Planned burning guidelines in South Australia

Up-skilling private landholders in fire management

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Planned burning guidelines in South Australia

- review of planned burning
  - fuel hazard assessment
  - guidelines for burning
  - fire risk assessment

Up-skilling private landholders in fire management

- training and mentoring private landholders
  - property fire management plans
    - planned burning and wildfire management
    - fire training
    - rare and/or threatened species

What is planned burning?

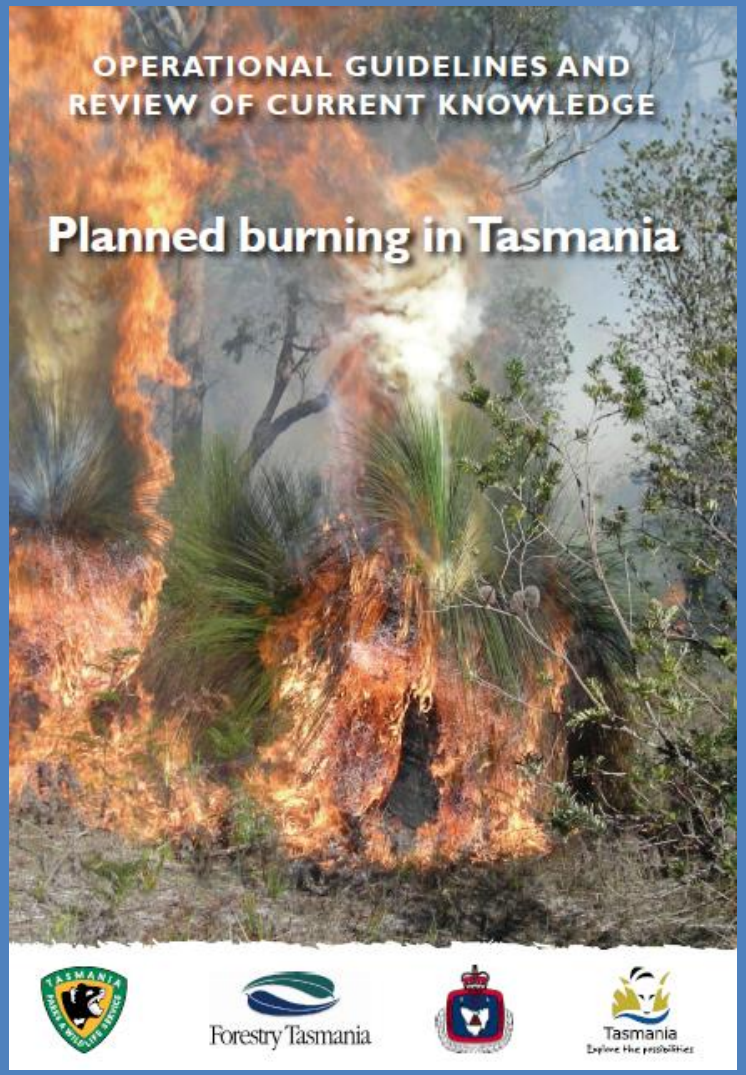
- use of fire for pre-determined objectives
  - hazard reduction
  - ecosystem management
  - cultural management
  - weed management

Major issue with planned burning

- reduction in area burnt over last few decades
  - loss of experience and practical skills
  - reduced community support
  - increased scrutiny
    - need to ensure best practices are utilised
      - minimise adverse outcomes
        - escapes, costs, disruptions
      - achieve land management objectives

Revised SA guidelines for planned burning

- built on a similar review performed in Tasmania in 2009



http://www.parks.tas.gov.au/?base=15944

Revised SA guidelines for planned burning

- previous guidelines developed in 2002
  - planned burning workshop
  - input from fire researchers

Interim Burning Prescriptions for South Australia

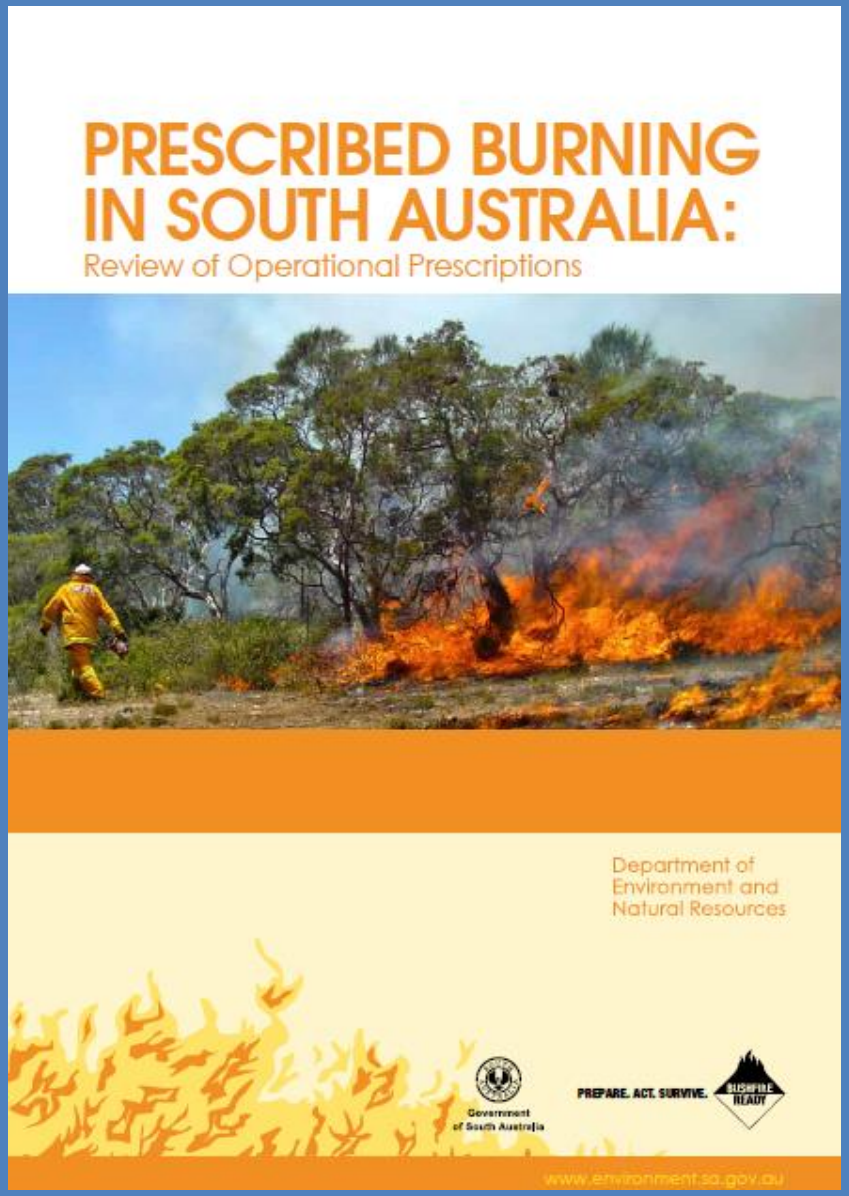
A workshop was held in Adelaide, South Australia on Tuesday 8th October and Wednesday 9th October. This workshop was organised by National Parks and Wildlife, South Australia. The purpose of the workshop was to assemble people from across South Australia with some of the best knowledge and experience in bushfires and prescribed burning in order to compile a set of interim burning prescriptions which could be tested in the field over time. There were people from National Parks and Wildlife SA, Forestry SA and the Country Fire Service. This workshop was the first stage of an ongoing process of prescription development.

Issues with previous guidelines

- poor linkage with fire behaviour
  - too restrictive in some areas
  - poor incorporation of risk factors
- not consistent with current fire behaviour theory
  - based on fuel load and not fuel hazard
  - not linked to current fire behaviour models

Revised SA guidelines for planned burning

- review performed in 2011



http://www.environment.sa.gov.au/files/57d834b7-5c0b-43ec-8c1e-9f8900a7b3ef/fm-gen-prescribedburningreview ofoperationalprescriptions. pdf

Revised SA guidelines for planned burning

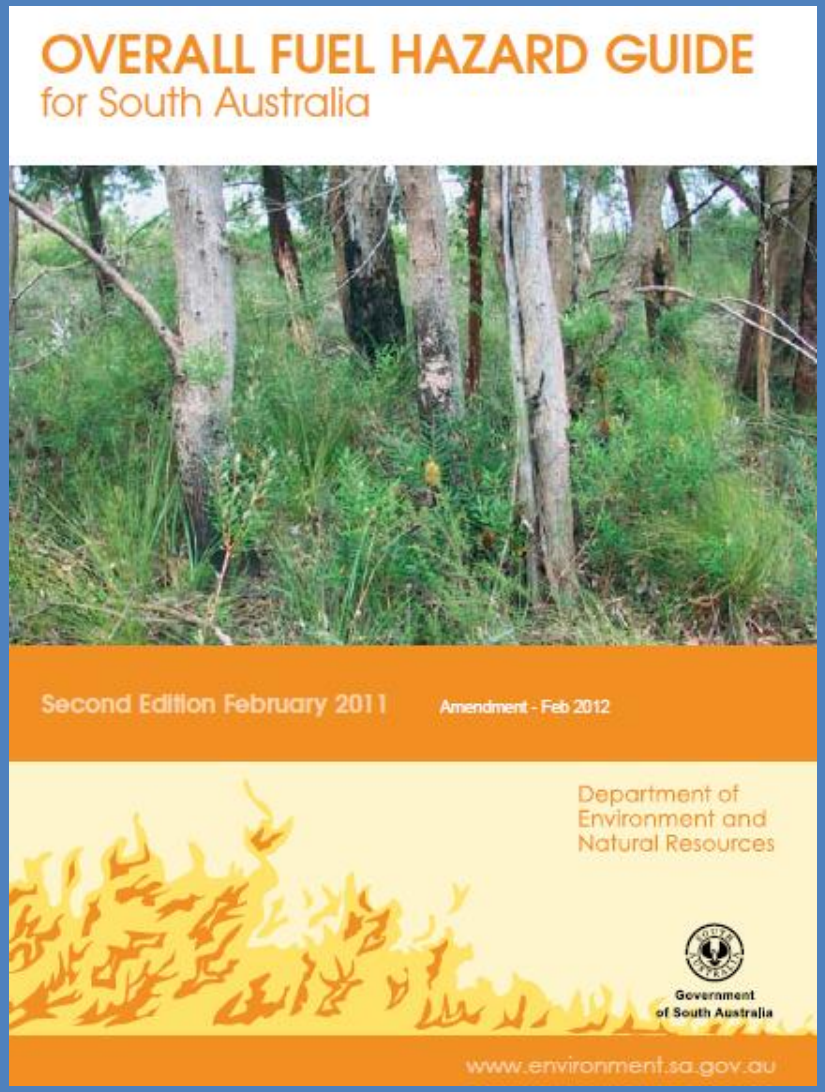
- literature review
  - guidelines used elsewhere
  - fire behaviour and ecology research
- assessment of previous guidelines
- workshops with experienced practitioners
  - identification of where revision was required
    - omissions from previous guidelines
    - unnecessary components
- development of fire risk assessment systems

Revised guidelines developed for

- semi arid mallee woodland and heath
- spinifex grassland
- dry eucalypt forest and woodland
- native grassland and grassy woodland
- coastal mallee and heath
- non-eucalypt woodland
- woody weeds

Change-over to using fuel hazard rating

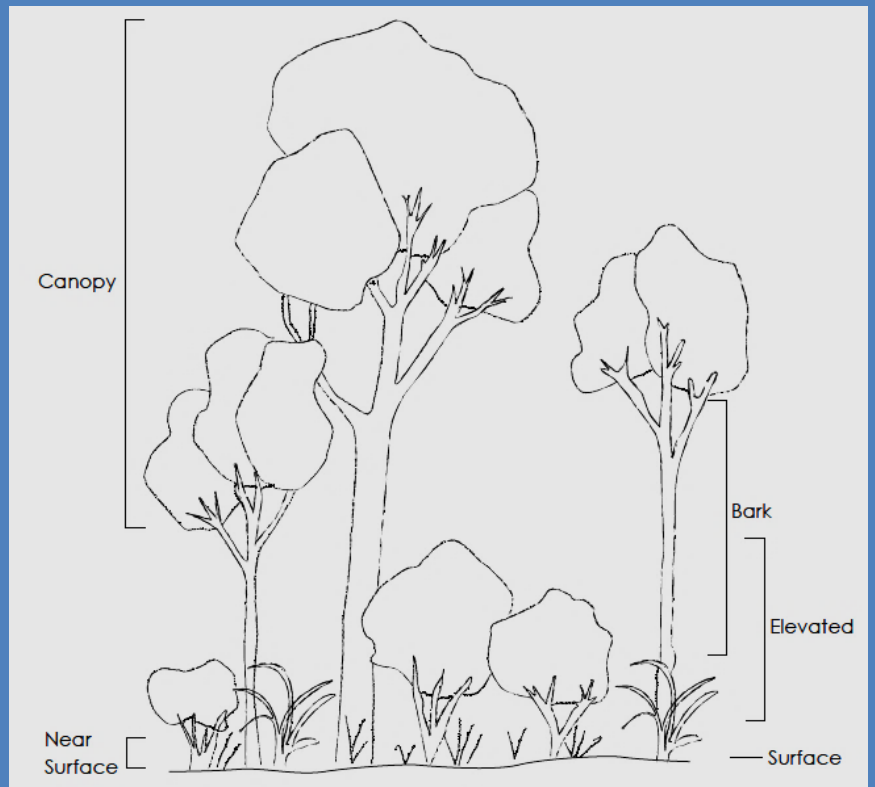
- previous guidelines: fuel load
  - revised guidelines: fuel hazard rating



http://www.environment.sa.gov.au/files/f0d6607e-53de-417c-879c-9e3300b31b22/fm-gen-overallfuelhazardguide2012.pdf

Fuel hazard rating

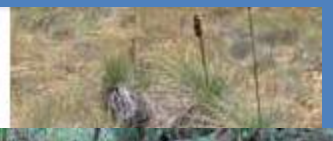
- fuel-hazard
  - much better linkage with fire behaviour than fuel load
- stratums
  - surface and near-surface
  - elevated
  - bark



Estimating fuel hazard rating

- surface fuel hazard
  - litter fuel depth
    - dead fuel only
- near surface fuel hazard
  - live and dead fuels
    - grass, bracken, small shrubs, wiregrass
      - typically up to ~30 to 60 cm tall
        - major influence on fire spread rate
- combined surface and near surface fuel hazard
- elevated fuel hazard
  - taller shrubs, heath, suspended material
    - major influence on flame height
- bark fuel hazard
  - bark type, attachment, quantity
    - major influence on spotting

Example: estimating near surface fuel hazard



Low Near-Surface F

Near-Surface Fuel abse
Near-Surface Fuel plays

Moderate Near-Sur

Enough Near-Surface F
burning conditions, mo

Tussock Grasses	Lo Ru
10-20% cover little or no suspended bark, & leaves	10-

Very large gaps betwee
<20% dead material

High Near-Surface Fuel Hazar

Patches of Near-Surface Fuel that boo
conditions, only these patches will
connected to permit fire to spread

Tussock Grasses	Low Sedges/ Rushes
20-40% cover with >20% dead may have suspended bark and leaf material	20-40% cover with >20% dead

Gaps between fuel patches > fuel p

Very High Near-S

Almost continuous Ne
and flame height. A f
(given wind or slope).

Tussock Grasses	L R
30-60% cover with >30% dead grass or other leaf and bark litter	3 w o a

Fuel patches > gaps b

Extreme Near-Surface Fuel Hazard

Continuous Near Surface Fuel continuous and contributes significantly to fire spread. Burning under marginal conditions will spread readily in this layer without having to consume the surface layer.

Tussock Grasses	Low Sedges/ Rushes	Hummock Grasses	Low Shrubs
>60% cover with >50% dead grass or other leaf and bark litter	>60% cover with >50% dead grass or other leaf and bark litter	>60% cover	>60% cover

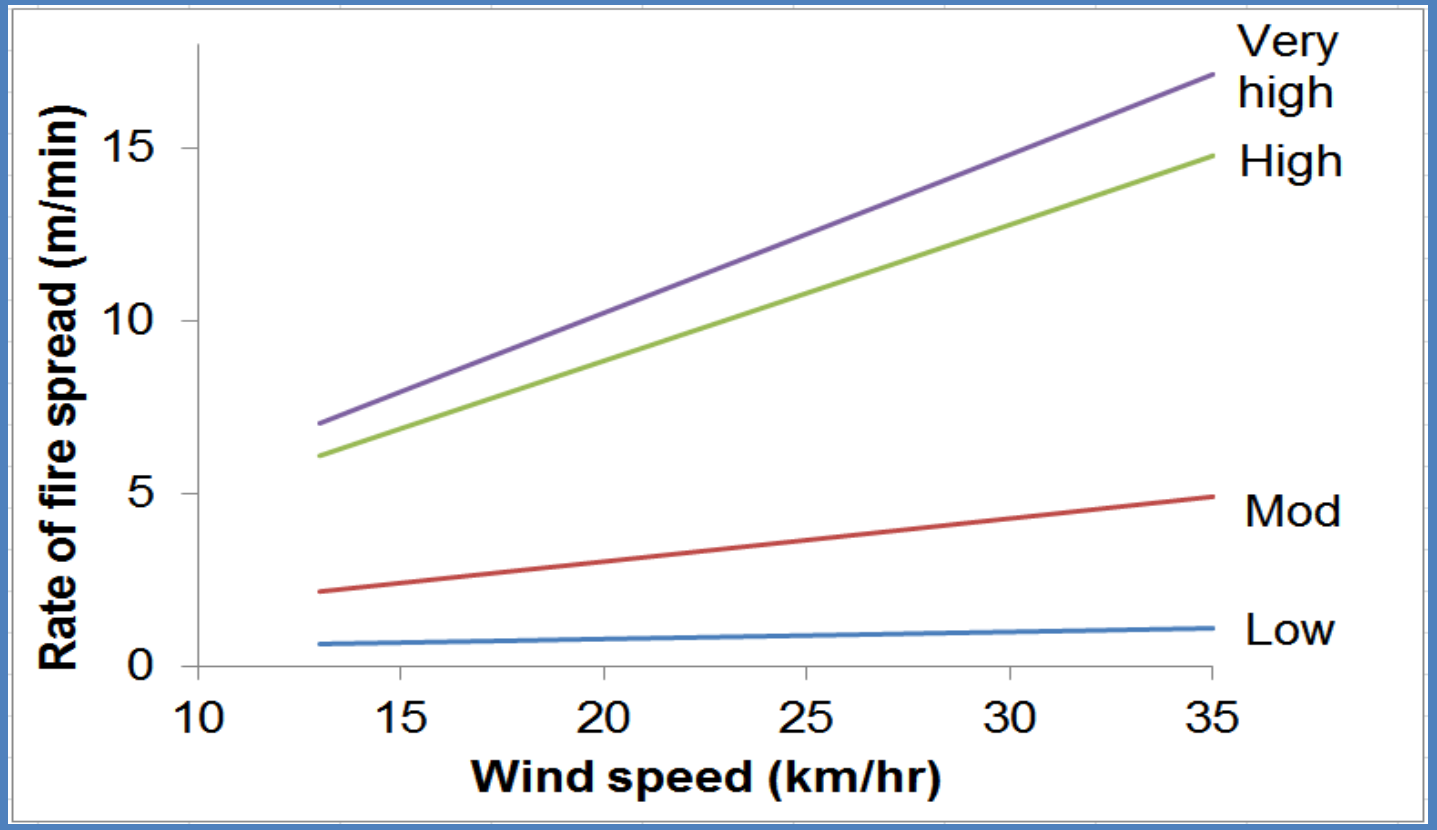
Very small gaps between fuel patches.

Balancing influences of different factors

- targeted to safe and effective burning
  - explicitly link
    - ignition strategy
    - level of fuel hazard
    - weather and site parameters
- SA guidelines for planned burning are the only system currently utilised in Australia that do this

Wind speed versus rate of fire spread

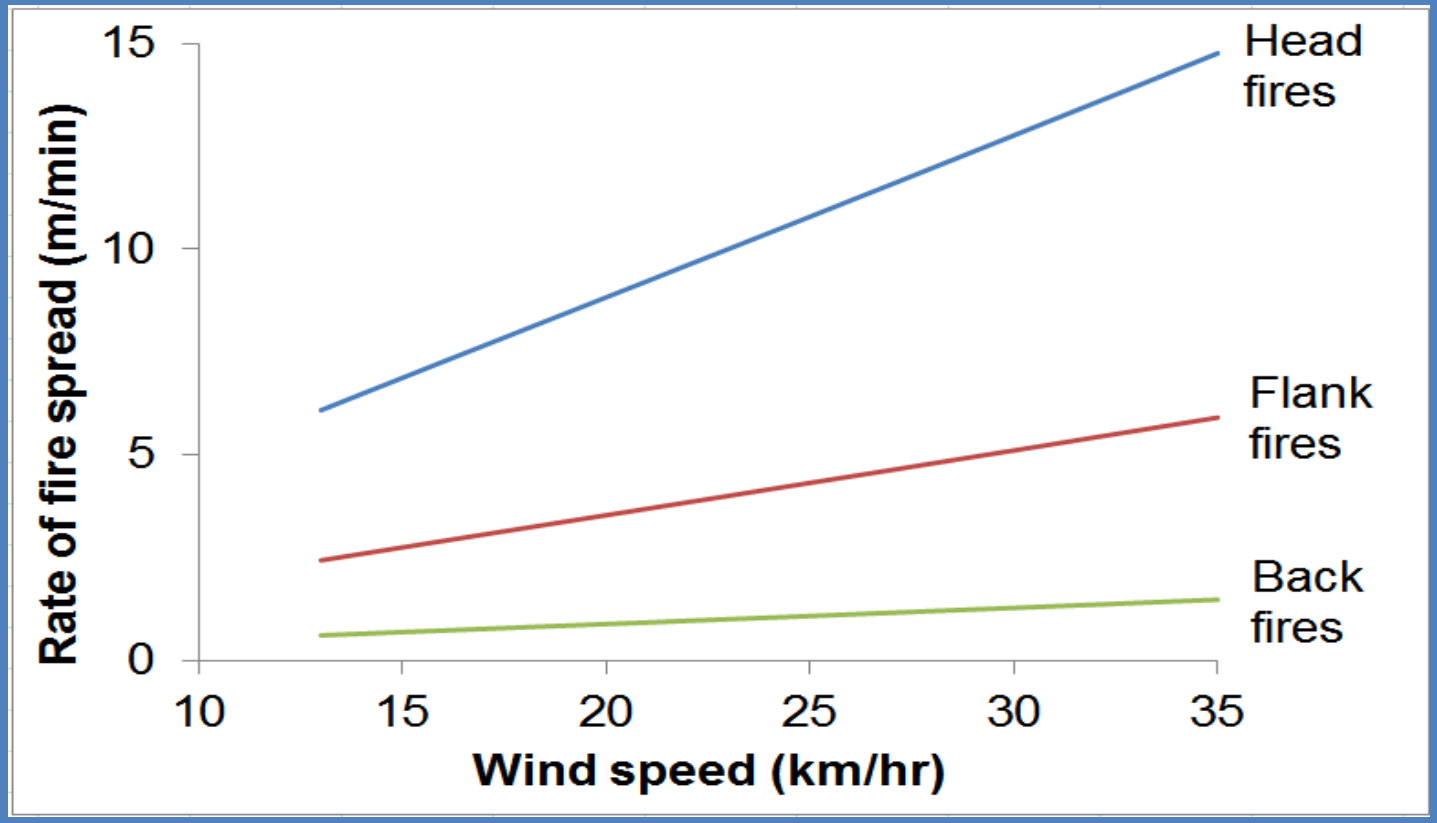
- effect of variation in fuel hazard in dry forest
  - surface and near surface



- predicted rate of spread using Project Vesta model
  - temperature: 25°, relative humidity: 40%

Wind speed versus rate of fire spread

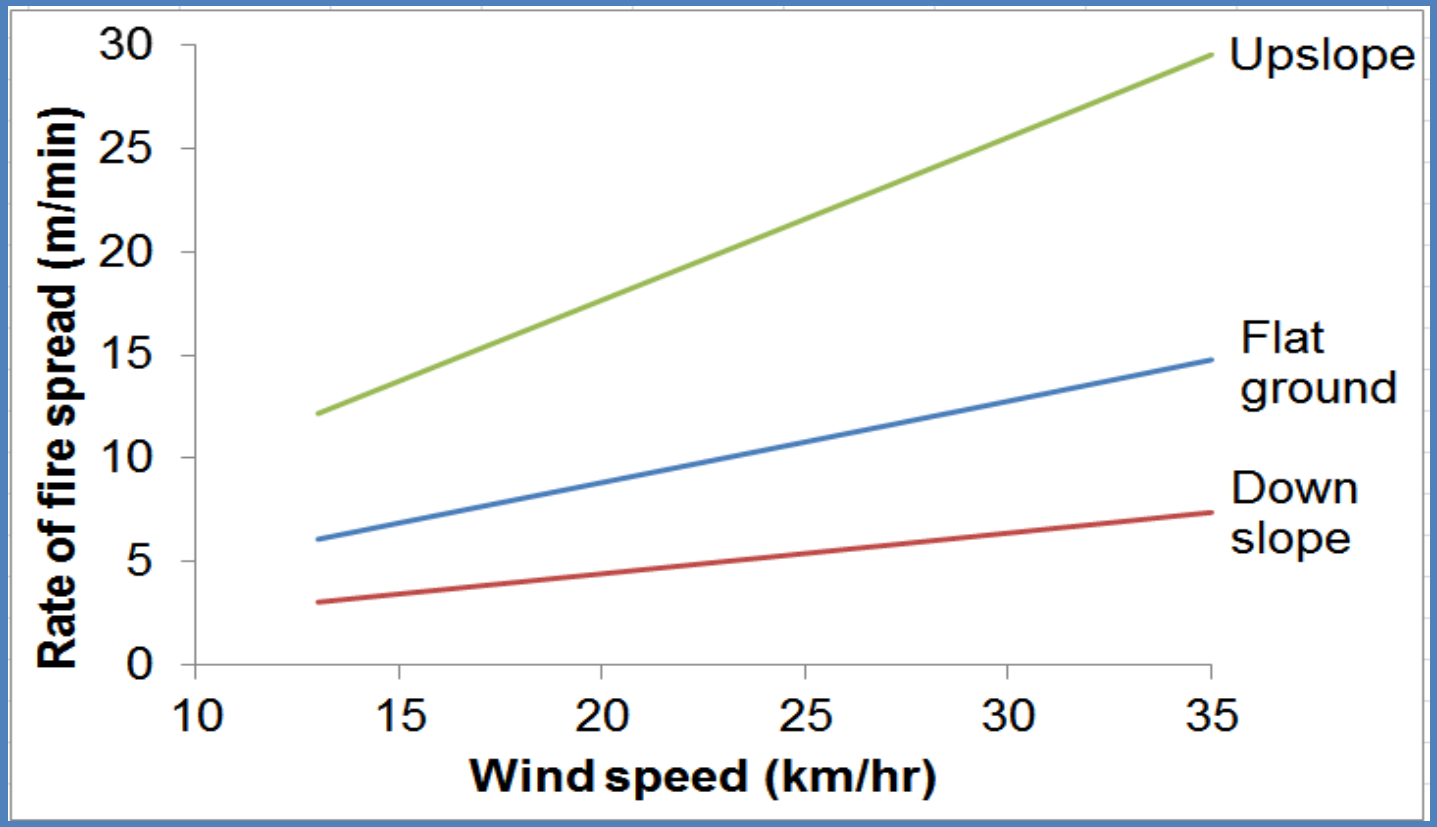
- effect of variation ignition strategy in dry forest
  - head, flank and back fires



- predicted rate of spread using Project Vesta model
  - temperature: 25°, relative humidity: 40%
  - high fuel hazard

Wind speed versus rate of fire spread

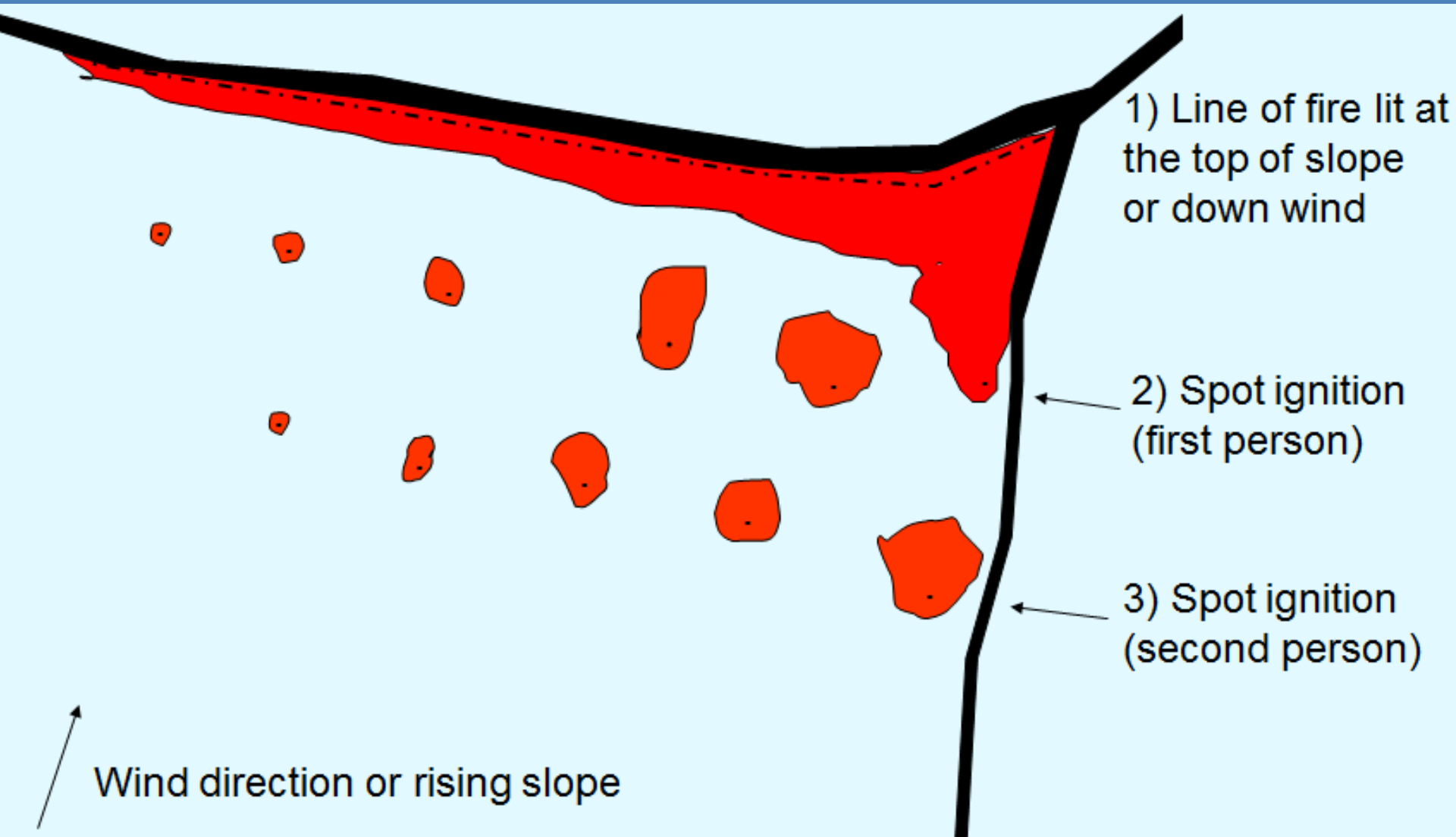
- effect of variation in slope in dry forest
  - burning up, across or down slope



- predicted rate of spread using Project Vesta model
  - temperature: 25°, relative humidity: 40%
  - high fuel hazard, slope: ±10°

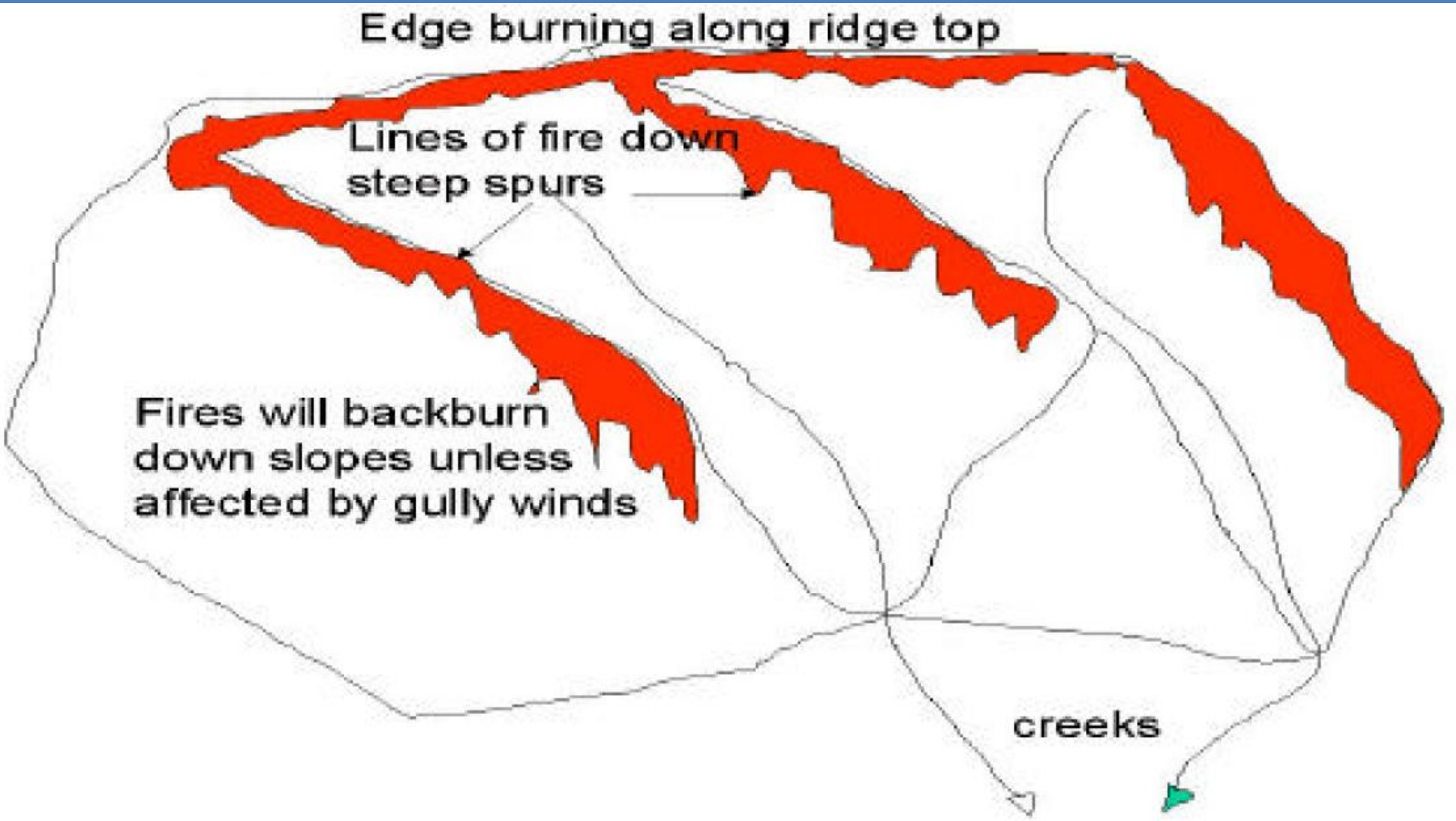
Balancing influences of different factors

- lighting off fire breaks
  - allowed to burn back into block



Balancing influences of different factors

- ridgeline ignition
  - allowed to back downhill



Balancing influences of different factors

- Low to Moderate fuel hazard
- moist fuels
- low wind speeds
- very safe boundaries
    - head fires, burn up-slope, lines of fire
        - maximise rate of spread and intensity

Balancing influences of different factors

- High to Extreme fuel hazard
- dry fuels
- high wind speeds
- insecure boundaries
- adjacent to assets
  - back fires, burn down slope, spots of fire
    - minimise rate of spread and intensity

Guidelines for planned burning

- Low or Moderate fuel hazard

Parameter	Units	Vegetation types for prescribed burning: Semi-arid mallee woodland and mallee heath[1]	Spinifex grassland[1]	Eucalypt heathy open forest and woodland[2]	Native grasslands and grassy eucalypt woodlands[1]*	Coastal mallee and mallee heathland, non-eucalypt woodland and heathland and woody weeds[3]
Adjusted surface fuel hazard rating: L or M[1] **Overall fuel hazard rating[2]** **Elevated fuel height 0–0.5 m[3]**						
Maximum forward rate of spread	**km/h**	**1.5**	**1**	**-**	**1.5**	**0.9**
Wind speed at 10 m	km/h	25 to 50	20 to 50	20 to 40	10 to 40	15 to 40
Relative humidity	%	10 to 60	-	10 to 60	20 to 80	10 to 70
Temperature	°C	20 to 40	-	20 to 40	15 to 40	20 to 40
Fuel moisture content, near-surface fuel	%	5 to 10	12 to 30	5 to 15	-	7 to 10
Fire Danger Index			-	7 to 15	≤5	-
Curing (percentage dead fuel)	%	-	-	-	90 to 100	-

Guidelines for planned burning

- High fuel hazard

Parameter	Units	Vegetation types for prescribed burning: Semi-arid mallee woodland and mallee heath[1]	Spinifex grassland[1]	Eucalypt heathy open forest and woodland[2]	Native grasslands and grassy eucalypt woodlands[1*]	Coastal mallee and mallee heathland, non-eucalypt woodland and heathland and woody weeds[3]
Adjusted surface fuel hazard rating: H[1] Overall fuel hazard rating[2] Elevated fuel height 1–2 m[3]						
Maximum forward rate of spread	**km/h**	**1.5**	**0.9**	**-**	**1.5**	**1.5**
Wind speed at 10 m	km/h	20 to 45	10 to 40	10 to 35	5 to 20	5 to 30
Relative humidity	%	20 to 70	-	20 to 60	20 to 80	25 to 75
Temperature	°C	20 to 40	-	15 to 40	15 to 40	15 to 40
Fuel moisture content, near-surface fuel	%	7 to 12	12 to 30	7 to 15	-	10 to 15
Fire Danger Index		-	-	5 to 12	≤5	
Curing (percentage dead fuel)	%	-	-	-	80 to 90	-

Guidelines for planned burning

- Very high or Extreme fuel hazard

Parameter	Units	Vegetation types for prescribed burning: Semi-arid mallee woodland and mallee heath[1]	Spinifex grassland[1]	Eucalypt heathy open forest and woodland[2]	Native grasslands and grassy eucalypt woodlands[1]*	Coastal mallee and mallee heathland, non-eucalypt woodland and heathland and woody weeds[3]
Adjusted surface fuel hazard rating: VH or E[1] **Overall fuel hazard rating[2]** **Elevated fuel height >2 m[3]**						
Maximum forward rate of spread	**km/h**	**1.5**	**1.3**	**-**	**1.2**	**1.5**
Wind speed at 10 m	km/h	15 to 35	10 to 30	5 to 20	0 to 10	0 to 15
Relative humidity	%	20 to 70	-	20 to 80	20 to 80	25 to 75
Temperature	°C	20 to 40	-	15 to 40	15 to 40	15 to 40
Fuel moisture content, near-surface fuel	%	8 to 13	12 to 30	10 to 15	-	10 to 20
Fire Danger Index		-	-	4 to 10	≤5	-
Curing (percentage dead fuel)	%	-	-	-	60 to 80	-

Guidelines for planned burning

- overnight conditions following burn

Parameter	Units	Vegetation types for prescribed burning: Semi-arid mallee woodland and mallee heath[1]	Spinifex grassland[1]	Eucalypt heathy open forest and woodland[2]	Native grasslands and grassy eucalypt woodlands[1]*	Coastal mallee and mallee heathland, non-eucalypt woodland and heathland and woody weeds[3]
Overnight weather conditions required: bounded burns (surrounded by tracks or areas with L or M fuel hazard rating)						
Wind speed at 10 m	km/h	<25	<15	-	-	-
Relative humidity	%	>60	>60	-	-	-
Fuel moisture content, near-surface fuel	%	>15	>15	-	-	-
Overnight weather conditions: unbounded burns (no surrounding tracks or surrounded by areas with L or M fuel hazard rating)						
Wind speed at 10 m	km/h	<15	<15	-	-	-
Relative humidity	%	>85	>85 for 5+hrs	-	-	-
Fuel moisture content, near-surface fuel	%	>15	>15	-	-	-

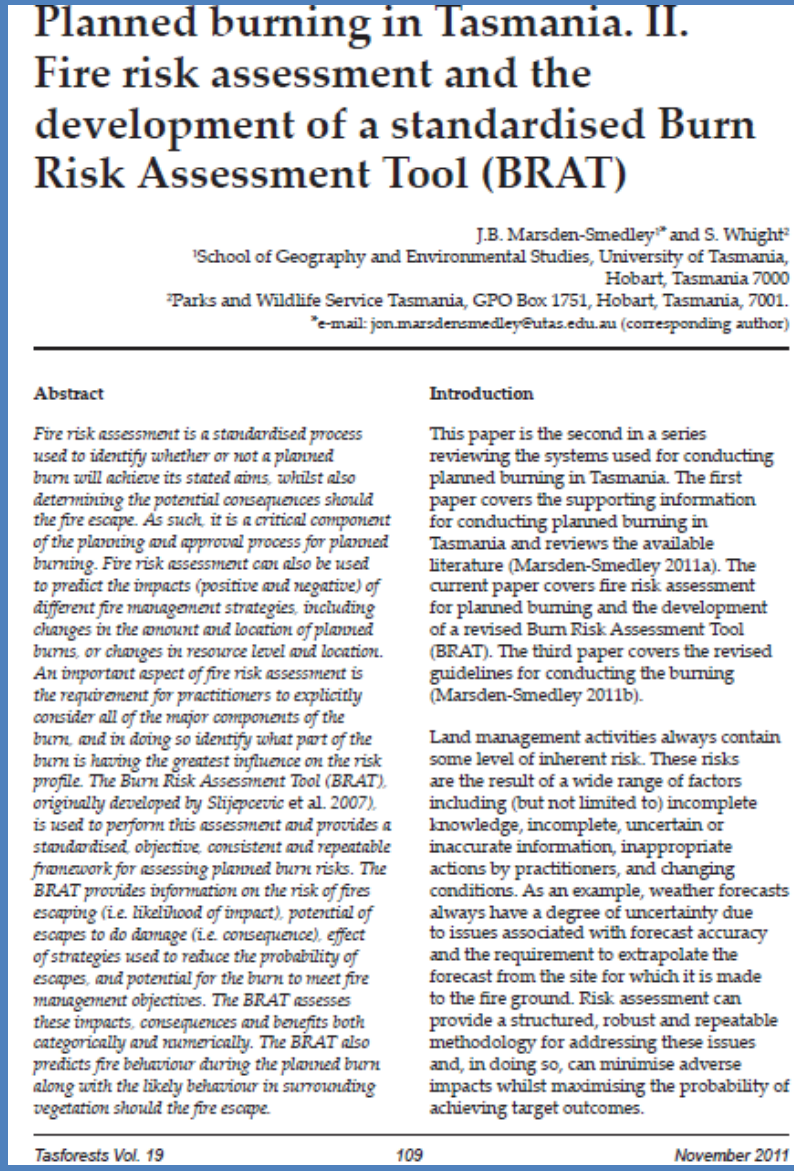
Risk assessment: BRAT SA

- Burn Risk Assessment Tool
  - structured risk assessment system
    - based on
      - Australian and NZ Risk Management Standard 2009

Consequences	Likelihood					
	1	2	3	4	5	6
	Practically impossible	Conceivable	Remotely possible	Unusual but possible	Quite possible	Almost certain
1 Moderate	Noticeable	Low	Low	Low	Moderate	Significant
2 Important	Low	Low	Moderate	Moderate	Significant	High
3 Serious	Low	Moderate	Significant	High	High	High
4 Very serious	Moderate	Significant	High	High	Extreme	Extreme
5 Disaster	Significant	High	High	Extreme	Extreme	Extreme
6 Catastrophic	High	High	Extreme	Extreme	Extreme	Extreme

Risk assessment: BRAT SA

- developed from BRAT Tas
  - risk factors
    - vegetation
    - fuel hazard
    - weather
    - block characteristics
    - resources
    - fire behaviour
      - during burn
      - if fire escapes
  - benefits and consequences
    - risk ratings
      - low to extreme



Planned burning in Tasmania. II. Fire risk assessment and the development of a standardised Burn Risk Assessment Tool (BRAT)

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Abstract

Fire risk assessment is a standardised process used to identify whether or not a planned burn will achieve its stated aims, whilst also determining the potential consequences should the fire escape. As such, it is a critical component of the planning and approval process for planned burning. Fire risk assessment can also be used to predict the impacts (positive and negative) of different fire management strategies, including changes in the amount and location of planned burns, or changes in resource level and location. An important aspect of fire risk assessment is the requirement for practitioners to explicitly consider all of the major components of the burn, and in doing so identify what part of the burn is having the greatest influence on the risk profile. The Burn Risk Assessment Tool (BRAT), originally developed by Slijepcevic et al. *2007), is used to perform this assessment and provides a standardised, objective, consistent and repeatable framework for assessing planned burn risks. The BRAT provides information on the risk of fires escaping (i.e. likelihood of impact), potential of escapes to do damage (i.e. consequence), effect of strategies used to reduce the probability of escapes, and potential for the burn to meet fire management objectives. The BRAT assesses these impacts, consequences and benefits both categorically and numerically. The BRAT also predicts fire behaviour during the planned burn along with the likely behaviour in surrounding vegetation should the fire escape.*

Introduction

This paper is the second in a series reviewing the systems used for conducting planned burning in Tasmania. The first paper covers the supporting information for conducting planned burning in Tasmania and reviews the available literature (Marsden-Smedley 2011a). The current paper covers fire risk assessment for planned burning and the development of a revised Burn Risk Assessment Tool (BRAT). The third paper covers the revised guidelines for conducting the burning (Marsden-Smedley 2011b).

Land management activities always contain some level of inherent risk. These risks are the result of a wide range of factors including (but not limited to) incomplete knowledge, incomplete, uncertain or inaccurate information, inappropriate actions by practitioners, and changing conditions. As an example, weather forecasts always have a degree of uncertainty due to issues associated with forecast accuracy and the requirement to extrapolate the forecast from the site for which it is made to the fire ground. Risk assessment can provide a structured, robust and repeatable methodology for addressing these issues and, in doing so, can minimise adverse impacts whilst maximising the probability of achieving target outcomes.

Marsden-Smedley & Whight 2011
TasForests 19: 109-121

BRAT SA: data input

- parameters used

SOUTH AUSTRALIAN PRESCRIBED BURN RISK ASSESSMENT TOOL		
	Burn Name and Number	
	Name of person completeing form	
	Date of form completion	
Risk Factors - Likelihood. What is being burnt?		
BURN OBJECTIVES		
Main objective for performing the planned burn		Fuel management: buffer zones
VEGETATION TYPE		
Vegetation type	Inside burning unit	Eucalypt heathy forest
	Outside or adjacent to unit	Grassy woodland
FUEL CHARACTERISTICS, FUEL - HAZARD RATING AND TIME SINCE FIRE		
Time since fire	Age (years): inside burning unit	25+ years
	Age (years): outside or adjacent to unit	25+ years
Fuel hazard: inside burning unit	Surface hazard	Extreme
	Surface depth (mm)	35 to <50 mm
Note: in costal mallee and heathland,	Near-surface hazard	Very high
non eucalypt woodland and heathland,	Near-surface depth (cm)	51 to 100 cm
and woody weed vegetation type include	Elevated hazard	Extreme
values for elevated fuel height	Elevated fuel height (m)	1 to 2 m
	Bark hazard	Extreme
Fuel hazard: adjacent to burning unit	Surface hazard	Extreme
	Surface depth (mm)	35 to <50 mm
Note: in costal mallee and heathland,	Near-surface hazard	Very high
non eucalypt woodland and heathland,	Near-surface depth (cm)	51 to 100 cm
and woody weed vegetation type include	Elevated hazard	Extreme
values for elevated fuel height	Elevated fuel height (m)	1 to 2 m
	Bark hazard	Extreme
Risk Factors - Likelihood. How secure are my boundaries?		
BLOCK & BOUNDARY TYPE		
Risk Factors - Likelihood. How secure are my boundaries?		
BLOCK & BOUNDARY TYPE		
Shape and size	Block shape	Irregular shape with slopes >10 deg
	Block size	51 to 100 ha
Slope and aspect - inside unit	Steepness of block	6 to 10 deg
	Position of block in landscape	Mid-slope
	Aspect	Variable
Slope and aspect - adjacent to unit	Steepness of surrounds	0 to 5 deg
	Slope position	Flat
	Aspect	Flat
Boundary	Planned boundary type	Mineral earth, road or water: <5 m wide
	Accessibility of planned boundary	Standard fire track (GALFC standard)
	Fallback boundary type	Mineral earth, road or water: 5 to <25 m wide
	Distance to fallback boundary	501 to 1000 m
	Preparation works completed?	Yes
Risk Factors - Likelihood. What are the appropriate conditions to burn under?		
WEATHER PARAMETERS, FUEL MOISTURE AND FIRE DANGER RATING		
During the burn	Wind speed in the open at 10 m (km/h)	60
	Relative humidity (%)	30
	Temperature (°C)	30
	Days since rain	22
	Amount of last rain event (mm)	1
	Month of burn	Nov
Fuel Moisture	Fine fuel moisture (meter) - internal	16 to 20%
	Fine fuel moisture (meter) - external	Not available
Atmospheric instability - Haines Index	Day of burn	L - 4
	Maximum over preceding 2 days	L - 4
Fire behaviour potential:	Maximum FDI next day	6 to 12
Eucalypt heathy forest and woodland ONLY	Maximum FDI over following 3 days	6 to 12
OR: Eucalypt heathy forest and woodland ONLY	Drought Factor: day of burn	10
Grassland curing: Grasslands/ grassy woodlands	Curing (%)	80
Fire behaviour potential:	Maximum average wind speed next day	15
For all other prescription vegetation types	Maximum average wind speed over following 3 days	20
	Minimum relative humidity next day (%)	35
Conditions required for the next day of the burn	Minimum relative humidity over following 3 days (%)	30
and the following 3 days after the burn	Maximum temperature next day (°C)	20
	Maximum temperature over following 3 days (°C)	22
Overnight fire risk:	Minimum overnight wind speed in the open at 10 m (km/h)	12
Required for ALL prescription vegetation types	Minimum wind speed over following 3 nights at 10 m (km/h)	8
	Maximum overnight relative humidity (%)	73
Expected overnight conditions for the	Maximum relative humidity over following 3 nights (%)	86
night of the burn and the following	Minumum overnight temperature (°C)	12
3 nights after the burn	Minumum temperature over following 3 nights (°C)	8
	Rain and/or dewfall overnight following burn day (mm)	0
	Rain and/or dewfall over following 3 nights (mm)	0
Risk Factors - Likelihood. What is the burning strategy?		
IGNITION STRATEGY		
	Lighting pattern	Lines or spots <50 m apart
	Lighting technique	Aerial incendiary capsule
	Ignition duration	<1 day
Risk Factors - Likelihood. What resources are required and where are they?		
	Personnel	5 to 10 people per km of boundary requiring lighting or support
	Vehicles	1 to 5 fire vehicles per 1000 m of boundary
	Aircraft	Helicopter with 400l bambi bucket
	Resources on standby	Tractors or dozers on standby
	Response time for the resources on standby	6 to 24 hours

- burn consequences

Potential Impact - Consequences. What are the potential negative impacts of this fire?		
Inside Burning Unit	Cultural	No cultural assets known
	Ecological	No ecological assets
	Recreational	No visitor facilities or walking tracks
	Economic	Other infrastructure present
Potential Impact - Consequences. What could happen if the fire escapes?		
Outside - adjacent to unit	Distance to asset	<100 m
	Cultural	No cultural assets known
	Ecological	Mature fire dependant community (refer to EFMG)
	Recreational	No visitor facilities or walking tracks
	Economic	Regrowth production forest

- burn benefits

Potential Impact - Benefits. What are the positive impacts of this burn?		
	Distance to asset	501 to 1000 m
	Cultural: reduced risk to	Rock paintings
	Ecological: reduced risk to	Old growth or mature fire sensitive community (refer to EFMG)
	Recreational: reduced risk to	Minor visitor site or walking track
	Economic: reduced risk to	Urban interface

BRAT SA: data output

- risk profile
- potential benefits
- predicted fire behaviour

SOUTH AUSTRALIAN PLANNED BURNING RISK ASSESSMENT TOOL

Burn Name and Number	0
Name of Person Completing Form	0
Date of Risk Assessment	0/01/1900

RISK FACTORS: PERFORMING THE PLANNED BURN		*Category*	*% of rating*
Fuel hazard	Inside block	Extreme	30.0
	Adjacent to block	Low	2.5
Weather	Fire behaviour potential: day of the burn	Very high	9.0
	Fire behaviour potential: next day	Low	0.5
	Fire behaviour potential: following 3 days	Low	0.3
	Stability: day of the burn	Low	0.5
	Stability: max over preceding 2 days	Low	0.3
	Fuel moisture	Low	1.8
Site factors	Inside block	Moderate	1.8
	Adjacent to block	Low	0.4
	Boundary factors	High	5.0
Ignition strategy	Lighting pattern, technique and duration	Low	0.9
Resources	Personnel and equipment	High	4.1
	Standby resources	Moderate	1.1
Preparation works completed prior to burn ignition		Low	0.0
	BURN OVERALL RISK RATING	Very high	58.0

RISK FACTORS: OVERNIGHT FIRE RISK		*Category*	*% of rating*
Overnight fire risk	Night following day of ignition	High	75.0
	Following 3 nights after day of ignition	Moderate	50.0

CONSEQUENCES		*Category*	*Rating*
Inside burning block	Cultural	Low	0
	Ecological	Low	0
	Recreational	Low	0
	Economic	Low	0
Outside burning block	Cultural	Low	0
	Ecological	Low	0
	Recreational	Low	0
	Economic	Moderate	50

POTENTIAL BENEFITS FROM PERFORMING THE BURN	*Category*	*Rating*
Cultural	Low	18.75
Ecological	Low	0
Recreational	Low	18.75
Economic	Moderate	33.75

PREDICTED FIRE BEHAVIOUR DURING THE BURN

Fire behaviour inside burn block			Values
Vegetation type inside burning block			Eucalypt heathy forest
Rate of fire spread	head fire	km/hr	3.42
	flank fire	km/hr	0.08
	back fire	km/hr	0.02
Flame height	head fire	m	18.1
	flank fire	m	10.9
	back fire	m	9.1
Fire intensity	head fire	kW/m	70394
	flank fire	kW/m	28157
	back fire	kW/m	7039
Fuel moisture	Meter	%	18.0
Fire Danger Index		dimensionless	54
Fire behaviour in adjacent vegetation if fire escapes			
Vegetation adjacent to burning block			Grassy woodland
Rate of fire spread	head fire	km/hr	6.72
	flank fire	km/hr	0.16
	back fire	km/hr	0.04
Flame height	head fire	m	Not available
	flank fire	m	Not available
	back fire	m	Not available
Fire intensity	head fire	kW/m	Not available
	flank fire	kW/m	Not available
	back fire	kW/m	Not available
Fuel moisture	Predicted	%	7.4
Fire Danger Index		dimensionless	Not available

BURN OVERALL RISK RATING	Very high
OVERNIGHT FIRE RISK RATING	High
CONSEQUENCE RATING	High
BENEFIT RATING	Moderate

BRAT SA: effect of varying data inputs

- users can look at the block's characteristics
  - boundary types
  - fuel hazards
  - assets at risk
  - potential consequence of escapes
    - predict
      - rates of fire spread
      - intensities
      - resources required
- users can input a range of potential parameters
  - effect on risk profile and fire behaviour
    - whether they need to modify burn plan

Risk assessment: selection of burn parameters

- OK to “push” 1 or 2 factors but NOT all factors
  - if burn has low risks
    - use less conservative parameters
      - increase burn intensity
        - increase fuel removal
        - reduce fire control resources
  - if burn has elevated risks
    - use more conservative parameters
      - decrease burn intensity
        - increase resources
          - decrease risk of escapes

Risk assessment: burn approval process

- assists managers with burn approval
  - fire may be minor component of workload
    - managers may have limited fire experience
      - approval dependent on burn risk profile
        - Low to High incident controller
        - Very High incident controller & state fire coordinator
        - Extreme not approved for burning

Up-skilling private landholders in fire management: Tasmanian project

- training and up-skilling private landholders
  - fire management manual
  - fire training
  - fire management planning
    - planned burning and wildfire control
    - rare and/or threatened species
- part of Interstate Fire Alliance
  - similar projects running in Victoria, NSW, Queensland
    - planned for South Australia

NRM North
Natural Resource Management in Northern Tasmania
MACQUARIE FRANKLIN
Tasmania Fire Service
Tasmanian Government
Agriculture's Future ↔ Your Future ↔ Our Future
TFGA
Forestry Tasmania
CARING FOR OUR COUNTRY

Up-skilling private landholders in fire management

- stage 1
  - funded by NRM North
    - development of manual, training fire management planning template
      - completed November 2013
- stage 2
  - funded by Tasmanian government
    - 3 year project
      - December 2013 to June 2016
        - roll out program state-wide

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Up-skilling private landholders in fire management: cost to private landholders

- program is free of charge to private landholders
  - priority given to
    - working farms
      - extensive areas of native vegetation
      - conservation covenants
      - rare and/or threatened species

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Up-skilling private landholders in fire management: fire management strategy

- in a perfect world...
  - highly variable fire regime
    - different intensities, frequencies, seasons
- in the real world...
  - private land holders have
    - very few resources
    - very little time
      - only practical to do low intensity burning

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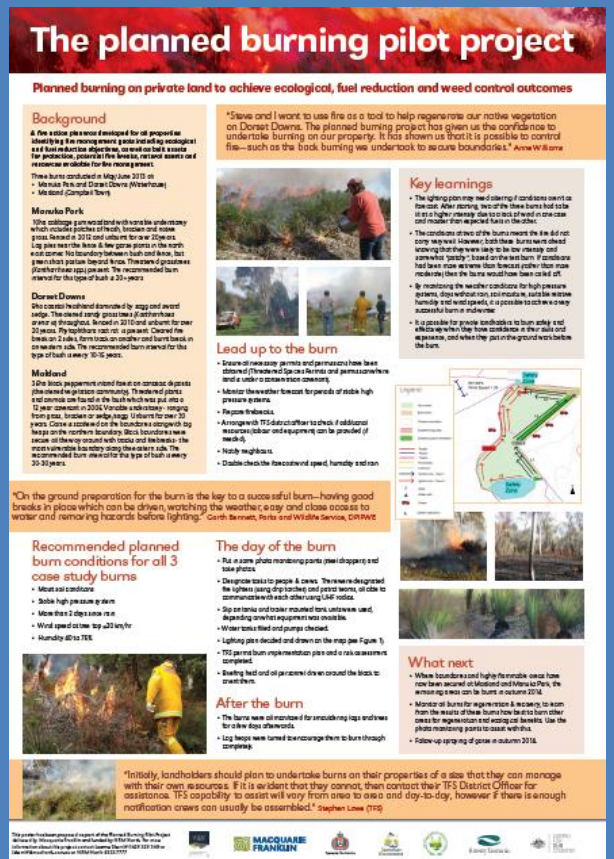
Up-skilling private landholders in fire management: fire management manual

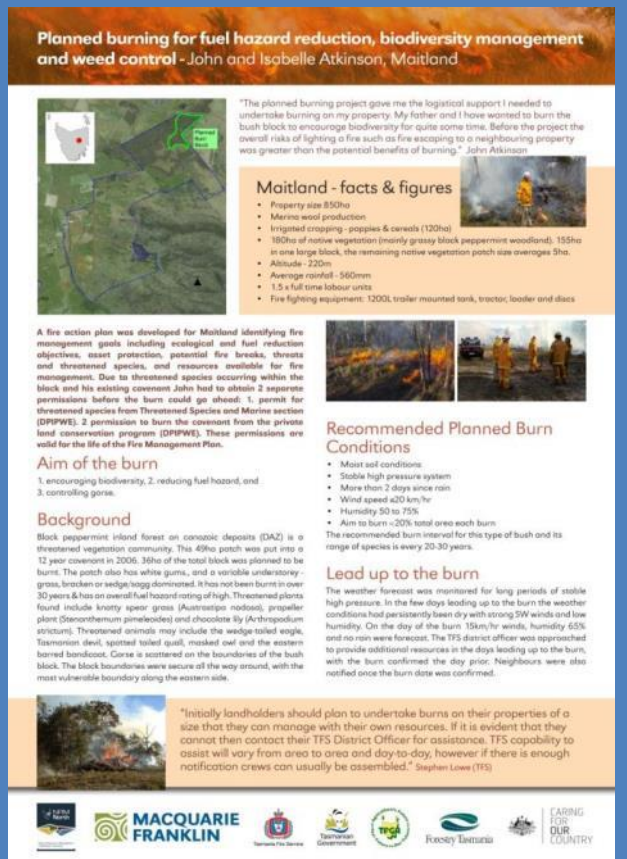
- targeted to landholder's requirements
  - plain language
  - easily understood

http://www.macquariefranklin.com.au/red-hot-tips.html

Up-skilling private landholders in fire management: note sheets

- what happed during actual burns
  - burn objectives
  - parameters used
    - changes to what was planned





Up-skilling private landholders in fire management: fire training

- classroom based theory
- on the ground practical
  - assistance performing planned burns

Up-skilling private landholders in fire management: fire management planning

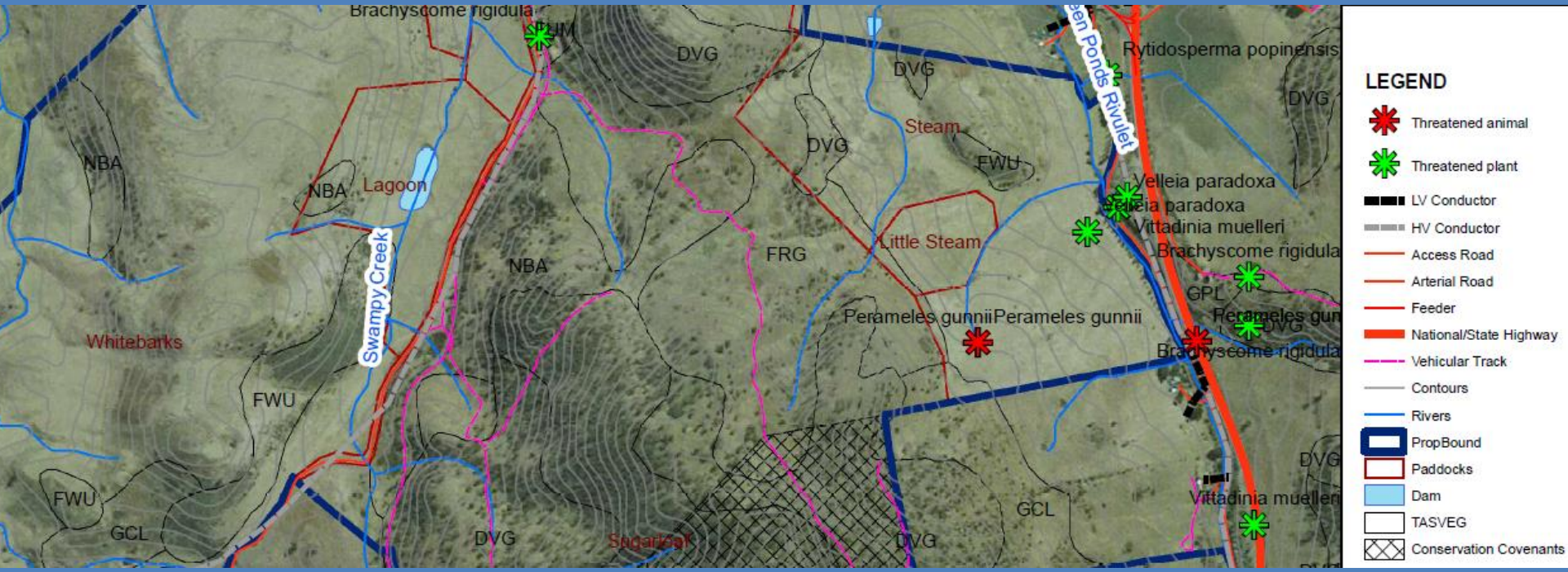
- field assessments
- discussions with land owner
  - fire management objectives
    - fire exclusion areas
    - planned burning
    - wildfire management strategy

Up-skilling private landholders in fire management: fire management planning

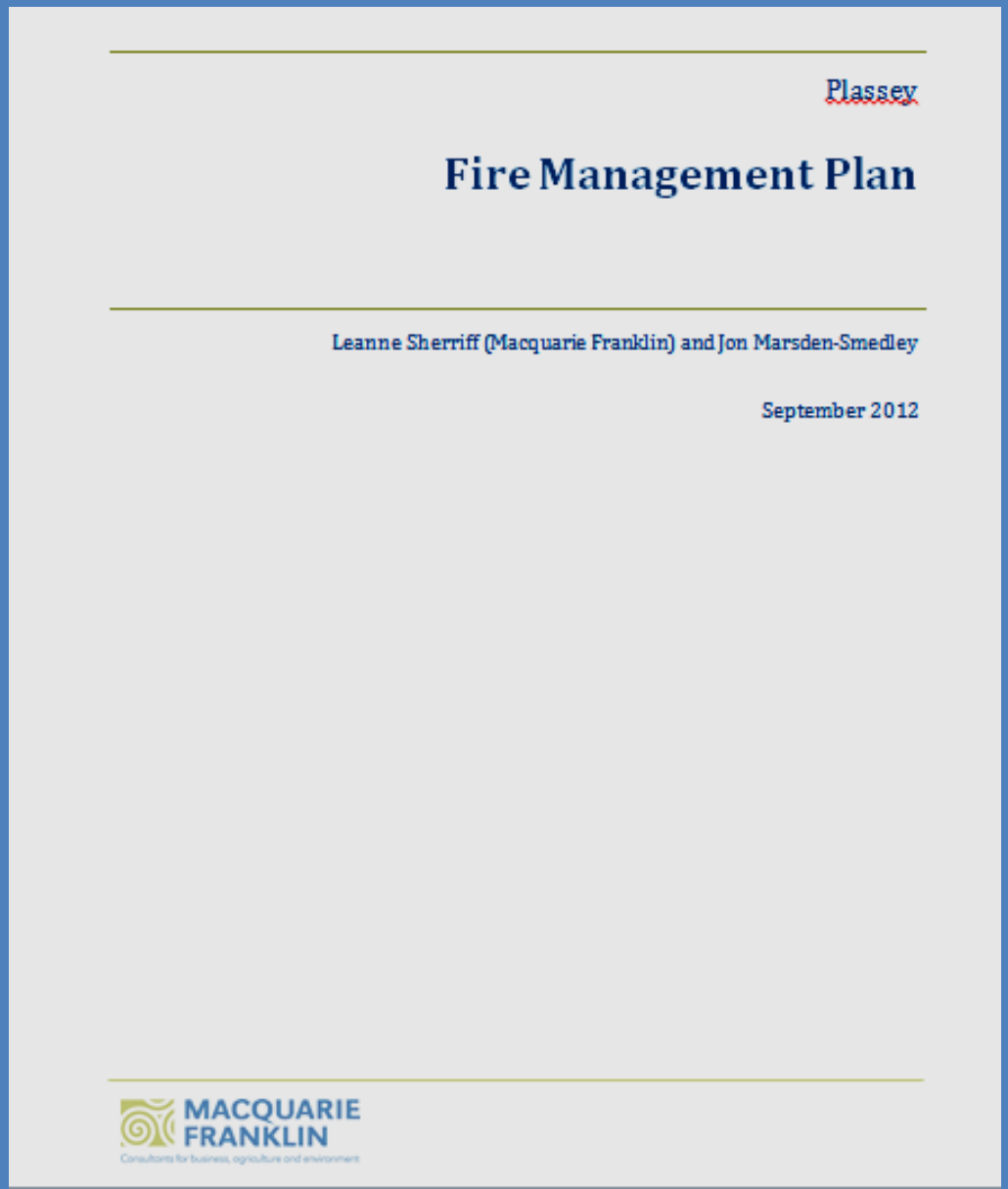
- property fire management plans
  - map based
    - location of burn units
    - assets
    - rare and/or threatened species
    - fire breaks
    - water sources
      - plans current for 5 years

Up-skilling private landholders in fire management: fire management planning

- property fire management plans
  - rare and/or threatened species mapping
    - effects of fire on species
      - assistance with permits to burn



Up-skilling private landholders in fire management: fire management planning



Plassey

Fire Management Plan

Leanne Sherriff (Macquarie Franklin) and Jon Marsden-Smedley

September 2012

MACQUARIE FRANKLIN

Consultants for business, agriculture and environment

Up-skilling private landholders in fire management: fire management planning

Management Plan

Patch ID	Goals for fire management	Description	Years since last fire	Fuel hazard rating	Actions &timing
House area.	Fire exclusion.	• Area around house and sheds.	NA	NA	• Crash graze to keep grass along drive and around house and sheds very short in summer
1 Auburn bush.	Promote biodiversity & improve bush health - stimulate shrub and tree regeneration.	• Dry grassy white gum vegetation community (DVG), with scattered cabbage gum and black peppermint. Unique bush type for Plassey. • Understorey dominated by bracken, sagg and sword sedge, with patches of native grass. • Fenced, with pasture surrounding.	>25	Bracken S: H-VH NS: M E: L B: L-M Overall: H Grass S: M NS: L E: L B: VH Overall: VH	• Easy to trickle burn as many open patches. Need to monitor and manage game impacts on burnt patches • Protect fences • Recommend burning every 20-30 years • Burn conditions: moist soils, season between April and October, stable high pressure, >2 days since rain, wind speed at tree top ≤20 km/hr and humidity 50 to 75%.
5.1	Targeted control of gorse.	• Open areas of native grassland and grassy woodland with patches of gorse throughout.	>25	S: M NS: E Overall: E Summer if grass is cured: Overall: E	• Burn conditions: moist soils, season between April and October, stable high pressure, >2 days since rain, grass curing <60%, wind speed at surface ≤20 km/hr and humidity 50 to 75%. • Ensure resources are available to spray gorse regeneration prior to flowering (6 to 12 months post fire).

Up-skilling private landholders in fire management: fire management planning