

## A guide to developing prescribed burn plans



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## Contents

Introduction .....	2
Location and Owner Information, Emergency Contacts and Objectives .....	3
Map, Site Information and Surrounding Area .....	3
Burn Prescription, Smoke and Traffic Management Plan .....	3
Risk Assessment .....	4
Notifications and Ignition and Holding Plan.....	5
Resources and Personnel.....	6
Burn Checklist and Sign-Off.....	6



## Introduction

Burn plans are a critical component of any prescribed burn. The purpose of a burn plan is to clearly detail all of the aspects of a prescribed burn to provide safety for those undertaking the burn and the wider community.

A good burn plan has a description of the burn area, target weather conditions, hazards that may be encountered, personnel needs and safety, and contacts to make prior to burning.

This publication includes a burn plan template and explains the importance and purpose of each section of the template. Not every section may be applicable to every burn. Each specific prescribed burn will have its own plan that is made up of only relevant sections and information.

The template plan includes several components including:

- goals and objectives of the burn;
- burn site description; and
- fire prescription, operation, control, and post-burn requirements.

Each component contains several important subsections. This publication gives a brief introduction to each section and subsection and highlights what should be included.



## Location and Owner Information, Emergency Contacts and Objectives

The purpose of this section is to capture who owns the land, where the burn is taking place and the immediate contacts in case of an emergency.

This section of the plan should also address why you are burning (the goal) and what you are trying to accomplish with this particular burn (the objectives). The purpose of the burn should be addressed along with your short and long-term management goals. For example, the purpose of the burn may be to have a relatively patchy burn with a short-term goal of stimulating plant growth and a long-term goal to improve bandicoot habitat.

## Map, Site Information and Surrounding Area

Burn area considerations should detail the amount of land being burned, types of consumable fuel, firebreak locations and construction, and topography. Consumable fuel should be broken down into ground (leaf litter, roots, etc.), surface (trees up to two metres tall, shrubs, etc), crown / aerial (trees greater than two metres), and structures (homes, outbuildings etc). Be sure to pay close attention to vegetation with high oil content and other highly combustible fuels as they may greatly impact fire behaviour.

For each of the fuel categories it is recommended to record the amount, type, and continuity as a way to evaluate the effectiveness of the fire. Topographic information pertaining to slope, terrain, and aspect should be included along with a site map that indicates topographic features and natural and / or constructed firebreak locations.

Surrounding area considerations should include a burn history for the area, the date, results / objectives, and what could / should have been done differently. The special considerations section should include information on any plants or animals that may be adversely affected by the fire and what is being done to prevent any harmful effects.

This section also should include any information on local burn restrictions. It also is important to include information on local hazardous areas and prevention measures. Some areas that may pose hazards include power lines, gas lines, wells, and impassable fences.

## Burn Prescription, Smoke and Traffic Management Plan

The burn prescription section should identify the desired season and month of the burn along with acceptable weather conditions for the burn to occur. The weather conditions that should be included are temperature, relative humidity, wind speed, and wind direction.

A smoke management plan is included to address the precautionary measures that will be implemented. In order to properly address smoke management, areas of special concern need to be identified as well as the measures that will be taken to avoid problems with these areas. Areas of special concern include buildings, roads, and animal confinements. Desirable and unsafe weather conditions are addressed in this section; and in particular, wind direction, wind speed, and



forecasted wind shifts should be noted. A good action plan will include actions to take in the event that hazardous smoke conditions arise.

Similarly, the traffic management plan should address the likely impact the burn may have on any roadways along with the practices in place to manage this impact. You should include information on no-go roads or tracks for crews conducting the burn.

## Risk Assessment

The purpose of the risk assessment is to analyse the likelihood and impact of the burn escaping. The risk assessment acts as a trigger for the prescribing officer and / or burn controller in order to assess additional requirements for the burn, such as extra resources or personnel or the need for more detailed contingency planning.

The following table is to be used to assess the likelihood and consequence required in the risk assessment section.

### Likelihood:

Likelihood Rating	Definition
Rare	Highly unlikely, but it may occur in exceptional circumstances. It could happen, but probably never will. (<10% chance)
Unlikely	Not expected, but there's a slight possibility it may occur at some time. (10% – 35% chance it will occur)
Possible	The event might occur at some time as there is a history of casual occurrence. (35% - 65% chance it will occur)
Likely	There is a strong possibility the event will occur as there is a history of frequent occurrence. (65% - 90% chance it will occur)
Almost Certain	Very likely. The event is expected to occur in most circumstances as there is a history of regular occurrence. (>90% chance)



## Consequence:

Consequence Rating	Asset Type		
	Human Life	Property/Infrastructure	Environmental
Insignificant	No injuries	No damage	No adverse impact
Minor	Injuries requiring first aid	Limited, easily repairable damage	Contained, reversible impact through natural regeneration
Moderate	Injuries requiring medical treatment	Substantial damage, prolonged repair period	Contained, reversible impact with external assistance
Major	Injuries requiring hospitalisation	Extensive irreparable damage (write-off)	Uncontained, reversible impact with external assistance
Catastrophic	Fatality and/or permanent disability	Complete loss of plant, equipment, buildings and/or infrastructure	Uncontained, irreversible impact

## Overall Risk Rating:

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Catastrophic
Rare	Low	Low	Low	Low	Moderate
Unlikely	Low	Low	Moderate	Moderate	High
Possible	Low	Moderate	Moderate	High	High
Likely	Low	Moderate	High	High	Extreme
Almost Certain	Moderate	High	High	Extreme	Extreme

## Notifications and Ignition and Holding Plan

The ignition and holding plan outlines all contacts to make prior to the day of the burn and those to make the day of the burn. The two weeks prior to the burn, contact local residences / stakeholders and advise of burn. Obtain relevant permits for burning. Check weather conditions on the day of the burn. Note weather conditions, if available, immediately prior to ignition as well as during the burn. The ignition plan also will outline personnel safety precautions, the sequence of ignition, and the types of ignition patterns being used. A burn checklist is also to be completed prior to burning.

A contingency plan outlines a back-up plan to handle changes in fire behaviour, undesirable fire behaviour or conditions, equipment failure, availability of other unit's equipment, personnel injury or other emergency incident that may need to be attended to. The plan should clearly identify each person's responsibilities and how that information will be relayed to each person.



A mop-up plan includes all post-burn activities and assignments: who will monitor the area once it is burned, who determines that the fire is extinguished, and how to determine that the fire is extinguished. If required, it may also identify post-burn activities such as what weed control is going to be put place.

## Resources and Personnel

The resources and personnel list details the required vehicles, equipment, post-burn patrolling and other requirements for the burn. A list of personnel on the burn site should also be included along with any medical conditions and dietary requirements each member has.

A comments section is offered to cover any additional information required for the burn. Any relevant copies of documents should also be attached to the burn plan.

## Burn Checklist and Sign-Off

The final section of the burn plan is a checklist to be used prior to, during and after the burn. The checklist is a prompt to confirm that all the requirements have been met before the burn is conducted. All of the items in the checklist under the 'One week prior to the burn' and 'On the day of the burn' sub-headings must be completed for the burn to go ahead.

The sign-off section is to ensure the burn plan has been thoroughly checked and approved by the relevant authorities. The plan must be approved by the required persons prior to burning.



Prescribed Burn Plan			
Location and Owner Information			
Landowner			Phone
Land occupier	<input type="checkbox"/> As above		Phone
Property Address			
	Suburb		Postcode
Postal Address			
	Suburb		Postcode
Emergency Contact Information			
Name / Organisation			Phone Number
DFES Communications Centre			1800 198 140 / 000
Courtesy Notifications ( <i>neighbours and/or organisations that may be affected by burn</i> )			
Name / Organisation			Phone Number
Burn Objectives			
Purpose of the burn			
Short-term goals			
Long-term goals			

## Map of Burn Area:

Show burn boundary, roads and warning signs, hazards, assets, water points, proposed fall-back lines and other relevant information.

Key: Hydrant location **H**    Hazard: **X**    Road Signs: **Δ**    Control Point: **CP**

Map attached separately



Site Information					
Predominant Vegetation Type					
Indicative fuel loading (t/ha)		Burn area (ha)			
Surface fuels ( <i>grass, leaf litter, downed trees, etc</i> )					
Ladder fuels ( <i>dead trees, shrubs, vines, etc</i> )					
Aerial/crown fuels ( <i>live trees, canopy, etc</i> )					
Topography (slope and aspect)					
Previous burn / fire management ( <i>date of last unplanned fire, date of last prescribed burn, problems encountered during last fire / burn</i> )					
Closest water sources					
Location		Distance		Type	
Existing firebreaks					
Type and Location		Material	Height	Width	Length
Firebreak construction					
Type and Location		Method	Height	Width	Length

## Surrounding Area Considerations

Description of adjacent area *(note any significant differences in fuel, topography, use)*

Are there any assets requiring protection within or adjacent to burn area *(if yes, detail below the type of asset, location and management strategy)*

Yes  No

Ecological/environmental considerations *(if yes, detail below)*

Yes  No

Are there any specific special considerations or hazards eg powerlines, rail/road safety, rocky ground? *(if yes, detail below)*

Yes  No

## Burn Prescription

Burn Type  One-off  Mosaic  Rotational

Permit  
Required?

Yes  No

Permit Number

Season

Autumn  Winter  
 Spring

Day since last precipitation

Weather

Temperature (°C)

Wind Speed (km/h)

Relative Humidity (%)

Minimum

Maximum

Preferred wind direction

Timing of ignition

## Risk Assessment

Likelihood of burn escape

Consequence of burn escape

Overall risk of burn  
escape

*Note: If overall risk is greater than high, review the contingency plan and resources required*

## Smoke and Traffic Management Plan

Are there any smoke sensitive structures or areas? If yes, list them below.

What controls will be in place to minimise smoke impact on the above assets?

Will any roadways be affected by burning operations? If yes, list the roads below.

What controls will be in place to manage traffic on the above roads?

## Notifications

### Pre-Burn Contacts

Contact	When	Person responsible	Contact details	Completed
BOM Weather	Day before burn		Online	
Local residents				
Fire Control Officer				

### Burn Day Contacts

Contact	When	Person responsible	Contact details	Completed
BOM Weather	Day of burn		Online	
Fire Control Officer				
DFES Comm Cen	Day of burn		1800 198 140	

## Ignition and Holding Plan

Lighting pattern	<input type="checkbox"/> Strip lighting <input type="checkbox"/> Spot lighting <input type="checkbox"/> Other	Distance (m)	



Detail any additional requirements for ignition and holding (eg personnel precautions, ignition sequence, etc.)

Contingency plan (details of backup plan for equipment failure, undesirable fire behaviour or burn escape)

Mop-up Plan (minimum distances for mop-up, post burn clean up needs)

## Resources and Personnel

### Resource Requirements

*Resources required for conducting burn and blacking out (eg tractors, slip-on units, etc)*

Resource	Number required	Minimum crew/vehicle





## Comments

Add any other relevant information. Include copies of supporting documents as applicable.

## Burn Checklist

### One week before burn commences

Completed

Landowner's consent has been given for the burn to take place

Burn permit has been organised (if required)

Prepare aerial maps, weather forecast and four day weather outlook, as applicable

Confirm all required notifications have been completed

Confirm pre-burn works have been completed (if applicable)

### On the day of the burn

Yes

No

Burn Controller name

Are all fire prescription specifications met?

Is the weather forecast favourable now, through the burn and day after burn?

Are all the necessary control lines constructed and checked?

Are all needed personnel on-site?

Have all personnel been briefed on the prescribed burn?

Have all personnel been briefed on safety hazards, escape routes and safety zones?

Do all personnel have the required personal protective equipment (PPE) with them?

Is all required equipment in place and in working order?

Do you have direct communications lines established?

Nearest water points identified, are adequate and communicated to crews?

Do you have all keys and gate access?

Have you made the necessary notifications (including DFES Comm Cen)?

In your opinion can the burn be carried out according to the plan and will it meet the planned objectives?

Traffic management plan and smoke management plans are in place?

Check burn area for community members / track users prior to ignition

Close all internal tracks and external firebreaks within burn boundary until declared safe by Burn Controller



<b>During burn</b>				
Conduct 5m x 5m test burn prior to full ignition				
Monitor fire behaviour and smoke direction, implement contingency plan if required				
<b>During black out</b>				
Mop-up standards to be applied as per Burn Controllers instructions				
Flag any suspect trees or hazards				
Confirm burn strategy's effectiveness and burn objectives have been met				
<b>Prior to departing burn area</b>				
Burn boundary, trails and paths to be monitored for hazardous trees and declared safe, made safe or closed with hazard tape prior to departure from burn.				
Debrief crews and confirm there are no injuries, incidents or accidents				
If handing over to another person, record their details below				
Name:		Signature		Date/Time
<b>Post-burn</b>				
Coordinate patrols of area as required				
If required, notify required stakeholders that burn has been completed and sign-off relevant paperwork				
Coordinate any post-burn works as required				
<b>Burn Plan Sign off</b>				
<b>Prescribing Officer endorsement of burn plan (to be completed one week prior to burn)</b>				
Name:		Signature		Date
<b>Shire of Serpentine Jarrahdale endorsement of burn plan (to be completed one week prior to burn)</b>				
Name:		Position		
Signature		Date		
<b>Burn / Incident Controller endorsement of burn plan (on the day of the burn)</b>				
Name:		Signature		Date
<b>This section is to be completed once the burn has been completed, extinguished and left safely</b>				
<p>I, the person responsible (or representative) for co-ordinating the Hazard Reduction Burn, declare that the burn has been completed as described in this prescribed burn plan and:</p> <p><input type="checkbox"/> has been left in a safe state upon the departure <b>OR</b></p> <p><input type="checkbox"/> has been handed over to another person as described above upon departure and is now their responsibility.</p>				
Name:		Signature		Date / Time