North Coast Region
New England & Cunnawarra (part) National Parks, Jobs Mountain & Pee Dee Nature Reserves
Fire Management Strategy (Type 2)
2014 (external version) Sheet 2 of 4

This strategy should be used in conjunction with aerial photography and field reconnaissance during incidents and the development of incident action plans.

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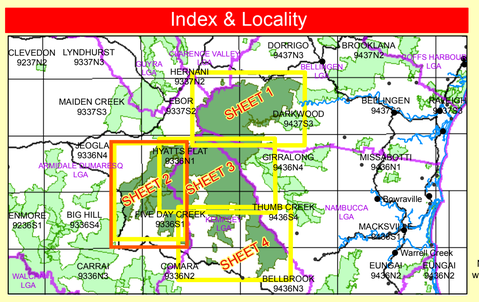
This strategy is a relevant Plan under Section 38 (4) and Section 44 (3) of Rural Fires Act 1997.

Index & Locality



GDA

Datum: GDA94
Projection: UTM
Grid: MGA Zone 56
Noted scales are true when this map is printed on A0 size paper

Operational Guidelines

Refer to Refer to NPWS Fire Management Manual
Brief all personnel involved in suppression operations on the following issues:

Resource	Guidelines
Aboriginal Cultural Heritage Management (NPWS FMM 4.11) Site points on internal version only)	• AH2 - As far as possible protect site from fire. Avoid all ground disturbance including the use of earthmoving machinery, handline construction and driving over sites. Avoid water bombing which may cause ground disturbance. • AH3 - Avoid all ground disturbance. Avoid water bombing, Site may be burnt by bushfire, back-burn or prescribed burn without damage.
Historic Heritage Management (NPWS FMM 4.10)	• Protect Site from fire and maintain an asset protection buffer. Avoid all ground disturbance, including water bombing.
Threatened Fauna Management (NPWS FMM 4.12 & 5.2)	• Where practicable protect habitat areas and trees from the fire if the effects of the resulting fire frequency, season &/or intensity will have a significant or unknown impact. • Specific Fauna Prescriptions relevant to Dorrigo and Bellinger River NPs: FA3 Treatment: Exclude fire from habitat (rainforest / moist forest) FA4 Treatment: Mosaic burns to diversify understory. Protect casuarina stands. FA7 Treatment: As far as possible, protect large and hollow-bearing trees in locations where these type of species are known to occur. FA8 Treatment: Avoid frequent fire (prefer > 10 yrs apart) and mosaic burn pattern. FA9 Treatment: Protect habitat from disturbance with heavy machinery or chemicals. FA13 Treatment: Protect ground habitat (logs), drainage lines and hollow-bearing trees. • For other Threatened Fauna sitings, consult with a senior NPWS officer and the "ThFauna" Prescriptions in the "_Lookup_Tables" folder in P:\Region\Other\Fire\RFMS.
Threatened Flora Management (NPWS FMM 4.12)	• FL1 - Avoid inter-fire intervals of <10 years in locations where these species are known to occur. Avoid the use of earth moving machinery and retardant in locations where these species are known to occur. • FL2 - As far as possible, exclude fire and avoid the use of earth moving machinery or retardant from where these species are known to occur.
Threatened Property	• Where possible, keep property owners with assets at risk from a wildfire informed on the fire progress and ask for an assessment of their current asset protection preparedness.
General	**Guidelines**
Aerial Water Bombing (NPWS FMM 4.4 / NSW Fire Agencies Aviation SOPs O2 / NPWS Guidelines for Effective Aircraft Management)	• The use of bombing aircraft should support containment operations by aggressively attacking hotspots and spot-overs. • The use of bombing aircraft without the support of ground based suppression crews should be limited to very specific circumstances assessed in an Incident Action Plan. • Where practicable foam should be used to increase the effectiveness of the water. • Ground crews must be alerted to water bombing operations.
Aerial Ignition (NPWS FMM 4.2.20, 4.4 / NSW Fire Agencies Aviation SOPs O2-4 / NPWS Guidelines Effective Aircraft Mgt)	• Aerial ignition may be used during back-burning or fuel reduction operations where practicable, but only with the prior consent of a senior NPWS officer. • Utilise incendiaries to rapidly progress back-burns down slope where required.
Backburning (NPWS FMM 4.8)	• Temperature and humidity trends must be monitored carefully to determine the safest times to implement back-burns. Generally, when the FDI is Very High or greater, backburning should commence when the humidity begins to rise in the late afternoon or early evening. With a lower FDI backburning may be safely undertaken during the day. • Where practicable, clear a 1m radius around dead and fibrous barked trees adjacent to containment lines prior to backburning, or wet down these trees. • Avoid ignition of backburns at the bottom of slopes where a long and intense up slope burn is likely.
Command & Control (NPWS FMM 4.2)	• The first combatant agency on site may assume control of the fire, but then must ensure the relevant land management agency is notified promptly. • 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 (NPWS FMM 2.2, 3.9)	• Construction of new containment lines should be avoided, where practicable, except where they can be constructed with minimal environmental impact. New containment lines require the prior consent of a senior NPWS officer. • Where practicable, containment lines should be stabilised and rehabilitated as part of the wildfire suppression operation. • All containment lines not required for other purposes should be closed at the cessation of the incident. • All personnel involved in containment line construction should be briefed on both natural and cultural heritage sites in the location.
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Earthmoving Equipment (NPWS FMM 4.2.20, 4.3)	• Earthmoving equipment may only be used with the prior consent of a senior NPWS officer, and then only if the probability of its success is high. • 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 firefighting vehicle. • Containment lines constructed by earthmoving equipment should consider the protection of drainage features, observe the Threatened Species and Cultural Heritage Op's Guidelines, & be surveyed, where possible, to identify unknown heritage sites. • Earthmoving equipment should be washed down, where practicable, prior to it entering NPWS estate.
Fire Advantage Recording	• All fire advantages used during wildfire suppression operations must be mapped and where relevant added to the database.
Fire Suppression Chemicals (NPWS FMM 4.2.20, 4.9)	• Wetting and foaming agents (surfactants) are permitted for use in wildfire suppression. • The use of fire retardant is only permitted with the prior consent of the senior NPWS officer, and should be avoided where reasonable alternatives are available. • Exclude the use of surfactants and retardants within 50m of rainforest, watercourses, dams and swamps. • Areas where fire suppression chemical is used must be mapped & chem. used recorded. • The Threatened Species Operational Guidelines are to be observed.
Rehabilitation (NPWS FMM 5.1)	• Where practicable, containment lines should be stabilised and rehabilitated as part of the wildfire suppression operation.
Smoke Management (NPWS FMM 3.4)	• The potential impacts of smoke and possible mitigation tactics must be considered when planning for wildfire suppression and prescribed burning operations. • If smoke becomes a hazard on public roads, notify the police and relevant media. • Smoke management must be in accordance with relevant RTA traffic mgt guidelines.
Visitor Management (NPWS FMM 3.6, 4.13)	• The reserve may be closed to the public during periods of extreme fire danger or during wildfire suppression operations.

Strategy Information	
Fire Season Information	
Wildfires	• Have been known to start as early as late August, but usually the potential for a large fire event is greatest between October and December. This period may extend into January in more severe years.
Prescribed Burning	• General season is Autumn to late Winter. Burning is possible in early Spring but not desirable on a regular basis from an ecological or tourism point of view.
Suppression Strategies	
Current FDR / **Forecast FDR**	
Low - Mod / Low - Mod	• Undertake direct, parallel or indirect attack along existing containment lines. • Where practicable consider maximising the fire area in accordance with the requirements of any proposed prescribed burns.
Low - Mod / = > High	• In order to minimise the fire area and secure the flanks as soon as possible, undertake direct, parallel or indirect attack along the closest containment lines. • Pay particular attention to the flank on the next predicted down wind side.
High / All	• Undertake indirect attack along existing or newly constructed containment lines. • Secure and deepen containment lines along the next predicted downwind side of the fire. • If applicable consider broader than normal containment strategies to avoid wasted effort and high risk of failure.
All / All	• Ensure there is sufficient time to secure containment lines prior to the fire impacting upon them; otherwise fall back to the next potential line.

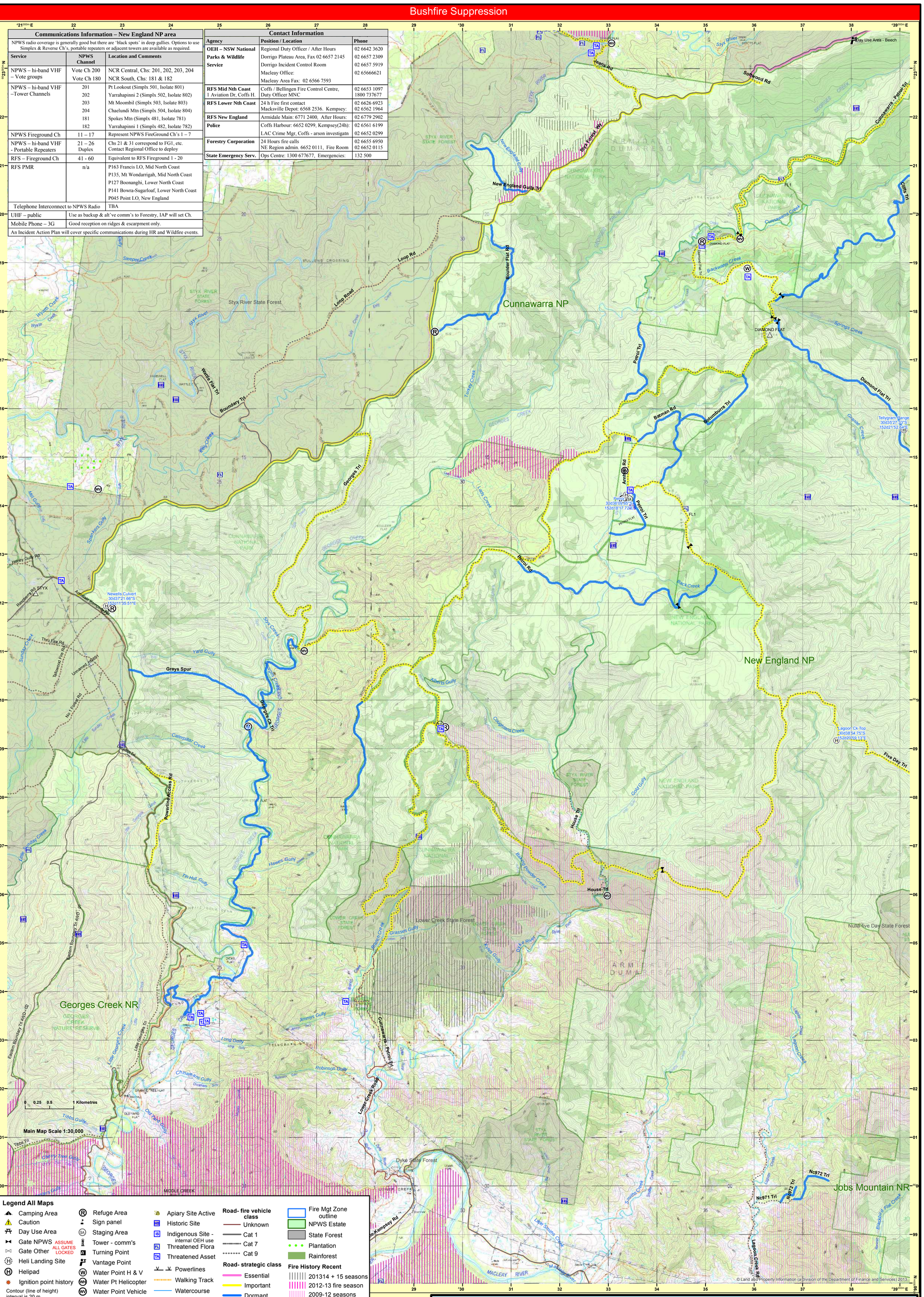
FIRE REGIME GROUP	Preferred fire interval years		CONDITIONS	VEGETATION
Rainforest	9999	9999	Exclude fire	Rainforest – mixed types
Wet sclerophyll forest	25	60	Avoid crown fires at lower end interval range	Brush Box, Tallowwood, Sydney Blue Gum, NE Blkbutt, Messmate
Semi-mesic grassy forest	10	50	Avoid consecutive low intensity fires	GreyGum-Ironbark-Mahog-moist complex, L.petersonii, E.pilularis, E.obliqua,C.intermedia, NE Blkbutt
Swamp sclerophyll forest	7	35	Some intervals > 20 yrs may be desirable	Other forest river oak
Shrubby dry sclerophyll forest	5	50	Occasional intervals > 25 yrs may be desirable	Blackbutt, Peppermint
Grassy sclerophyll woodland	5	40		GreyGum-Ironbark-Mahog., Cold Tableland Gums
Heathland	7	30	Occasional intervals > 20 yrs may be desirable	Allocas. Rigida, Pinkwood, Leptospermum spp, scrub
Grassland	2	10	Max interval is estimate	Poa sieberiana
Freshwater wetland	6	35	Occasional intervals > 30 yrs may be desirable	Leptospermum spp, Tetrarrhena spp.

Reference: Kenny B. Sutherland E. Tasker E. Bradstock R. 2004 *Guidelines for Ecologically Sustainable Fire Management – NSW Biodiversity Strategy*, NSW NPWS

Bushfire Suppression

Communications Information – New England NP area		
NPWS radio coverage is generally good but there are 'black spots' in deep gullies. Options to use Simplex & Reverse Ch's, portable repeaters or adjacent towers are available as required.		
Service	**NPWS Channel**	**Location and Comments**
NPWS – hi-band VHF – Vote groups	Vote Ch 200 Vote Ch 180	NCR Central, Chs: 201, 202, 203, 204 NCR South, Chs: 181 & 182
NPWS – hi-band VHF –Tower Channels	201 202 203 204 181 182	Pt Lookout (Simplx 501, Isolate 801) Yarrahapinni 2 (Simplx 502, Isolate 802) Mt Moombil (Simplx 503, Isolate 803) Chaelundi Mtn (Simplx 504, Isolate 804) Spokes Mtn (Simplx 481, Isolate 781) Yarrahapinni 1 (Simplx 482, Isolate 782)
NPWS Fireground Ch	11 – 17	Represent NPWS FireGround Ch's 1 – 7
NPWS – hi-band VHF - Portable Repeaters	21 – 26 Duplex	Chs 21 & 31 correspond to FG1, etc. Contact Regional Office to deploy
RFS – Fireground Ch	41 - 60	Equivalent to RFS Fireground 1 - 20
RFS PMR	n/a	P163 Francis LO, Mid North Coast P135, Mt Wondarrigah, Mid North Coast P127 Boonanghi, Lower North Coast P141 Bowra-Sugarloaf, Lower North Coast P045 Point LO, New England
Telephone Interconnect to NPWS Radio		TBA
UHF – public		Use as backup & alt've comm's to Forestry, IAP will set Ch.
Mobile Phone – 3G		Good reception on ridges & escarpment only.
An Incident Action Plan will cover specific communications during HR and Wildfire events.		

Contact Information		
Agency	**Position / Location**	**Phone**
OEH – NSW National Parks & Wildlife Service	Regional Duty Officer / After Hours	02 6642 3620
	Dorrigo Plateau Area, Fax 02 6657 2145	02 6657 2309
	Dorrigo Incident Control Room	02 6657 5919
	Macleay Office:	02 65666621
	Macleay Area Fax: 02 6566 7593	
RFS Mid Nth Coast 1 Aviation Dr, Coffs H.	Coffs / Bellingen Fire Control Centre, Duty Officer MNC	02 6653 1097 1800 737677
RFS Lower Nth Coast	24 h Fire first contact Macksville Depot: 6568 2536. Kempsey:	02 6626 6923 02 6562 1964
RFS New England	Armidale Main: 6771 2400, After Hours:	02 6779 2902
Police	Coffs Harbour: 6652 0299, Kempsey(24h):	02 6561 6199
	LAC Crime Mgr, Coffs - arson investigatn	02 6652 0299
Forestry Corporation	24 Hours fire calls NE Region admin. 6652 0111, Fire Room	02 6655 6950 02 6652 0115
State Emergency Serv.	Ops Centre: 1300 677677, Emergencies:	132 500



Legend All Maps

- Camping Area
- Caution
- Day Use Area
- Gate NPWS (ASSUME ALL GATES LOCKED)
- Gate Other
- Heli Landing Site
- Helipad
- Ignition point history
- Contour (line of height) interval is 20 m.
- Refuge Area
- Sign panel
- Staging Area
- Tower - comm's
- Turning Point
- Vantage Point
- Water Point H & V
- Water Pt Helicopter
- Water Point Vehicle
- Apiary Site Active
- Historic Site
- Indigenous Site - internal OEH use
- Threatened Flora
- Threatened Asset
- Powerlines
- Walking Track
- Watercourse

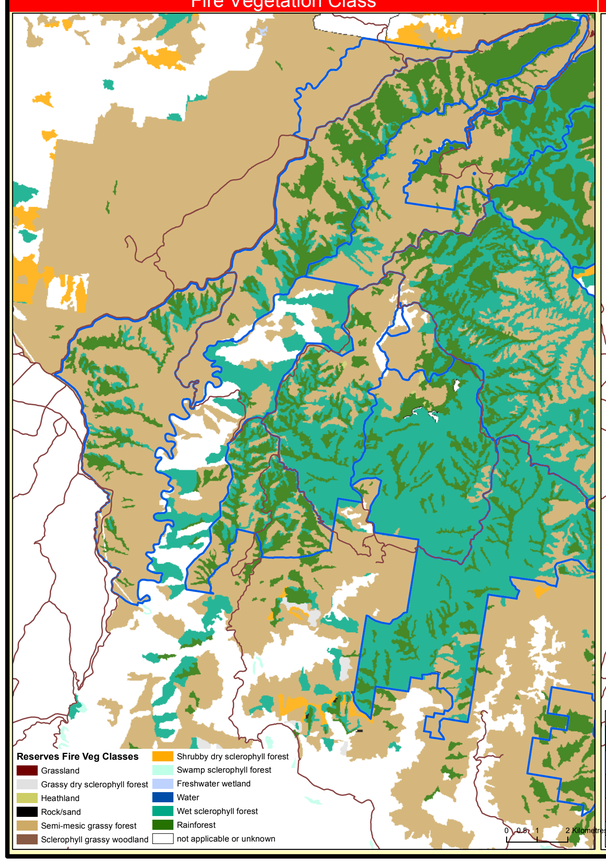
Road- fire vehicle class
- Unknown
- Cat 1
- Cat 7
- Cat 9

Road- strategic class
- Essential
- Important
- Dormant

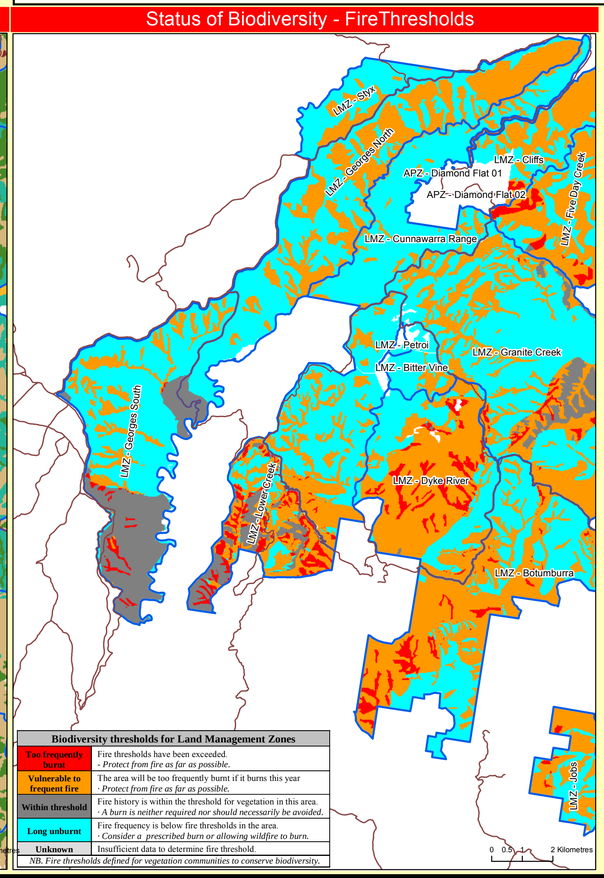
- Fire Mgt Zone outline
- NPWS Estate
- State Forest
- Plantation
- Rainforest

Fire History Recent
- 201314 + 15 seasons
- 2012-13 fire season
- 2009-12 seasons

Fire Vegetation Class



Status of Biodiversity - FireThresholds



Biodiversity thresholds for Land Management Zones	
Too frequently burnt	Fire thresholds have been exceeded. *- Protect from fire as far as possible.*
Vulnerable to frequent fire	The area will be too frequently burnt if it burns this year *· Protect from fire as far as possible.*
Within threshold	Fire history is within the threshold for vegetation in this area. *· A burn is neither required nor should necessarily be avoided.*
Long unburnt	Fire frequency is below fire thresholds in the area. *· Consider a prescribed burn or allowing wildfire to burn.*
Unknown	Insufficient data to determine fire threshold.
NB. Fire thresholds defined for vegetation communities to conserve biodiversity.	

Risk Management Information

Fire Management Zones	
Asset Protection Zones	The objective of **APZ**s is the protection of human life and property. This will have precedence over guidelines for the management of biodiversity. Maintain Overall Fuel Hazard at Moderate or below.
Strategic Fire Advantage Zones	The objective of **SFAZ**s is to reduce fire intensity across larger areas. Maintain Overall Fuel Hazard at High or below, however adherence to guidelines for biodiversity will take precedence where practical.
Land Management Zones	The objective of **LMZ**s is to conserve biodiversity and protect cultural heritage. Manage fire consistent with fire thresholds.