukun, Wattlebridge and Willows and the Boorabee Indigenous Protected Areas, the Northern Rivers Fire and Biodiversity Consortium, the Office of Environment and Heritage, the University of Technology, Sydney (UTS) and with valued support from the NSW Rural Fire Service.

Thank you to our project partners for their technical input, photographs and continuing support to the project. Thank you to Richard Brittingham, Sian Hromek and Jacqueline Gothe for providing photographs/images for the guide.