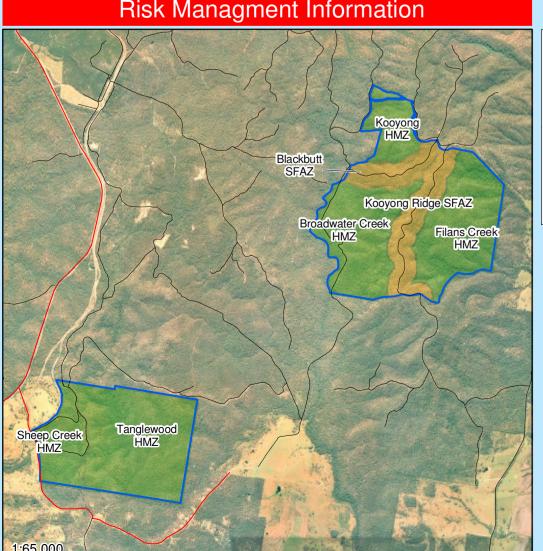
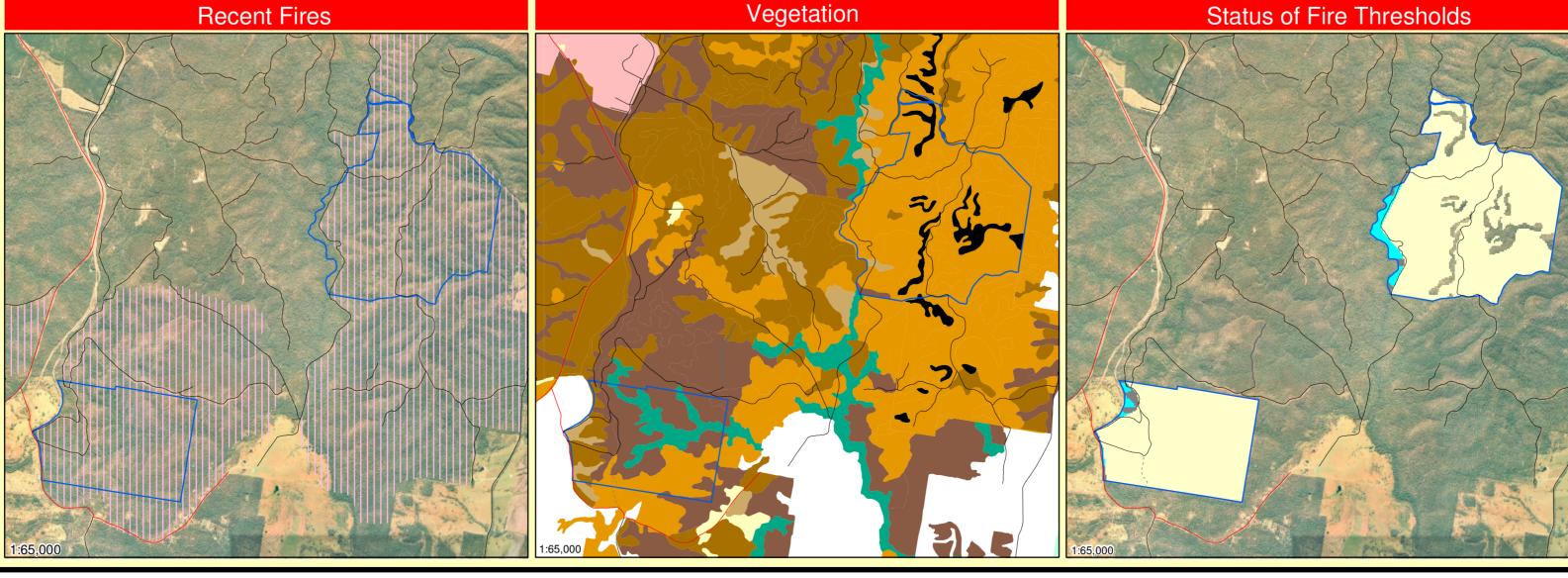
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Star Fire Mar	te Conse agemen 2( Shee be used in conservation ( d be used in conservation ( d conservation (	nd the developm om error or omission. information in the da any fair dealing fo o part may be repu Service is part of t nt of Environment dlife Service, North umber: 2006/483 This s	reas (Type 2) aerial photography and nent of incident action p . The NSW National Parks and ta and any consequences of s r the purpose of study, rese roduced by any process with the Department of Environr and Conservation (NSW), h Coast Region, PO Box 30 Last Updat trategy is a relevant Pla and Section 44 (3) of Date:	field reconnaissance blans. d Wildlife and its employees such acts or omissions. earch criticism or review, thout written permission. ment and Conservation. August 2006 61, Grafton NSW 2460. eet: 22/08/2006	WHIPORIE 25k mapsheet 94392N COALDALE 25k mapsheet 94392S	Richmond Valley LGA	BANYABBA 25k mapsheet 95393N 95393N 95393N MACLEAN 25k mapsheet 95393S	500000m.E 01 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	(	Contact Infor	mation		1:100.000			and the second of the
Agency	Position / Location			Phone	1:100,000		ocality	51- Creek Trate
NPWS	Area Mana	Regional Duty Officer (24 hrs) Area Manager (Clarence North) Regional Office		02 6641 1500 02 6641 1500 0428 411 501 02 6641 1500 02 6643 5569 (fax)	Mount Marsh Sp	R Camira SF Whiporie SI	Bundjalung SCA Bundjalung SCA Devils Pulpit SF Bundjalung NP	FOREST
Rural Fire Service	Duty Office Clarence V	Officer nce Valley Fire Control Centre		0500 881 866 02 6644 5135	A	Banyabhase	Gibberagee SF Gibberagee SF	6750 - BANYABANYABBANYA
NSW Fire Brigade	Emergency Maclean Grafton	aclean		000 02 6645 4605 02 6643 3491	Ban	iyabba NR	Gibberage SF	THE DRES
SES	Emergency Grafton Maclean	,		000 02 6643 3348 02 6645 3454	Wondbar Creek SCA	Forts Creek NPC	Maclean Yaegi NR	49- 08 0 187078 SP1A 57073
Police	Police Assi Grafton Lawrence Maclean	Grafton0Lawrence0		131444 02 6642 0222 02 6647 7344 02 6645 2444		Corymbia SC Soutigate SF	sum Swamp Woodford Island NR	
Ambulance Hospital	All other be Grafton Ba	Emergency All other bookings Grafton Base Hospital		000 131233 02 6640 2232	Pine Brush SF Vuraygir IP			48-14 The Transfer House France
Agriculture NSW	1		02 6640 0111 02 6640 1600	1:500,000			Umamed No.	
Forests NSW	24 hour fire			02 6655 6950	Strategy Information Fire Season Information			
FULSIS NO W	24 hour fire calls NE Region - Coffs Hbr Grafton			02 6652 0111 02 6641 6000	Wildfires		<ul> <li>Have been known to start as early as late August, bu usually the potential for a large fire event is greatest between October and December. This period may</li> </ul>	
Council	Clarence Valley			02 6643 3886	extend into		<ul> <li>extend into January in more severe years.</li> <li>General season is Autumn to late Winter. Burning i</li> </ul>	
Local Aboriginal Land Council	Yaegl			02 6645 3676	(NPWS Fire Management Manual 4.7)		possible in early Spring but not desirable on a	S 27 + 27 - 616/02
	Com	munications	Information				regular basis from an ecological or tourism point of view.	
Service		Channel	Location and Commo	ents	Current FDR	Sup Forecast FDR	pression Strategies	
NPWS - VHF		9 10 12	Cangai East Clarence Peak Pickabooba • Reverse channels	57, 58, 60	Low – Mod	Low – Mod	<ul> <li>Undertake direct, parallel or indirect attack along existing containment lines.</li> <li>Where practicable consider maximising the fire area in accordance with the requirements of any propose</li> </ul>	
NPWS - VHF (Portable	e Repeater)	15 (green)		-	Low – Mod	= > High	<ul> <li>prescribed burns.</li> <li>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 line.</li> <li>Description attention to the flank on the part.</li> </ul>	
RFS – PMR - UHF		1-99		uplex) in emergencies	High	All	<ul> <li>Pay particular attention to the flank on the next predicted down wind side.</li> <li>Undertake indirect attack along existing or newly</li> </ul>	Primary (Cat 1) NPWS Estate Secondary (Cat 9) SF NSW Estate
SFNSW - VHF		10	• 11-99 are simplex	κ			<ul><li>constructed containment lines.</li><li>Secure and deepen containment lines along the next</li></ul>	Plantation
CB - UHF		1 - 99		RFS/NPWS/SF			<ul> <li>predicted downwind side of the fire.</li> <li>If applicable consider broader than normal containment strategies to avoid wasted effort and high risk of failure.</li> </ul>	Unclassified      European Cultur     Powerlines-NC     Assume all gates locked      Threatened Prop
Aircraft - VHF Mobile Phone - CDMA			RFS. Choose channel on fire High points only, no c	-	All	All	<ul> <li>Ensure there is sufficient time to secure containmen lines prior to the fire impacting upon them; otherwise fall back to the next potential line.</li> </ul>	
Satellite Phone		High points only, no coverage in g           • Stored at Coffs Coast Area Of						
			Requires clear vie	ew of the sky.			Recent Fire	
R	isk Mar	nagment	Information		NPWS Estate			



## Fire Management Zones

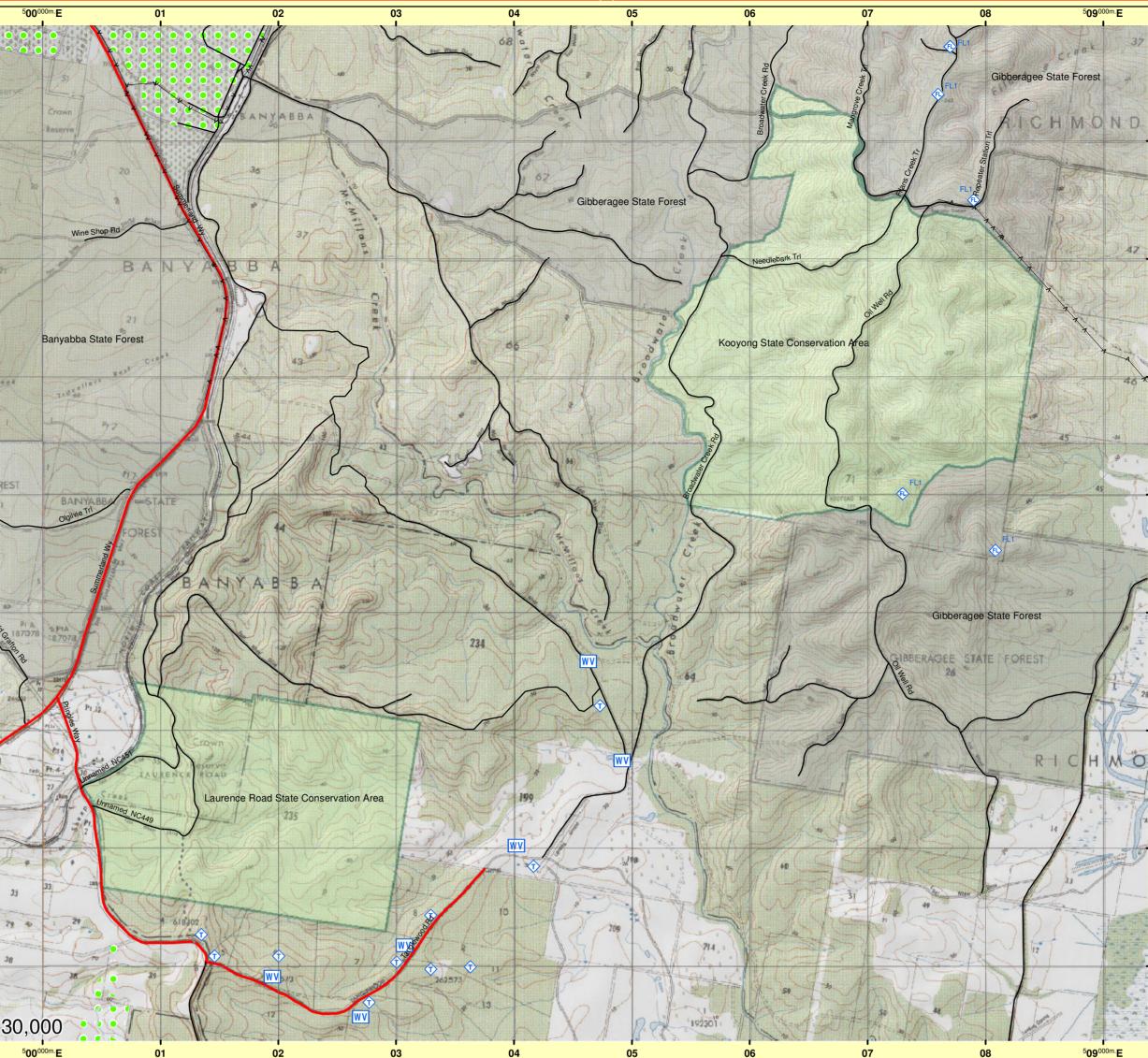
Asset Protection<br/>ZonesThe objective of APZs is the protection of human life and property. This will have precedence over<br/>guidelines for the management of biodiversity. Maintain Overall Fuel Hazard at Moderate or below. Strategic Fire The objective of SFAZs is to reduce fire intensity across larger areas. Maintain Overall Fuel Hazard at Advantage ZonesHigh or below, however adherence to guidelines for biodiversity will take precedence where practical.Heritage Management<br/>ZonesThe objective of HMZs is to conserve biodiversity and protect cultural heritage. Manage fire<br/>consistent with fire thresholds.

Asset Protection Zone Strategic Fire Advantage Zone Heritage Management Zone Primary (Cat 1) - Secondary (Cat 9) - Dormant Unclassified



NPWS Estate |||||| 2005-06 Fire Season 2004-05 Fire Season 2003-04 Fire Season 2002-03 Fire Season

## **Bushfire Suppression**



## n Legend

- SF NSW Estate
- Plantation European Cultural Sites WV Water Point Vehicle
- Threatened Flora
- Gate NPWS
- Gate non NPWS
- 😣 Staging Area
- 1 Caution
- Threatened Property Point Vantage Point



Datum: AGD66 Projection: UTM Grid: AMG Zone 56 Noted scales are true when this map is printed on A1 size paper



- NPWS Estate Wet sclerophyll forest Cleared/weeds
- Rock/sand Semi-mesic grassy forest Swamp sclerophyll forest Shrubby dry sclerophyll forest Agriculture/timber plantation Shrubby grassy dry sclerophyll forest Grassy sclerophyll woodland
- NPWS Estate Overburnt Vulnerable Recently Burnt Within Threshold Underburnt

			Operational Guidelines
_		Resource	Guidelines
		Aboriginal Cultural Heritage Site Management (NPWS FMM 4.11)	• Brief all personnel involved in containment line construction &/or vehicle based fire suppression operations, on site locations and the required management strategies appropriate to the site type.
			• Ensure close liaison with the relevant Sites Officer in order to check for &/or identify new sites.
N.		Historic Heritage Management (NPWS FMM 4.10)	• Brief all personnel involved in containment line construction &/or vehicle based fire suppression operations, on site locations and the required management strategies appropriate to the site type.
67 <b>53</b> 000m.N		<b>Threatened Fauna Management</b> (NPWS FMM 4.12 & 5.2)	• Brief all personnel involved in containment line construction &/or vehicle based fire suppression operations, on site locations and the required management strategies appropriate to the site type.
			• 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.
52 Threatened Flora		Threatened Flora Management (NPWS FMM 4.12)	<ul> <li>FL1 - Avoid inter-fire intervals of &lt;10 years in locations where these species are known to occur, Avoid the use of earth moving machinery in locations where these species are known to occur, Avoid the use of retardant in locations where these species are known to occur.</li> <li>FL2 - As for an passible, evaluate all fire from locations where these species are</li> </ul>
			• FL2 - As far as possible, exclude all fire from locations where these species are known to occur, Avoid the use of earth moving machinery in locations where these species are known to occur, Avoid the use of retardant in locations where these species are known to occur.
51		Threatened Property	<ul> <li>All property owners with assets at possible risk from a wildfire event will be:</li> <li>Kept informed regarding the progress of the fire; and</li> </ul>
			• Asked for an assessment of their current level of asset protection preparedness.
		General	<ul><li>Guidelines</li><li>The use of bombing aircraft should support containment operations by aggressively</li></ul>
		Aerial Water Bombing (NPWS FMM 4.4 / NSW Fire Agencies Aviation SOPs O2 / NPWS Guidelines for Effective Aircraft Management)	<ul><li>attacking hotspots and spotovers.</li><li>The use of bombing aircraft without the support of ground based suppression crews</li></ul>
<sup>67</sup> 50			<ul> <li>should be limited to very specific circumstances</li> <li>Where practicable foam should be used to increase the effectiveness of the water.</li> <li>Ground crews must be alerted to water bombing operations.</li> </ul>
		Aerial Ignition	<ul> <li>Aerial ignition may be used during fuel reduction and backburning operations where</li> </ul>
		(NPWS FMM 4.2.20 & 4.4 / NSW Fire Agencies Aviation SOPs O2-4 / NPWS Guidelines for Effective Aircraft	<ul> <li>practicable, but only with the prior consent of the senior NPWS officer.</li> <li>May be ineffective in Heathlands with poorly developed surface fuel layers.</li> </ul>
		Management) Backburning	Temperature and humidity trends must be monitored carefully to determine the
49		(NPWS FMM 4.8)	safest times to implement backburns. 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 <b>may</b> be safely
			<ul> <li>undertaken during the day.</li> <li>Where practicable, clear a 1 m radius around dead and fibrous barked trees adjacent to containment lines prior to backburning, or wet down these trees as part of the</li> </ul>
48			<ul> <li>backburn ignition.</li> <li>Brief all involved personnel on the location of cultural sites and threatened species prior to backburning, and adhere to the above guidelines.</li> </ul>
		Command & Control	<ul> <li>The first combatant agency on site may assume control of the fire, but then must</li> </ul>
		(NPWS FMM 4.2)	<ul> <li>ensure the relevant land management agency is notified promptly.</li> <li>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.</li> </ul>
47		<b>Containment Lines</b> (NPWS FMM 2.2 & 3.9)	• Construction of new containment lines should be avoided, except where they can be built by hand with minimal erosion potential.
			<ul> <li>Only existing or previous trails or containment line routes will be used.</li> <li>Roads and trails to be used as containment lines but requiring works should be prioritised in consultation with relevant IMT and Fire Ground staff.</li> </ul>
			• All containment lines not required for other purposes should be closed immediately at the cessation of the incident.
67 <b>46</b> 000m N			<ul> <li>Where practicable, erosion control works should be incorporated into the containment line construction phase.</li> <li>All personnel involved in containment line construction should be briefed on both</li> </ul>
67			natural and cultural heritage sites in the location.
		Earthmoving Equipment (NPWS FMM 4.2.20 & 4.3)	<ul> <li>Earthmoving equipment may only be used with the prior consent of the senior NPWS officer, and then only if the probability of its success is high.</li> <li>Earthmoving equipment must be washed down prior to it entering NPWS estate.</li> </ul>
٦			<ul> <li>As far as possible, restrict its use to previously used containment lines.</li> <li>Earthmoving equipment must be always guided and supervised by an experienced NPWS officer, and accompanied by a support vehicle. When engaged in direct or</li> </ul>
			<ul> <li>parallel attack this vehicle must be a firefighting vehicle.</li> <li>Containment lines constructed by earthmoving equipment should be at least 50 m from depression lines in order to avoid erosion problems.</li> </ul>
			<ul> <li>Observe the Threatened Species and Cultural Heritage Operational Guidelines.</li> <li>Proposed containment lines to be constructed with earthmoving equipment should be surveyed to identify unknown cultural heritage sites.</li> </ul>
		Fire Advantage Recording	<ul> <li>All fire advantages used during wildfire suppression operations must be mapped and where relevant added to the database.</li> </ul>
		<b>Fire Suppression Chemicals</b> (NPWS FMM 4.2.20 & 4.9)	<ul> <li>Wetting and foaming agents (surfactants) are permitted for use in wildfire suppression.</li> <li>The use of fire retardant is only permitted with the prior consent of the senior NPWS</li> </ul>
			<ul><li>officer, and should be avoided where reasonable alternatives are available.</li><li>Exclude the use of surfactants and retardants within 50 m of rainforest,</li></ul>
			<ul> <li>watercourses, dams and swamps.</li> <li>Areas where fire suppression chemicals are used must be mapped and the used product's name recorded.</li> </ul>
		Rehabilitation	<ul> <li>Observe the Threatened Species Operational Guidelines.</li> <li>Where practicable, containment lines should be stabilised and rehabilitated as part of</li> </ul>
		(NPWS FMM 5.1) Smoke Management	<ul> <li>the wildfire suppression operation.</li> <li>The potential impacts of smoke and possible mitigation tactics must be considered</li> </ul>
		(NPWS FMM 3.4)	<ul> <li>when planning for wildfire suppression and prescribed burning operations.</li> <li>If smoke becomes a hazard on local roads or highways, the police and relevant media must be notified.</li> </ul>
		Visitor Management	• The reserve may be closed to the public during periods of extreme fire danger or
		(NPWS FMM 3.6 & 4.13)	during wildfire suppression operations.

Fire Thresholds					
Overburnt	Fire thresholds have been exceeded.				
Over but itt	· Protect from fire as far as possible.				
Vulnerable	The area will be Overburnt if it burns this year.				
vullerable	• Protect from fire as far as possible.				
Recently Burnt	Time since fire is less than the optimum interval, but before that it was within threshold.				
Recently Durin	· Avoid fires if possible.				
Within Threshold	Fire history is within the threshold for vegetation in this area.				
wrunn inresnord	$\cdot A$ burn is neither required nor should one necessarily be avoided.				
Almost Underburnt	The area is close to its threshold and may become underburnt with the absence of fire.				
Annost Underburnt	• A prescribed burn may be advantageous. Consider allowing unplanned fires to burn.				
Underburnt	Fire frequency is below fire thresholds in the area.				
Underburnt	• A prescribed burn may be advantageous. Consider allowing unplanned fires to burn.				
Unknown	Insufficient data to determine fire threshold.				
NB. Fire thresholds are defined for vegetation communities to conserve biodiversity					